BULLETIN

of the

AMERICAN ROCK GARDEN SOCIETY

Vol. 8

January-February, 1950

No. 1

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Published by the American Rock Garden Society and entered in the United States Post Office at Bound Brook, New Jersey, as third class matter; sent free of charge to members of the American Rock Garden Society.

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Dorothy Ebel Hansell, Editor

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EXPERIMENT IN NEW YORK

DWIGHT RIPLEY, WAPPINGER FALLS, NEW YORK

A long slope of alluvial gravel mixed in some places with loam, in others not, and shaped into terraces of varying width and length with the aid of local rocks, the whole thing surmounted by a line of natural cliffs - that doesn't sound very promising, does it? Nor is it. The summer sun beats down mercilessly on this cast-facing slope, and nowhere is there a speck of shade for Gentians, Primulas or Saxifrages, which we just don't attempt to grow. No humus, no sand, no limestone chips: none of the little luxuries usually considered indispensable to the smart 1950 rock garden. And certainly no Vigoro! So having duly warned the reader, I should now like to give a brief account of what species do thrive in these Spartan surroundings contrived for them by Rupert Barneby and myself.

First and foremost, rather naturally, come the Penstemons. They dominate the entire garden, and never was it more abundantly clear that a lean diet and full sun suit them to a T. However, this fact is well established by now in horticultural circles, so I needn't stress its importance. Particularly floriferous this year were PP. abietinus, pinifolius, thompsonae, rupicola albus, menziesii, laricifolius, desertipicti, albidus, dissectus, jamesii and baccharifolius, as well as many of the commoner kinds. Whippleanus and hallii, both from over 11,000 feet near Leadville, Colorado, grew vigorously but produced only a few flowers. Mountaineers such as these obviously suffered in the appalling heat of the past summer, and it might be interesting to note which ones didn't mind it and which ones did.

Of four high-alpine species of Senecio, for instance, SS. atratus and soldanella departed, yet petrocallis and harbourii, much smaller and choicer, for some reason stayed and grew. The latter is quite the prettiest Ragwort I know, with lanceolate leaves clothed in white wool and large yellow flowers just above them. Other casualties from the high screes were Claytonia megarrhiza, Polemonium viscosum, Crepis nana and Ranunculus eschscholtzii. Alive and healthy, but not flowering this year, are Artemisia saxicola, Helenium hoopesii, Anemone globosa, Besseya alpina, Primula angustifolia and Erigeron barbellulatus (an exquisite Fleabane from Sonora Pass in California). The diminutive crucifer so common at high altitudes in the Rockies, Smelowskya americana, bloomed well and seems to have settled down; also Erigeron vetensis, Arenaria obtusiloba and the beautiful Viola beckwithii.

So much for the true alpines. Now for the xerophytic species of the plains and plateaus, which is where our heart really lies. Many of these come to us from Claude Barr, of Smithwick, South Dakota, and on the whole it can be said that his plants are a big success, especially the two dwarf Astragali, AA. gilviflorus and tridactylicus. From the alkaline hills of central Nevada come Penstemon thompsonae, with tiny round white leaves and corollas that are violet in nature and dark blue in cultivation, and what would appear at first glance to be the trickiest of all

Erigerons - E. compactus, a stern little dome of linear silver leaves which looks like something from high up in Peru. The survival of this jewel consoles us almost, although not quite, for the loss of EE. nanus and pinnatisectus. Nematophyllus (the true plant, from Wyoming) and pulcherrimus, from Utah, are also still with us; but tweedyi, a curious white-leaved species of clayey slopes in Idaho and Montana, is as hard to keep as the Eriogonums which it imitates. Some Fleabanes are obviously short-lived in nature, so they are entitled to remain so in the garden. Such are E. poliospermus and E. compositus. This may also apply to pinnatisectus, mentioned above.

Potentillas of the sub-genus *Ivesia* have long been pets of ours, and in 1948 we successfully brought back two of them - E. baileyi setosa and P. sabulosa. The former grows on limestone rocks facing south, thus receiving the full fury of Nevada's solstice, while the latter affects barren hills and is possibly even more xerophytic. In neither are the flowers anything to look at twice; it is the leaves which qualify them for admission. Sabulosa in particular has them drawn out into very long, slender 'mousetails' of brilliant green. In 1947, we collected P. multifoliolata on lava south of the Grand Canyon, the flowers varying from orange to chocolate and absolutely minute.

Of western Phloxes, those doing best here are PP. bryoides, douglasii, albomarginata, kelseyi and alyssifolia, the last erupting from rhizomes all over its private terrace. They seem to thrive in the very poorest soil, as do Tanacetum capitatum (a silver mat), Parthenium alpinum (not seen for over a hundred years until our rediscovery of it near Casper, Wyoming), Artemisia pygmaea (a microscopic sagebrush), Ranunculus andersonii, Cyrtorrhyncha ranunculina and Teucrium laciniatum, a handsome white-flowered dwarf from the central and southern plains. The genus Oxytropis got off to a good start, but this year's trying conditions were too much for our single plants of O. nana and O. oreophila. However, multiceps has been a perfect joy, its huge cerise pea-flowers emerging in earliest spring from the flat rosettes of shaggy, pinnate leaves. O. sericea is much taller, with white corollas and silver-plated foliage, but looks rather capricious.

Arenarias seem fairly easy on the whole, especially the bun-like A. hookeri, which we have in three distinct forms. A. macradenia bloomed magnificently and resembled a cloud of Gypsophila. Pumicola, though, from Mt. Rose appears to ail. Antennarias seem unable to take too much sun, which is odd, and three species died this year. Aquilegias, on the other hand, can and do: chaplinei, from a waterfall in New Mexico, has been lovely with its long-spurred lemon 'columbines'. Barnebyi and scopulorum have done well, too, but jonesii cannot bear our company and always departs with a backward glance or two of loathing.

Besseya bullii was dug up near Milwaukee, of all places; sent to Mrs. Regan in Butte, Montana; then sent back to us last fall, and survived such travelling well enough to charm us with eight or nine of its pale yellow spikes. B. plantaginea from near Taos was also very good, as well as the related Synthyris paysonii with deeply cut leaves. S. laciniata, a gift from Carl Worth, of Groton, New York, was unfortunately a victim of the heat.

American Drabas are rather unpredictable in this garden. Those which have done best so far are *D. oreibata*, a rare white-flowered species from the Lost River Mountains of Idaho, and *D. subalpina* of central Utah, also white. The accompanying photograph shows not only the Draba, or Bryce Whitlow-Grass, as we refer to it entre nous, but our alluvial gravel as well.

Of things wedged into tight rock crevices, I'd like to mention Kelseya uniflora, jamesia americana, Boykinia heucheriformis and Campanula piperi. Plants re-

sulting from Peter Davis's Spanish and Turkish seeds are also coming along nicely. All seeds here are sown direct into ledges or fissures, and so far this rather drastic experiment has worked to our advantage.

Silene falcata looks very intractable, but was obliging enough to produce quantities of its ravishing cream-colored corollas over domes of spinescent foliage; it haunts the marble summit of Bithynian Olympus. S. oreades, similarly Turkish but in this case an emerald mat, has much smaller flowers and is of 'botanical interest' only. Hypericum confertum, Onosma sp., Ebenus bourgaei, Asyneuma lycium,



Photo by R. C. Barneby

Draba subalpina in a New York Garden

Moltkia aurea and Scabiosa pulsatilloides are other desirable things among scores brought back by that intrepid young man. In the rosette stage now, they will, we hope, be coloring before long our vertiginous plot. Occasionally, one has to admit, the introductions are a trifle disappointing: Pterocephalus pinardi, for instance, is definitely inferior to the common P. parnassi, while Thymus cilicicus (in New York at any rate) is hardly "violet", but pinkish mauve.

Obviously starved, and to be moved to less jejune terraces next spring, are Trifolium scariosum from near Laramie, with narrow, pointed leaflets plated in silver and looking most un-cloverish, Scutellaria nana sapphirina from Nevada, and Erinacea pungens. At the moment, it is out of the question to attempt anything ericaceous (I was embarrassed by this haitus during Mr. Epstein's recent visit). However, a shady spot is being excavated from the natural rock, facing north and west, and here it may be possible to grow in time the Shortias and Epimediums so conspicuous by their absence. Collomia debilis, that Gilia-like ornament of pumice screes, seems happy in a slide of pure gravel, blooming profusely and even seeding itself here and there; yet somehow the cushions are less symmetrical and the flowers of a less crystalline quality than in the wild. The wonder is that it will grow at all in Dutchess County.

Small rock-ferns, which flourished in pots in my English alpine house, for some reason resent conditions here. One or two Cheilanthes are healthy, though, and Pellaea microphylla just manages to come through the winter. It is not unlike a delicate blue Maidenhair and is a fairly frequent inhabitant of limestone rocks in western Texas. Last March, we stopped off in the Guadalupe Mountains east of El Paso and at 5,000 feet or so dug up a lot of most agreeable things in a calcareous pasture, all of which flowered freely and have grown considerably since then. The question remains, and was understandably voiced by Mr. Epstein: will they survive the coming winter? Since we never cover anything during the winter months, it is quite possible that some of them won't! This seems callous to the point of idiocy, I know, but after all it is consistent with our deliberately Spartan program. Similarly, we never watered any of the plants artificially, either with hose or can, until the last few weeks of 1949's drought, when we felt that some of Peter's seedlings

might appreciate a little moisture. It is my firm belief that more deaths occur in the rock garden from unnecessary, self-indulgent watering than from any other cause.

In conclusion, let me note that *Penstemon baccharifolius*, from comparatively low altitudes near the Mexican border, came through last winter without any protection whatsoever. If it proves to be hardy here and elsewhere, it should be an important addition to the roster of cultivated Beard-tongues. The flowers are of a peculiarly rich crimson-scarlet, very glandular, and held in open panicles above the foliage which is neat, round and leathery, and almost as thick as a Sedum's. They are produced unstintingly from July till the middle of October - surely a record for this genus. The whole plant springs from a stout woody trunk and is the special glory of a few limestone cliffs east of the Big Bend in Texas.

BOG HOPPING

H. LINCOLN FOSTER, FALLS VILLAGE, CONN.

THOUGH the plants which make their homes in the quaking bogs may be ruled out of the rock garden of the purist, there are some charming herbs and shrubs of small stature which can be transported from the bog to the drier condition of the rock garden of the less precise, with good chance of success and certainly much delight.

It is in the coolness of the bog, uncrowded by the coarser vegetation and competition of meadow and forest, that we find many plants of boreal association and relatives of true alpines. In fact, as we wander around one of the extensive quaking bogs where, because of the actual starvation all the plant life is dwarfed, there is a feeling of separation from the ordinary and crowded and gross, a feeling of intimacy with trees and shrubs which rise no higher than our knees, a feeling of space and proportion. Except for the wet yielding carpet of sphagnum moss, we might be wading through the krumholtz near the timberline of some high peak.

Here in the quaking bog are the open areas of vari-tinted sphagnum moss, spattered in season with the brilliant blooms of Calopogon and Rose Pogonia, the bright yellow of the grape-scented Utricularia, tiny spangled leaves of the Sundew amid the fat guady traps of the Pitcher Plant. The dazzling white of the tall White Fringed Habenaria is a startlingly beautiful sight against the late summer green of stunted Larch or Bog Spruce. Few of these herbaceous plants, especially the Orchids, will lend themselves to the ordinary conditions of the alpine garden. They require a special site which, when carefully placed and well constructed, need not clash with the general setting of the rock garden.

In what is a natural small valley amid some higher rises of the rock work, or beside a stream or pool, if the garden is fortunate to have such a feature, a miniature bog is simple enough to make. An old wash tub, or a hogshead sawed in half, may be sunk in the ground with no part of it rising above the surface to reveal its presence. This can be filled with commercial peat and on top a carpet of growing sphagnum to give the final natural setting for these plants which require a constant supply of underground moisture. This can be kept saturated during the drier months by turning the hose into it once a week or so. The miniature bog should be located where it receives almost full sun, as most of the bog dwellers are accustomed to full exposure to the light. Such a structure in the rock garden will prove to be a further boon as a remarkably happy spot for many difficult alpines that like an acid soil.

It is among the shrubby material of the bog, however, that we find the most satisfactory plants for the rock garden. There in the bog, in great tangled masses, the dwarf shrubs make charming patterns of color and texture. The Leather Leaf, though not spectacular with its coreaceous rusty leaves and small early blooming bells, is a desirable shrub for various sites in the rock garden, especially if some of the denser, dwarfer strains are searched out and selected. Here is a field for some enthusiast to pursue. The plant is so common and so varied in most bogs that a good strain should be located, which would be best suited to the rock garden. It grows perfectly well in full sun or part shade, even in fairly dry sites, as long as it has an acid soil.

Among its neighbors is the tiny-leaved Bog Laurel, Kalmia polifolia, the first of the Laurels to bloom, with a delicate, beautifully shaped and colored blossom - a rich pink on darker, long, slender pedicels. This Laurel, if cut back when collected from the bog where it is likely to get leggy in competition with other shrubs, will remain quite compact and low in the drier condition of the rock garden.

Perhaps the choicest of the dwarf woody plants is the Bog Rosemary, which creates in the wild masses of a smokey green, a blue-green as though bathed in fog.

Hung with early blossoming pink lanterns, it is a thing of real delight.

Others, too, the Labrador Tea and Sheep Laurel, should be carefully selected for stature and more especially for color. These may all find a welcome in the lock garden if carefully placed and given acid soil, not too rich in order to keep their stature low.

HARDY CYCLAMEN

VIRGINIA STEWART, SAN ANSELMO, CALIF.

IT has always been our desire to extend the blooming period in our rock garden as far as possible beyond the lush days of spring and early summer, and in so doing we have found the hardy Cyclamen valuable and lovely for the cooler spots, which are left undisturbed from year to year.

Our staunchest and most successful is C. neapolitanum which we have grown mostly from seed. Freshness of seed is of great importance in the germination of all varieties of Cyclamen. When the single leaf has reached the size of a five-cent piece, we pot them into three-inch pots and grow them on for a year. After that,

they are ready for larger pots or setting out in the garden.

Hardy Cyclamen show a marked preference for a light soil made up of good loam, humus, sand and a little lime. The corms should not be planted too deep, a covering of a half inch of soil is sufficient. As the corms grow, they will need an occasional topdressing of well-rotted manure mixed with a little sand. It is well to mark the planting of corms, because during the dormant season it is so easy to disrupt them. All varieties need a permanent spot in the garden, as they do not take kindly to being moved about.

Cyclamen corms do not divide but grow fatter and wider with the years. Henri Correvon, in his book on rock gardens and alpine plants, tells of owning a corm of the rare C. rolfsianum which weighed nearly a pound, and of another corm belonging to an English gardener, which was forty years old and produced

more than five hundred flowers in one season.

Cyclamen neapolitanum, the Ivy-leaved Cyclamen, is one of the most hardy, a native of the limestone cliffs of southern and western France, Corsica and Italy. In our garden, the flowers begin to appear in the middle of September in a variety of pink, mauve and white. After two or three weeks of blooms, the lovely marbled leaves appear and in combination with the flowers, the effect is truly beautiful. The leaves remain through the winter, making an excellent groundcover for a spot that otherwise would be drab.

(Continued on page 15)

DWARF CONIFERS

BERNARD HARKNESS, BUREAU OF PARKS, ROCHESTER, N. Y.

Picea Abies Ellwangeriana (Beissner) Rehder

JUDGING from the record of one plant only, Ellwanger Spruce is of first rank among the dwarf Spruces. This plant in Highland Park, Rochester, New York, was received from the Arnold Arboretum in 1905, noted as one foot high in 1906, photographed in 1920 when it was three feet high and two and a half feet through, reported to the Conifer Conference in 1931 by A. D. Slavin as sixty-two inches high and sixty-nine inches across. This last represents its best development; at the present time, adversity of encroachment by tall trees has reduced it to a trunk less than three feet with branches reaching six feet to the light.

When I first studied Ellwanger Spruce, I questioned its place among Norway Spruce varieties mainly because of its extraordinary leaf buds. Its bud scales reflexed at the tip revealed a count up to forty and formed a rosette wider than the thickness of the bud. Noteworthy, too, was the evidence of long continued attacks



Photo by Bernard Harkness

Pinus nigra hornibrookiana, summer of 1949, in Durand Eastman Park, Rochester.

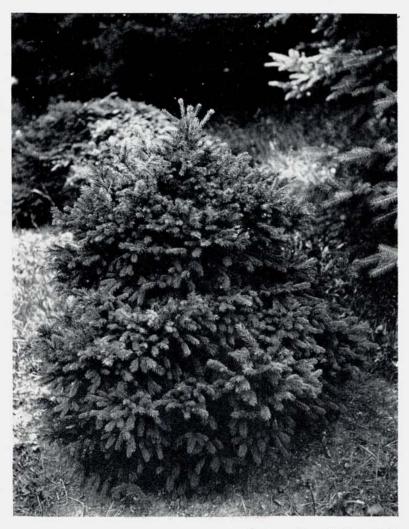
by a spruce-gall aphid (Chermes sp.), whereas other dwarf Norway Spruces adjoining were not infested. However, I have since found the same sort of bud development on the Cypress Spruce (Picea Abies cupressina). In 1920, Murray Hornibrook wrote in a letter to Sargent that Ellwanger Spruce was practically unknown "over here". An 1893 catalog of the Ellwanger and Barry firm states that Ellwanger Spruce "originated from seed in our nurseries several years since." Its first botanical descrpition is credited to Beissner, however.

Sargent once noted a tendency in this variety to revert out of character. In all dwarf Spruces, great care must be taken in the selection of propagating material, as

the "best wood", i.e., the strongest shoots, tend to continue their strong growth, losing the true character of the variety.

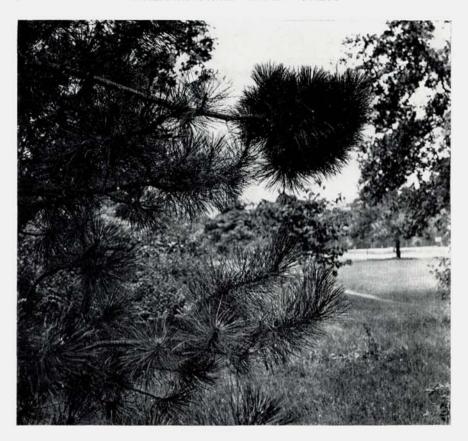
Picea Abies Maxwellii (R. Smith) Nash.

Contrary to the status of most dwarf evergreens, the history and identification of the Maxwell Spruce is refreshingly plain. The only point of interest not easily verified is the original description by an English nurseryman, Richard Smith, in a list or pamphlet entitled "Plants of the Fir Tribe", published in 1873 or 1874. Originating as a "witches broom" on a vigorous No:way Spruce at Geneva, New York, it was distributed early by the Maxwell Nursery of that city. Mr. Richard Horsey, of the Rochester Parks, photographed the original tree in 1920. One of his photographs is in the first (1923) edition of Hornibrook's DWARF AND SLOW-GROWING CONIFERS. Another photograph of Mr. Horsey's, taken in the same



Courtesy: Edson-Rochester Parks

Ellwanger Spruce in Highland Park, Rochester, N. Y., 1920



Courtesy: Horsey-Rochester Parks

Witches-broom on Austrian Pine in 1920; source of *Pinus nigra hornibrookiana*. year, picturing the Maxwell Spruce in an old Geneva garden, appears in the second edition of the same work by Hornibrook.

The original plants at Highland Park, Rochester, New York, were received from Parson's Nursery in 1905. In 1931, they were noted as three feet tall; in 1948, one specimen was six feet tall, broadly conical in shape, and the other was five and a half feet tall and nine feet across at the base. Under all but the most unfavorable growing conditions, Maxwell Spruce holds its basal branches and forms a living green mound which seems capable of retaining its form indefinitely, a performance that few dwarf evergreens can equal.

Under conditions of soil and available moisture more nearly optimum for conifers in Rochester's Durand-Eastman Park, Maxwell Spruce which was two feet high in 1938, had increased in height to five feet in ten years, though on more typical specimens, the 1949 measurements were three and a half feet in height by six feet spread.

Identification of Maxwell Spruce is aided by the stiffness of the needles and by an elongated fine point at the end of the needle which makes the needles prickly, if grasped.

Pinus nigra Hornibrookiana, Slavin

Seemingly, the only recorded dwarf of Austrian Pine propagated from a "witches broom" is the plant named in honor of Murray Hornibrook by Arthur D.

Slavin in his article, Conifers Cultivated in the United States, published in the R.H.S. Report of the Conifer Conference (1932). The tree on which the "witches-broom" appeared was part of a general landscape planting in Seneca Park, Rochester, and no longer exists. The "witches-broom" branch was photographed in July, 1920.

As are plants of similar origin, the Hornibrook Pine is a genuine dwarf of stable character. Rate of growth of a plant growing under advantageous conditions at Durand-Eastman Perk can be taken as maximum or nearly so for the form. In 1938, its measurements were two feet in height by three feet spread; in 1948, it was four feet in height by seven feet spread, having spread at twice the rate of its increase in height. A photograph taken about 1930 appears in Bailey's The CULTIVATED CONFERS.

Pseudotsuga taxifolia densa, Slavin

The Douglas Fir has produced seedling dwarfs in considerable variety and many names are cited in lists. Presumably, however, the plant grown in Rochester's Highland Park and named by A. D. Slavin in R.H.S. Report of the Conifer Conference (1932) is distinct; it origin is not known though it is recorded as coming to Rochester in 1896, possibly from the Arnold Arboretum. The photograph in Bailey's The Cultivated Conifers, which was taken before 1933, represents the Highland Park plant at about its maximum development, with a height of two and a half feet and a width of three feet. It has not increased in height since and with age and some encroachment of shade has become less dense and compact in outline. But its record of slow, compact growth for at least forty years indicates it to be an excellent form for rock garden use in small-scale design.

RANDOM COMMENTS

Mrs. Edward M. Babb, Portland, Maine

EVERY issue of the Bulletin has articles which make me want to ask questions of the writer, or tell something of my own experiences. For instance, I enjoyed very much the story in the May-June issue of Ida Thomas' successful planting of Arbutus, and I should like to mention mine, which was also a small collected plant. It must be at least six years old now and covers about two square feet with a perfectly dense mat of foliage. This plant, too, has been white flowering but last spring, to my amazement, all of the outermost sprays of blooms were a rich pink, while the central ones were still white. Has anyone an explanation? By late summer, every branch tip showed a thick cluster of buds, completely hidden under the leathery leaves, and I am most curious to see if the lovely color trick will repeat itself this spring. I certainly hope Mrs. Thomas' plant will surprise her in the same way.

A little blueberry seedling was in the same sod and is still a very congenial neighbor to the Arbutus. It has become a neat little shrub about a foot tall, with a bountiful harvest of pink bells, blue berries and red fall foliage. Some day, I hope to add a rare white-fruited plant and also a red-berried one. Last summer, we found several plants with wine-red translucent berries, fully ripe and sweet as honey. What a patriotic red, white and blue planting that will eventually be!

These plants are mulched with black pine woods soil and soaked whenever the rest of the garden needs it in hot weather, sometimes with a hose, but usually with a sprinkler, which method seems to take care of any trouble from chlorine in the city water. Just above the Arbutus is a much older clump of Maidenhair Fern which is a thicket of wiry black stems and graceful fronds. I believe a

neutral soil is sometimes recommended for this fern, but in this location it has a very acid mixture. It seems to me that the color of the foliage is rather yellowish, which may be the result of the acidity, or of too much sunlight during spring and fall.

Oenothera flava, which Dr. Worth described in the July-August issue, has been very enjoyable here, the only drawback being its refusal to open its lemonvellow flowers until it is completely dusk. I have waited many evenings until my patience has been exhausted, turned my back for a moment, and found the blossoms had snapped open that lost moment! It usually behaves here like a self-sown annual, although occasionally a clump will make new fall foliage around the edges of the summer's seed pods. Last summer, I dug up and remade the section of the garden where these were growing and very soon afterwards, to my surprise, the whole area began to sprout infant Primroses which grew and bloomed through the early fall. This species begins to flower early in the spring here, while nights are still very cool, along with the lovely and unpredictable Oenothera caespitosa. When the weather turns hot and dry, these species seem to rest, while O. missouriensis takes over and blooms continually until late October. O. caespitosa disappeared in the drought, but both old and new plants of O. flava began to bloom as soon as the weather turned cooler again, continuing through September.

Oenothera missouriensis delighted in the hottest sandy soil, where my Cactus collection spent the summer, apparently not minding being run over by the loppy branches of the Primrose. At the edges of the bed are mats of grey-green Antennaria dioica and soft silver-gray A. rosea, which is so pleasing in spring with bright pink puds. Bluebells and Maiden Pinks seed in as much as allowed, and I often put new clumps of Phlox subulata here for trial.

O. flava seems to prefer the richer and more moist location at the foot of a slight slope just below these others. Crested Iris have also shown such a liking for this spot that I have largely given it over to them. There are two lovely color variations, one Millard's, the other McDougal's, but I have forgotten which is which. One is very dark purple and is consistently more dwarf of foliage and flowers, while the other is so light a lavender as to give a white effect, with yellow crests surrounded with pale blue. The true white crested Iris has no touch of color, except the gold crests. These varieties are beautiful with the usual medium lavender ones, and I intend to add a bit of the pure white near the purple, although it usually seems more effective by itself, against green foliage or a dark boulder. A tiny plant of Iris lacustris is just surviving nearby; it is not ideally situated as yet.

The little yellow Star-Grass, *Hypoxis*, is a fitting companion for the Iris and seems to delight in the same sun and soil. This is one of my favorites - it is slow growing, always neat, and in bloom practically the entire season, regardless of heat or cold, moisture or drought.

Another addition last summer was Penstemon gracilis. I was pleased to read Claude Barr's praise of this plant, for it is also one of my favorite Penstemons - a "good mixer" in light amethyst, as Mr. Barr described it, and with gold tongues which may give the "happy glow in sunlight". Another nearby neighbor came originally from Mr. Barr's seed - Potentilla fissa, a fine plant for Potentilla fans, although not showy enough to compare with many others. The flower heads are small but a nice soft yellow, and the foliage is entrancing - long ferny leaflets of light green on stiff bronzed stems. It is good the season through and especially attractive in early spring.

Freckles Violet, its white face thickly spattered with lavender, and the

purple-centered Peacock Violet are especially lovely around the lower edges of this planting, while little Johnny-Jump-Ups here and there add summer-long color. I try to restrain them from taking over the whole area but, as you perhaps can read between the lines, I am quite an easy mark for such lovable vagabonds as long as they do no actual harm.

BONGARDIA CHRYSOGANUM

HAROLD EPSTEIN, LARCHMONT, N. Y.

"A tuberous rooted herbaceous Barberry" - this unusual descriptive combination of a plant species first came to my attention in a foreign plant list several years ago and naturally aroused my curiosity. The plant, Bongardia chrysoganum, was not found listed in HORTUS, but was referred to in the oft reliable THE ENGLISH ROCK GARDEN, by Reginald Farrer.

Further research revealed that the plant had been introduced into cultivation in England from the Levant before 1740, although it had been known as far back as 1573. It has a wide geographical distribution from Greece, east through Asia Minor, Syria, Persia to Afghanistan and Beluchistan.

The plant has also been know as *Bongardia rauwolfii* and is so listed by Farrer, who describes it as a "pretty curiosity". Past notes on its cultivation indicated its impermanence and its challenge to garden cultivation although supposedly hardy. Its native source clearly indicated that it requires much sun and baking, with a minimum of moisture in the spring.

Having found several other herbaceous species of the Barberry genus easily adopted to garden culture, the challenge of *Bongardia chrysoganum* could not be resisted. And so, half a dozen dormant tubers were imported that summer. These closely resembled Cyclamen tubers, with a rough surface. Not wishing to risk all of them outdoors, three were planted in the fall on a high stone outcrop at the surface of the soil with considerable grit and sand surrounding it, to assure complete drainage. The other three were potted in a light soil mixture and placed in a cold frame.

Both of these groups were observed through that winter, particular attention being given to those outdoors. The latter appeared to survive the extremes of winter, but the substantial spring rains seemed to rot the tubers quickly, even though drainage was perfect. Perhaps some glass covering to reduce this moisture might have been effective. The plant's past reputation was definitely substantiated.

However the plants in the frame, protected by glass sash, have repeatedly come through the winters intact and are dependable bloomers. The flowering period here generally begins during the latter half of April and lasts for a few weeks, the plant then gradually becoming dormant again. At that time, the potted tubers are taken indoors, repotted in fresh soil and not replaced in the frames until early winter.

The leaves of Bongardia chrysoganum are finely divided and the flower stem, of about one foot in height, has many small golden-yellow flowers.

The plants, this past season, fortunately produced a fair crop of seed which has been donated to the American Rock Garden Society. Not having attempted to raise this plant from seed nor finding any past record of this means of propagation, I regret that I am unable to furnish any details other than suggesting a very sandy soil medium for their germination, with a caution against over-watering.

I shall await with interest the experience of others with the seeds of this curious plant.

CLAIRE NORTON'S NOTEBOOK

THE Alpine Poppy, Papaver alpinum, is a charming adjunct to any rock garden. It is much like a small, dainty Iceland Poppy and has large, often delicately fringed flowers of white, pink, yellow or orange.

Coronilla cappadocica, or Crown Vetch, bears clover-like flowers These are produced in long heads of rich yellow during June and July. The foliage is also attractive.

Low Meadow Rue, *Thalictrum minus*, is an excellent plant for shady situations and looks very much like Maidenhair Fern on a small scale. As dainty as the foliage of this fern is the foliage of the Yunnan Meadow Rue, *T. dipterocarpum*, while the lilac-tinted blooms are among the most exquisite of flowers. Just the right thing for a nook in the large rock garden.

Snowdrop Anemone and Rock Jasmine are two good rock garden subjects, but need special care - both of them.

Every rock garden has a corner which needs a Rock Rose, Soapwort, or Rock Cress to complete it.

Little Iris reticulata, a bulb gem, comes into bloom as early as February in favorable seasons.

Why not plan to build a moraine in 1950 and extend an invitation to those alpine treasures listed as "difficult"?

Euphorbia myrsinites is one of the best early bloomers for arid regions. Being succulent in character, it seems to carry through better than most of the early flowers. I have seen great sheets of its yellow blooms in rock gardens where few other plants were in flower. It is somewhat sprawling, but the foliage is a pleasing blue-green and after flowering the branches may be sheared to half height.

Mazus reptans is a rare little charmer for the rockery. The leaves somewhat resemble those of the Linarias and the orchid and mauve flowers are of general Snapdragon shape. Not just like a Snapdragon, either. The flower nearest in form that I know, is that of our native Penstemon ambiguus. The neat, compact, carpeting habit of M. reptans should alone recommend it to the lover of small bits of flower beauty. It will grow in sun, but is more suited for shaded spots.

Lippia repens spreads freely by prostrate stems, which root at the joint and make a tight cover. It can be mowed. Maybe useful for the cracks of terrace paving? Left alone to bloom, it has clover-like flowers, white, lavender tinted.

Viola Admiration has proved the best of the lot in our garden. It stands abuse better than any of its family we have tried, and this takes in most of the Violas introduced to date. Another point in its favor is that it has germinated one hundred percent true from seeds saved on our own plants, which sets quite a record for a Viola!

A good method of finding space to grow rock garden material in the small garden is to build a rock wall.

Where annuals are used as space fillers in the rockery, Midget Blue Ageratum is to be considered.

February's sun takes greater toll of plant life than December's and January's cold. This is the time of year when the rock garden must be closely watched. Little alpines seem determined to come right out of the ground, roots and all,

when thaws and freezes occur. Push them back into their pockets and mulch with stone chips or gritty soil. A layer of evergreen boughs to shade the ground will help to keep adventurers in place.

Claire Norton, La Porte, Colorado

BEGONIA EVANSIANA

Mrs. H. P. Magers, Mountain Home, Ark.

JULY and August represent the most trying season of our garden year, as the spring and early summer bloomers are finished and late summer and fall flowers are not yet ready. Consequently, any flower which chooses that period for its display, is bound to find a royal welcome with gardeners. When it contributes beauty of leafage as well as bloom, it is, indeed, a treasure.

Just such a delightful display is given in full measure as the hottest, driest spell in summer arrives, by the Hardy Begonia, B. evansiana. It has all the beauty of foliage of the finest florist's variety, being of the angel-wing type, with big, deeply veined wings of the softest, deep green, backed by a very clear red. When the sun dips low and casts its rays under the high trees, where this Begonia is growing, the leaves seem to glow with a ruby light. The veins are deep red on the reverse of the leaf, making a very attractive picture, even before the flowers come.

Even without flowers, B. evansiana would be an ornamental plant for any shady spot, as it cares very little for sun, doing its best in the shade of shrubs or high trees or even on the north side of the house, where the sun strikes morning and evening and there is full shade during the heat of the day.

This Begonia is perfectly hardy here with no protection; but where winter cold is prolonged, it is well to dig the tubers and pot them until entirely dry, then store them in the basement, keeping the soil just not bone-dry, though never allowing even a suggestion of really wet soil.

The Hardy Begonia branches freely, making a graceful plant not over two feet tall and, when well grown, fully as wide. The axis of each leaf puts out a thick, waxy, rose-colored stem which holds a large cluster of pendant, typical flowers of the most perfect deep rose. These last for weeks to be followed by the winged bracts. This beautiful display continues until frost, as each new leaf is accompanied by its flower cluster.

The plant is so delicate and dainty, it is always a surprise to find it blooming so profusely in the hot midsummer days. No one flower can, of course, be perfect, and we find this fails in that it seems almost worthless as a cut flower. It drops very quickly after being picked.

Begonia evansiana is a late riser, making careful marking quite necessary to keep the roots from being injured. When it does start, it grows by leaps and bounds. It increases from tubers formed back of the leaves.

We grow *B. evansiana* along the little brook at the foot of the rock garden, in loose leafmoldy soil, with ferns and Primroses. Here the young tubers fall so thickly they form dense colonies that have to be thinned out each spring to allow them room to develop. They like to be well watered, but dislike soggy soil. They can endure long periods of drought, but certainly do not make their best development under such conditions.

"LAVENDER-BLUE LAVENDER"

HAROLD ALBRECHT, BELLE PLAINS, MINN.

SO goes the song. Yes, green there is too, in interesting leaf pattern. Two plants which by chance "neighbored", turned out to make a pleasing combination. One, *Phlox bifida*, or Cleft Phlox, comes in several shades, of blue, strong to weak-washed to nearly white. The other is the native plant of our steep sand hills, *Astragalus caryocarpus*, or Ground-Plum. This has flowers in mixed shades of purplish-lavender to bluish-rose and weds well in color with the Cleft Phlox.

Both are of the same height, not wee, but small. Both sprawl a little. Both self-sow. The Phlox has just begun to seed itself this year - never before, and, of course, I am giving it its way, for I am more than pleased to see it spring up in odd places. The Prairie Plum gets a crop of brilliant plums, which sit upon the ground, fat and satisfied-looking, and make a nice path of color in summer. In my rock garden, it has sown itself sparingly, but I know hills whose brows bear great beauty when the numerous clumps give flower.

Nearby I have St. Bruno's Lily. My plant sent scape on scape aloft - it's still on the small side, remember - and rang its white May bells to a dainty tone. It would seem a fine partner to the Prairie Plum and Cleft Phlox in color, height and habit. Thus, they could sing their three-part melody in floral harmony to

make the merry month of May even merrier in retrospect.

ZINNIA GRANDIFLORA

ROBERT M. SENIOR, CINCINNATI, OHIO

IN the May-June number of THE BULLETIN, there was a photograph of Zinnia grandiflora which, incidentally, Standley and Wooten, in their FLORA OF NEW MEXICO, classify as a Crassina.

Many years ago, I found this Zinnia near Santa Fe, and it occurred to me then that this very attractive plant might prove to be a very desirable acquisition to the rock garden. It was low growing, compact, and covered with bright yellow flowers, which lasted for a long time. Moreover, after the rays withered, the plant still retained interest, since the dry straw-colored "petals" were persistent.

Some of the seeds which I gathered at that time, germinated and the plants were tried out, both on light and on heavy soil. These lived for several years and had the virtue of blooming in late summer and fall. However, I got the impression that old plants resent being moved. On two occasions, those growing in ordinary lean soil, promptly died when they were dug up and placed in a different location.

ROSA NANA

DORETTA KLABER, NEW YORK, N. Y.

SEEDS were sold to me as Rosa nana, but I think they are R. polyantha nana. Whatever they are, they make an admirable rock garden shrub.

They come up readily from seeds, which are kept in a jar in the refrigerator over the winter. When four to six inches high, they start to bloom - this is a few months after planting. The flowers, which may be single or double, white or pink, are about three quarters of an inch across, rather similar to *multiflora*, but instead of one burst of bloom, they bloom on and off, mostly on, all summer and until heavy frost.

The flowers are followed by the neat little orange-red hips, which are profuse

enough to give a definite touch of color in autumn. The new roses blooming

among them are particularly welcome and charming.

Some of my plants are now several years old. I planted five or six in a group, when they were small, and this group now spreads three to four feet and is about two feet high.

HARDY CYCLAMEN (Continued from page 5)

Cyclamen europaeum, known in Switzerland as the "Alpine Violet", is very hardy - has rosy red flowers with the delightful odor of Violets. It keeps its leaves for the greater part of the year and begins blooming in the middle of July, continuing into October.

Cyclamen coum, a very early spring bloomer, has little crimson-magenta blossoms. The leaves, which appear in fall, are small, round and of a dark green. There seems to be a difference of opinion concerning the hardiness of this species.

In our California garden, it is hardy even though we have heavy frosts.

Cyclamen cilicicum, from the Cilician Mountains and Pine forests of Asia

Minor, is an autumn bloomer. The flowers are pale to deep pink, with a purple

blotch at the base. This species is also fragrant.

Two other Cyclamen, neither one entirely hardy, are C. atkinsii, a hybrid between C. coum and C. ibericum, which is spring flowering in white and pink; and the second, C. balearicum, a very beautiful species, with pure white, fragrant flowers and heart-shaped, marbled leaves. C. balearicum grows only on the Balearich Isles and, unfortunately, is hardy only in the southern states.

Cyclamen ibericum blooms in late winter and early spring, has white or rose

flowers and silver-zoned leaves, and is native to the Caucasus Mountains.

Cyclamen repandum also produces its flowers in earliest spring, along with very elegant heart-shaped leaves, beautiful marbled in silver. The flowers are a deep shade of red. A native of Corsica and Italy, this Cyclamen grows in shaded walls and rock crevices.

Longevity and ease of culture makes hardy Cyclamen a valuable addition to the rockery where there is shade and good drainage. Pot culture is recommended for the gardens that are too hot or where a yearly "going over" may disturb the corms.

SPACE IN THE ROCK GARDEN

WALTER D. BLAIR, TARRYTOWN, N. Y.

THERE is more in a rock garden than its flowers, rocks and shrubs. There is space, all enveloping space, all embracing space. The relations in space of rocks, shrubs and flowers constitute an exquisite system of beauty that exists beyond and outside the mere beauty of its flowers.

Spatial relations between the plants make designs that may stir the emotions, creating a powerful abstraction by their related forms. These related forms penetrate space and unite space into patterns that can add meaning to their forms and give them piquancy. Indeed, space holds the mystery of significance. Between rocks and flowers, there may be established relationships that have the potency of pleasure.

Between rock and rock, flower mass to flower mass, color to color, the garden builder establishes patterns and arranges the elements of the garden to make the beholder aware of the power of space to stir and satisfy the emotions.

Here, and not in its flowers, are the permanent values of a garden's worth; here are abstractions of beauty founded on spatial relations, for in a garden form and space are supreme.

GOING FORWARD

Dr. Helen C. Scorgie, Harvard, Mass.

OUR secretary's last annual report gives food for thought. That our membership should be increased, none can question. The divergence in opinion lies in where we are to look for these new members, what more effective means we can use to attract them to our ranks and - what is of far greater value - maintain their interest after they are enrolled. One who remains in the Society for a year or two and then drops out has added nothing to the organization and, no doubt, has not received adequate return for his dues. Surely, then, we do ourselves a disservice if we entice within the fold those who have no real interest in rock gardening but merely a vapid and fugitive notion that they might like to have a rock garden. An abundance of good material is available for our numerical expansion, if we can but seek it out and have available a program that is constructive and flexible in its helpfulness.

In the report of our secretary, the breakdown of the reasons for resignation is to the point. The first items are of inevitable losses. The majority of the rest who have withdrawn could never have been keen about rock gardening nor the Society. Few gardeners confine themselves exclusively to one species or one type of gardening and not infrequently what was once their chief interest takes a minor place. But it is rare, indeed, that this one major concern is cast aside entirely, even when the change is due to altered conditions such as a new garden of more restricted size. The more heed we give to avoiding the wrong kind of new member, the smaller these losses will be. A member retained is of more value than a member attained.

The non-gardener should not be encouraged to begin with a rock garden even of the simplest construction and with fool-proof (usually a synonym of dull) plants. Rock gardening is one of the most complicated forms of horticulture and the beginner who thinks he might like a rock garden should, both for his own good and ours, be firmly shunted into a simpler field and a local garden club. By the time he has learned the fundamentals of horticulture, he will know whether he really wants a rock garden.

It was recently suggested that we issue a short pamphlet of instructions for the beginner with a brief list of indestructible rock plants. To this, there are many objections but one of these looms menacingly above the rest! That is, that we would stifle at its birth an incipient urge toward originality. Our gardens are the work of our hands and it is better for the morale of the gardener that he build it as pleases him, even if that building is imperfect in our eyes and to you and me appears to lack beauty. Real satisfaction is missing in the result if the craftsman is forced into a groove. Regimentation is the foe of art. Better a garden of dragon's teeth where love is than the well-placed stones of a dictator. Always the doubt will remain with the builder that the arbiter may not have been so right after all, and the end-result will be common-place and unconvincing.

A second objection to this simplification of the needs of the beginner is that these needs are not simple. The range of temperature, the humidity and contours of our land and its types of soil are only a few of the diversities to be considered. The type of local stone varies. One brief pamphlet could not cover all this, and yet it only begins to touch on the things that may trouble the beginner. The problems are never the same as is readily discernible when we consider the highly variable factors, the gardener and the land on which he works. And we must not forget that the majority of new members will already have acquired some skill in rock gardening and any program of helpfulness must include them.

To allure new members, our problem, it seems to me, is not to devise new

methods (at least not at first) but to develop more fully those which we already have - though it cannot be gainsaid that the range of our activity could be increased at some future time. One development that would have a strong appeal to me, and, I believe, to many members whom I know, would be the creation of a lending library.

Our greatest handicap is the wide distances which separate us and this is a serious handicap. Most of the members remain to the rest as mere names with no knowledge of what their accomplishments or difficulties may be, and many must progress by the slow process of trial and error, except for the limited help they can get from books. But even more than material help, the isolated gardener needs the stimulation that comes from association with those of like mind.

The importance of local meetings is great. We have our regional divisions and some of them have meetings. But these are all too infrequent and sometimes planned for entertainment rather than solving the problems of the individual gardener. Moreover, even within a region, distance still is too great for many to attend with any regularity. It would be well to plan group meetings on a more local scale. Such groups are helpful even when the numbers are very small, but two things are essential - that the program should be simple, not calling for a large expenditure, and that there should be a definite program. A member is much more apt to attend if there is to be a discussion of seeding methods for alpines than if there is just to be a monthly meeting.

There is another activity within the Society of which those outside its influence hear only occasional mention. And yet those participating have for years gained inspiration and knowledge through it. This is the Society's round robin. It is not, as so often stated, a purely local affair of the mid-west, although most of the members live there. It extends from coast to coast. It is unnecessary to tell a large proportion of our membership of what may be gained by this method of disseminating knowledge for fully a third of them know it first-hand.

Here is a method par excellence to help the beginner. In such a group, his particular and immediate problems will have solutions offered not ex cathedra but by his peers, some of whom probably have had to overcome the same difficulty, as well as advice from the more experienced director. The range of information exchanged is vast - sources of material, lists of plants suited to a given locality, the suitability of certain plants for the rock garden, the relative value of plants and their hardiness. As the beginner matures into a full-fledged rock gardener, the robin keeps pace with his advance and continues as a source of new information. No matter how skilled he may become, the robin is a continuing fountain-head of knowledge.

This is the tangible side of this cooperative adventure. But there are overtones which are difficult to translate into words, although to me they are as valuable as any information gained. In spite of the separating distances and the differing approaches to our hobby, strong links of friendship develop and the firm welding of these bring new strength to the Society. The membership roll-call is no longer a list of names "and nothing more".

NEWS AND EVENTS

ANNUAL MEETING

THE annual meeting of the American Rock Garden Society will be held on Saturday, May 20th, at the home of Mrs. Clement S. Houghton, Chestnut Hill, Mass. Preliminary plans include inspection of Mrs. Houghton's notable rock garden, luncheon as her guests, business meeting and conducted tour of Garden in

the Woods, South Sudbury, Mass., in the afternoon under the guidance of Mr. Will C. Curtis.

If time permits, arrangements will also be made to visit two other rock gardens in Chestnut Hill, and another within reasonable driving distance of South Sudbury.

Members who wish to remain till Sunday may find it possible to visit the Arnold Arboretum, and those extending their holiday may also participate in Massachusetts Garden Week under the auspices of the Massachusetts Horticultural Society, May 21 - 27. The dates have been selected to show gardens in eastern Massachusetts at the time Lilacs, Dogwoods and Tulips are in bloom.

ROCK GARDEN EXHIBIT

An exhibit will be staged at the Spring Show of the Massachusetts Horticultural Society, Mechanics Hall, Boston, March 12 - 18, by the New England Regional Group of the American Rock Garden Society. It will occupy 1,000 square feet and will represent an outcropping ledge with brook and pools and scenic background. The committee in charge of the arrangements for the exhibit is Mr. Will C. Curtis, chairman, Mr. Stephen F. Hamblin, Mrs. Clement S. Houghton, Mr. Alexander I. Heimlich, Mrs. Lucien B. Taylor, Mr. John Thibodeau, and Miss Mabel E. Turner.

The committee is planning a rock garden such as can be permanently constructed with reasonable expenditure of money and labor. Local stone will be used and the plant material will be appropriate and varied. It will be highly educational and a member of the New England Regional Group will be in attendance at all times to answer questions.

ANNUAL LUNCHEON IN NEW YORK

The annual luncheon of the American Rock Garden Society, which is held in New York City during the week of the International Flower Show, will be held at the Hotel Essex, 157 West 58th Street, on Thursday, March 23, at 12 Noon.

A UNIQUE TRAVELER'S GUIDE

Mrs. Kathryn S. Taylor, member of the American Rock Garden Society since 1934, has edited an unusual work - A TRAVELER'S GUIDE TO ROADSIDE WILD-FLOWERS, SHRUBS AND TREES OF THE UNITED STATES (Farrer, Straus & Co., 1949, \$3.00). Sponsored by the Garden Club of America and the National Council of State Garden Clubs, it identifies over 700 plants. Mrs. Taylor spent a number of years in compiling the interesting data, which is accompanied by over 400 marginal drawings and maps of the forty-eight states, showing their conservation achievements and their horticultural features.

AN APOLOGY

Even with the best of care, errors have an unfortunate way of escaping the eyes of the editor and also those of the proof reader. Apology is offered to Mr. Roland G. Gamwell for the printer's error in inserting "s" where "w" belongs in his name, at the conclusion of his letter on page 106 of the November-December issue.

Also, in the third paragraph of Mr. Gamwell's letter, wooden should read woodsy. The number of notes which the editor received inquiring, "What is a wooden field?" indicates at least that the Bulletin is read to the last page!

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