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SOME ROCK GARDEN IRIS

IRIS, as we commonly know them, both pogons and apogons, are not for the rock garden; they are too dominant, they spread and crowd and just do not fit. Even the pumilas, though low growing, are too heavy of flower and foliage to accommodate the general scheme of most rockeries. For those who dote on alpines and the finer and more delicate rock garden plants, however, there are still Iris.

Despite all their shortcomings, the Japanese have left us a priceless heritage in the flora they have developed or originated and a frank, unbiased discussion of many of their shrubs and lesser flowers would be a valuable paper.

But these notes are concerned solely with Iris; and from the Japanese comes the outstanding rock garden species, *Iris gracilipes.* In Japan it is a woodlander, but in this country it conforms perfectly to rock garden usage; while its increase comes best from the root system it does not spread unduly but forms close, circular clumps that are readily separated every two or three years. Its grasslike foliage grows but eight or nine inches high and above this on slender, wiry stems it carries its many two inch blooms of pale lavender, finely marked. Unlike most other iris, the blooms last for several days.

There are few more beautiful flowers than *I. gracilipes alba.* It is like a miniature gold banded *I. kaempferi* and is as perfect for the rock garden as any alpine I know. This does not increase as rapidly as the species type, does not take kindly to too much sun, and thrives best in almost pure peat.

From Japan comes also *Iris minuta,* probably the smallest of the genus; pure gold with a very dark brown throat, with the falls traced in regular design in the same dark brown. The rather stiff, grass-like foliage is darker green than is usually found in the genus. *Iris minuta* is a very inconsistent bloomer; it may have a profusion of blossoms this year and next year very few or none at all, and for no reason that I can discover. It is propagated readily by divisions and requires no special soil treatment.

Somewhat larger in flower and sturdier in habit than *I. minuta* is *Iris arenaria* (*flavissima*), the sand iris from eastern Europe and Asia. A lemon-yellow self with orange beard, it is a sure bloomer; its rather scant foliage resembles somewhat that of *I. cristata.* Very sandy loam and full sun suit *I. arenaria.*

Native to this country is a tribe of low growing, sprawly iris comprising *I. cristata, I. lacustris* and *I. verna.* All have interesting flowers and are free blooming but they are difficult to confine and hence unsuited for any but the more extensive rockeries. However, in *I. gracilipes, I. gracilipes alba, I. minuta* and *I. arenaria* you will find a group that will probably fulfil all your rock garden iris requirements, and if you are fortunate to have them all bloom simultaneously you will experience a real garden thrill.—A.H.O.

BY FLORENS DE BEVOISE

The outstanding rock garden Iris, *I. gracilipes.*

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HYBRIDIZING DWARF RHODODENDRONS

G. G. NEARING, Ridgewood, N. J.

IN CLOSING the article on a dwarf Rhododendron for northeastern rock gardens, which appeared in the May-June number of the Bulletin, it was remarked that hybridizing is a promising source of new ornamental material.

The best hybrid of *R. racemosum* so far is Gable's Conestoga (*carolinianum* X *racemosum*) which unfortunately does not propagate well. To obtain plants in any quantity, they must be raised from seed of the cross repeated, for seedlings of Conestoga give something entirely different. The cross is difficult to make. However, when made, the offspring is fairly uniform, a plant up to two feet or so, bushy and rather dense, with compact, hemispherical clusters of small, pale pink flowers, usually profusely borne on a three-year plant, and continuing in vigorous bloom every year. Conestoga is a trifle less hardy than either of its parents. Its seedlings are very disappointing for the most part, reverting mostly to larger sizes, inferior bud-hardiness, and poor flower-color, but Conestoga X *keiskei* gives remarkably variable offspring, some with excellent promise.

Crossed with *R. keiskei*, the sprawling yellow from Japan, *R. racemosum* gives an extremely floriferous, twiggy bush about two feet high, with narrow leaves and pale pink flowers larger and freer than those of *R. racemosum*. The only plants flowered so far are from English seed; both parents being scarcely hardy here, the natural result is winter injury to the offspring and devastating winter loss of flower buds. More recently new crosses have been made between weather-tested parents, and it remains to be seen whether the result will be improved hardiness. It is interesting to note that in Rhododendrons a cross between species may result in either heightened or lessened vigor, but nearly always in approach to an average hardiness. That is to say, if two tender species are crossed, the offspring will usually be hardier than either parent, while the hybrid offspring of two hardy species will be less hardy than either.

Other crosses of *R. racemosum* are with *R. mucronulatum*, *R. ciliatum*, *R. pubescens*, *R. tephropeplum*, *R. burmanicum*, *R. minus*, *R. spinuliferum* and other species, with no outstanding results in small sizes so far. Attempts to cross it with species of the Lapponicum and Saluenense Series have failed. To breed superior forms for rock-garden use, crosses with these smaller species would seem most desirable, and since *R. fastigiatum* at least has been successfully crossed with *R. carolinianum*, there would seem to be no impassable barrier to combinations with *R. racemosum*. I am still trying.

The first stages of hybridizing usually concern primary crosses, hybrids between two species. In such cases, the progeny of each pair of species will be rather uniform, not exhibiting the variation for which breeders plan. Variations come when these primary hybrids are crossed with each other. Thus Conestoga (*carolinianum* X *racemosum*) is nearly uniform, but when pollen from one Conestoga plant is put on the pistil of a flower on a different Conestoga plant, a secondary hybrid results. The seeds produced by that flower will develop into many types intermediate between *R. carolinianum* and *R. racemosum*, combining the several characters in a variety of ways. Still better, *carolinianum* X *racemosum* may be crossed with, for instance, *keiskei* X *oreotrephes*, when each of the offspring may combine any of the characters of any of these four species with any of their other characters. Thus the breeder hopes that the hardiness of *R. carolinianum* and *R. racemosum*, the compact growth of *R. racemosum*, the yellow flowers of *R. keiskei* and the grace of *R. oreotrephes* may combine in one plant. But be sure that the next plant to it will associate the gawkiness of *R. keiskei*, the tenderness of *R. oreotrephes* and a washed-out combination of all the poorest flower colors, or a dirty white. For every good combination there will be a hundred bad ones. A mountainous trash-heap is the price you must pay for a prize-winning hybrid.

Resembling *R. racemosum* and like it originating in western China, is the rather rare *R. pubescens*, growing somewhat larger in a more lax and straggling fashion, the slightly narrower or longer leaves covered with soft, fine hairs, the flowers less abundant, the constitution a little less hardy or requiring more shade. When one of two similar species is superior to the other in so many respects, the inferior one can hardly expect much attention, yet for certain situations, perhaps as a ground-cover in woods or under large Rhododendrons, *R. pubescens* may prove useful. In a sheltered, shady rock garden, it might serve a good purpose, for it is smaller and rather more reliable than *R. keiskei*. I have crossed it with *R. racemosum* to produce a hybrid of no importance. Other attempts have mostly failed and been largely abandoned.

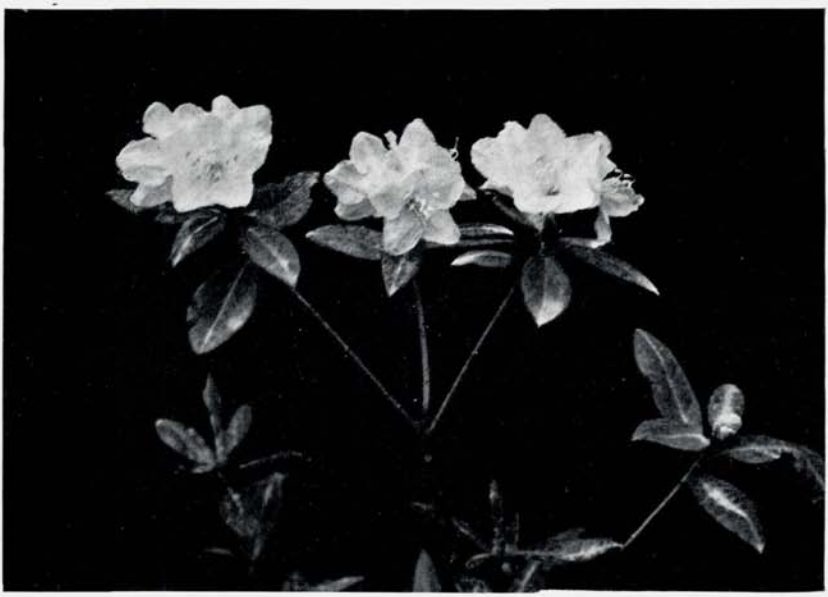
Better is the companion species *R. hemitrichotum*, with smaller, weaker, almost vine-like growth, its small, flat, hairless leaves covered with a minute, mealy pubescence or canescence which often takes a pinkish tint in winter. In a shady rock-garden pocket, it will open countless small flowers of apple-blossom-pink, fading to pure white. Severe cold, however, will often cut it back or even kill it. If forms only a little hardier could be developed, this rare species might prove a gem. Chance hybrids among its seedlings possess that intangible something best called quality, and one or two of the best of them may yet be named and propagated. I intend shortly to breed it more purposefully.

The Japanese *Rhododendron keiskei*, with attractive, pale yellow flowers, is often called hardy, and in fact may be so for a year or two, but even more often takes any excuse to perish during the first cold winter, harakiri perhaps at being brought captive to America. When young, it sends out many horizontal branches to form a straggling tuft a foot or two across. With the years, however, it may send up erect stalks too tall and lanky for the rock garden, and too likely to freeze out. With plenty of shade and shelter and a thick mulch of oak leaves, the plant may be kept alive, but will seldom give a good display of bloom, for the buds drop off after the first snowless cold wave.

R. keiskei has not thus far responded well to efforts at selection, but is worth all the labor it may require. Like *R. racemosum*, it blooms too early, often in April, with frosts almost sure to pilfer the seed-crop, carrying off the hardier generation before it comes into being. Young plants too are slow to bud. In order to hybridize it, I have had to carry this species in pots wintered in a pit.

Its hybrid with *R. racemosum* has been discussed under that species. Other crosses have usually resulted in plants too large for the rock garden. A few of the offspring with Conestoga have come dwarf, and even with Conewago (*carolinianum* X *mucronulatum*) one horizontal plant resulted.

Yellow Rhododendrons are so few that a truly hardy yellow hybrid of almost any size or description would be a prize. In my experience so far, no hybrids of *R. keiskei* have produced yellow flowers, this color being recessive. Even when two yellow species are crossed, the resulting flowers are more apt to be purple. Yet in England there are yellow hybrids, the result, in most cases, of crossing two yellow species. If dwarf yellows are to come, they may result from crossing *R. keiskei* with *R. flavidum*, *R. muliense*, *R. sargentianum*, *R. auritum*, or similar half-hardy species.



BY G. G. NEARING

Rhododendron keiskei has lovely pale yellow flowers.

Perhaps in the end it will develop that I have been day-dreaming, but I have a special use planned for *R. keiskei*. Most of the dwarf Rhododendrons, all that have been named so far, belong to the scaly group, their leaves, and often also the twigs and flowers studded with minute scales. This group cannot be crossed effectively with the non-scaly group, to which the large hybrids mostly belong. Now among the scaly species are few with brilliant colors, such as crimson, scarlet or orange, and those few not hardy. If we are to have brighter colors in this class, they must be introduced by crossing these tender species with our more reliable hardy ones,

but such as have been tried so far are unwilling to hybridize with either *R. carolinianum* or *R. racemosum*, neither of which is closely related.

R. keiskei, one of the Triflorum Series, has a more liberal nature, and may be the vehicle by which these desirable shades can be introduced. For years I have been nursing plants of a hybrid between *R. augustinii*, the blue Triflorum, and *R. roylei*, crimson. If these three-foot plants ever see fit to flower, in the cold pit of course, they will probably cross with *R. keiskei* or perhaps *racemosum* X *keiskei*, for *R. keiskei* and *R. augustinii* are rather closely related, thus bringing yellow, crimson and blue into the same race, which can be further crossed, perhaps, with Conestoga and other dwarfs, hoping in the end for a race about the size of *R. racemosum* flowering in every color. A larger race too, the size of *R. carolinianum*, might be selected out of these same crossings, but these would be of little interest to the fanatical rock-gardener.

No other members of the large Triflorum Series are dwarf enough and at the same time hardy enough to be considered here except perhaps *R. ambiguum*, a greenish yellow, of which I have never obtained true seeds, for mine always flower pink. But before leaving the series, I must mention *R. oreotrephes*, with enchanting, pale glaucous foliage and large clusters of bright lavender flowers. One plant, rather dwarf and with some fragrance, has such superb harmony of line and color that it makes a showpiece every May. If it were hardier, it would not be too large for a large rock garden, and it may perhaps be hardier than I suppose. Individuals of the species will sometimes winter in the open. However, its cuttings root slowly, and they, rather than the original plant, must be exposed for trial. I have thought too of propagating it to be forced for Easter. The color combination is delicately superb. Meanwhile it has been crossed with *R. carolinianum aureum*, a semi-dwarf, *R. keiskei*, and Conestoga, with what success the seedlings are still too small to show.

TWO MAT-FORMING LEGUMES

GENISTA *villarsii* of the Maritime Alps is surely the most prostrate of the small brooms. The branches lie flat on the ground and root as they go. In time they produce a very tangled carpet. The leaves are small and sparse and both they and the branches are cinereous in color. The numerous small pea-flowers are of pure gold. A narrow ledge or background of rock is best to set off the crabbed growth. A sunny place and warm sandy loam is its whole requirement. The easiest way to propagate it is to pull off rooted bits and plant.

Trifolium uniflorum is a sun-lover coming from the Mediterranean region. It is one of the really flat plants. The trifoliate leaves are slightly mottled; the flowers are not in the typical clover-heads but grow singly. They are large for the size of the plant and very numerous so that for more than a month in spring it is a mound of lovely clear pink. It is easily propagated by division; I have not tried it from seed. The plant can be lifted and a branch with a portion of the root cut away. A sandy well drained soil or scree mixture and a warm place in the garden are necessities.—E.M.F.

THE BORDERLINE ROCK GARDEN AND ITS PLACE IN AMERICAN ROCK GARDENING

VIOLET NILES WALKER, Woodberry Forest, Va.

WHAT is a "Borderline" rock garden, and why is it sufficiently important to deserve a separate and special consideration in rock garden literature, which, as yet, it has not received?

The first part of the question, which is strictly geographical, is not difficult to answer; but in the second part lies the kernel of the nut which is yet to be cracked wide open.

Geographically, the "Borderline" of which we speak is that portion of the United States lying, roughly speaking, between the 30th and 35th parallels, where climatic conditions of North and South meet and irregularly overlap. Generally, it is spoken of as the "Upper-Middle South," though it would be just as logical to call it the "Lower-Middle North," for it partakes equally of some of the characteristics of both localities, presenting certain advantages and drawbacks of both.

In the final analysis, these characteristics constitute definite and unique problems, which, from either point of view, may seem negligible, but taken as a whole, form an independent entity which must be reckoned with; otherwise, repeated failures, which tend to limit the range of material and are followed by inevitable discouragement, are unavoidable for the budding rock gardener of this Borderline section. In any drive for membership in our very young Rock Garden Society, efforts to enlist the active interest of this continent-wide group can only be largely fruitless until the Society can offer dependable information and guidance.

It somes back to the old saying, "one man's meat is another man's poison" and obviously, it works from two points of view. Where one failure after another follow attempts to acclimatize recalcitrant alpines to this individualistic mid-Southern climate, it might seem the better part of wisdom to look to other fields for other methods and amenable material; while the ranks of so-called tender or half hardy plants should be combed for unlooked-for hardiness. Long and sad experience has shown that up to the present, almost none of the engaging books on Rock Gardening in America even so much as acknowledge the very definite existence of such a section, and the aspiring rock gardener of this Upper-Middle South must indeed be truly a pioneer.

Added to this condition, there is a psychological handicap that is equally discouraging. This is the attitude aften displayed by visitors from the North who are ignorant of the tricky conditions of the section, which to casual notice may show no definite differences. Quite unintentionally, it is true, but none the less effectively, they leave behind them a touch of polite superiority over the absence of material which they are accustomed to consider as symbols of high class rock gardening; while at the same time showing a lack of understanding of successful achievement with material that, because of climatic limitations, does not come within their own sphere.

Where does this leave us? And, it may be asked, how can it be met? Does it not spell a definite sectional recognition? In my own past experience, failing dependable assistance from the fine American publications of recent years, the suggestions for trial material have had to be looked for from other sources than those of our own country. Chief among these have been many English publications: the Journal of the Royal Horticultural Society, the English Rock Garden Bulletin, and several English horti-

cultural magazines (particularly among the latter "Gardening Illustrated"), while even South African gardening literature has proved helpful. Foreign seedsmen's catalogues have added their bit. But it can be plainly seen that this is not generally practicable for the average gardening amateur who wants quick results, particularly as much of the foreign material listed is still unobtainable from American firms.

So what? How can we spread among the ever-increasing ranks of young, mid-Southern amateurs the really thrilling adventure of growing rock plants where we can only offer as dependable the most ordinary (though at that, always lovely) material?

And yet, in this irregular geographical across-country strip lie possibilities for a wealth of original and unusual native or exotic material that is dependably hardy here while frequently unsuccessful in regions that are closely adjacent, lying either to the North or to the South. Often it differs in character from the preconceived idea of what is ethical in the rock garden, so a new point of view is needed, both in design and use of plants.

As one example out of dozens, take only one subject: the "Zephyr Lilies," and follow through from authoritative dictum to actual experience.

Of the numerous members of the *Zephyranthes* genus, Miller and Hubbard (in Bailey's Cyclopedia) tell us "The zephyr lilies must be wintered in a place free from frost and as the best kinds are natives of swampy places, it is fair to presume that they will need more moisture during the resting period than the generality of the bulbous plants . . . All of these will probably survive the winter out of doors in the middle states if given *a fair degree of protection*" (the italics are ours).

What of their actual behavior in a dry rock garden located in Piedmont Virginia where the average winter temperature fluctuates between 10° (sometimes 20°) below zero to 45° or 65° above zero and where the summers are long and dry, ranging into the 90 degrees? *Z. candida* has flourished and increased unbelievably for about 25 years, without any winter protection, with very little water, and with the shallowest possible planting of the bulbs. Nothing can exceed the beauty and charm of the masses of dainty white "Fairy Cups" which form an unending procession from late July to early frost; while the lovely *Z. rosea*, although less floriferous than *Z. candida*, is just as hardy and its 2½ to 3-inch clear pink flowers keep up a steady procession for two months.

Other amaryllids, seemingly strangers to the average gardener except as greenhouse material, have proven themselves equally dependable and desirable, adding distinction to the corners they occupy.

It is well to remember that, more than in any other art, the average gardener belongs to the proverbial flock of sheep and follows obediently the bell-wether. Any horticultural experimenting is necessarily slow in developing and therefore, pending results, there must be some authoritative quarter to turn to for timely information, which brings us around the circle again to the original question: "Where can the Borderline rock gardener look for inspiration and assistance?

The answer should be that with the American Rock Garden Society finally standing on its own feet and publishing its own Bulletin, a regular, definite policy of dealing with these sectional problems can be hoped for. Certainly such a step will go far towards widening the Society's sphere of interest and making it a truly all-American institution. May we Borderline gardeners hope for this step!

THROUGH THE NEBRASKA SANDHILLS

CLAUDE A. BARR, Smithwick, S.D.

WRITING as of the days before restricted travel, my opportunity to visit the heart of the Nebraska Sandhills came by way of a return trip from Texas Panhandle and western Oklahoma. This largest of the sand hill areas of central North America is drained by several small rivers tributary to the Missouri, lies wholly upon the Great Plains at elevations of 1800 feet at the east to 4000 at the west, comprises twenty-three counties and parts of counties of Nebraska and overlaps narrowly into South Dakota. Rainfall of the present era and adapted vegetation have brought about almost complete stabilization of this potential waste of shifting sands and have made it an acceptable home for a sparse but moderately prosperous population and for great numbers of Hereford cattle which thrive and fatten on the nutritious grasses. Important constituents of the cover are a varied and fascinating array of flowering plants and ferns.

Notable are fern meadows where several small species predominate over the grasses; loose sands where *Lathyrus ornatus* maintains sway and enflames the May landscape with rose purple and pink; hummock formations in moist meadows with *Lilium umbellatum* stealing the July scene and the peculiar company of the environs of the "blow-outs" including rare *Penstemon haydeni*.

My entry to the region was over a fine black-top road from the southeast through Broken Bow to the valley of the Middle Loup and up to Thedford. "From Broken Bow west everything is cattle," a wide-hatted native informed, another way of saying that there begin the unbroken reaches of blow sand where disturbance of the cover is avoided by the wise at all costs and farming operations are limited to hay making.

Advice at Thedford, chosen as the jumping-off place for Valentine, approximately ninety miles to the north, was to the effect that it was hopeless for a stranger to try to find his way across, that there were only unmarked trails and no people to inquire of. Bearing an ache of frustration I drove west again.

On the river bank near some shrubbery bloomed a handsome Aster with long swaying racemes of blue lavender—and with it came lessons in sand hill habitat. The bank was no more than twenty-four inches above the limpid water flowing shallowly over a wide bed of clean sand. The plant, which was found to be *A. nebraskensis*, a very admirable border plant, three feet high, dwelt in a thoroughly drained position with adequate moisture always at its root tips. The Middle Loup, I learned, never flooded, never went dry because the sandy environs of its course took in all rain as it fell and gave out a steady supply of seepage.

Desire unquenched, I inquired again at Seneca, fifteen miles along. "Why, sure you can cross," and the exasperated filling station Greek gave me directions end on end to total confusion. Yet somehow I was assured, and I cared little by now whether he was too sanguine. I was off, and with thanks.

Beyond a short strip of graded road mile upon mile of the ever-winding trail consisted of two ruts divided and bordered by grass and, of course, numerous blossom-bearing plants that slowed progress. It was September and one must perforce note appearance, environmental features, and associates and try to picture in the imagination what the glory or charm, thrill or satisfaction of full blossoming had been. Now, however, low

upland Asters, *A. kumleini* and one of *multiflorus* type gave real delight with their masses of blue and gold or white and gold, and their cousin, *Chrysopsis villosa*, chimed in with notes of pure gold as rich as in any flower I know. An occasional straggler in deep lemon yellow, *Meriolix serrulata*, blooming since late spring, was seen and again the blazing purple of Liatris, lingering from August.

New to me were the exaggerated trumpets and flaring stars of *Gilia longiflora*, shining white above finely dissected leaves. The dry and faintly mottled pods of the Bird-egg Pea, *Phaca longifolia*, were now but indifferent reminders of the brilliant and startling purple and pale green inflated seed capsules of June and July. This plant is about twelve inches high, has hardly more than very long midribs for leaves, with several pods surmounting each slender stem. It would be a delectable novelty in dry rock gardens and doubtless it may be grown in a sand bed of good depth.

BY CLAUDE A. BARR

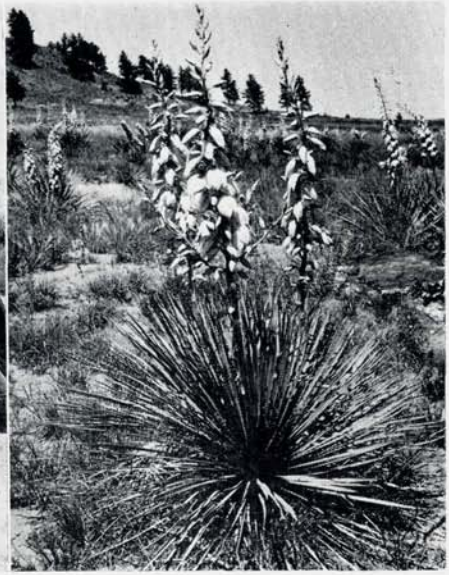
Ipomoea leptophylla produces morning-glories of purplish red

At fourteen miles a ranch headquarters stood by a mile-wide lake. The route was okayed and many more directions offered. "And shust keep a-goin'," the kindly ranch wife advised, with a quaint rising inflection that meant the road was long but had a definite ending. By chance or by hazy prompting of memory I took the right turn each time. Barbed wire and gates were frequent, especially near the great meadows, but the next human habitation proved to be sixteen miles or more along.

The adventure became a monotony of keeping wheels in the ruts and making innumerable turns while attempting to observe all features of topography and plant life. One meadow was dotted with a total of one hundred and seventy large hay stacks. A few miles further, another, continuous though cut by several fences, wound among the ever-present dune-like hills for perhaps three miles, and held an estimated five hundred stacks. Where were the cattle that would consume all this hay? I felt that cattle, of which I had seen hardly any, and ranch houses must be hidden behind every hill.

Was this meadow one that harbored *Dryopteris thelypteris*, *Onoclea sensibilis* and less frequent ferns or the Closed Gentian, Fringed Orchid, deep blue *Lobelia syphilitica*, Golden Star Grass, *Eustoma russellianum* a Gentian relative with a thrilling five-pointed cup of glossy violet, or the brilliant, spotted, tawny red *Lilium umbellatum?* The brownish floor of short stubble revealed not a thing.

Near sundown a high and narrow ridge had to be crossed. Irregular serrations marking the skyline readily suggested a silhouette of the Rocky Mountains against the evening sky as seen from the plains. Very loose sand characterized the approach and here the road had been "improved" by filling the ruts with hay, for adequate traction. Adjacent to the summit of the pass cup-like depressions, precipitous slopes and sharp ridges in arrangement like gigantic chop waves marked the terrain. This chain of dunes in the line of prevailing winds had been the plaything of the blow-



BY DR. L. C. SNYDER

and enormous tuberous roots. Soapweed, *Yucca glauca.*

outs. What plants? Chiefly *Erigeron ramosus*, a pretty and generous little lavender tinted biennial, in bloom. Green or yellowing bushes of *Ipomoea leptophylla*, all summer producing their beautiful morninglories of purplish red, now burdened with sleek capsules like small chocolate drops. Their enormous tuberous roots are sometimes found uncovered by wind action and toppling into the blow-outs.

A colony of plants in the shelter of a curving lee slope bore great spoon-shaped bracts of smooth gray green each subtending a cluster of dark buff pods of ripe seeds. Lower stems were red tinted and lower leaves were so different as to hardly relate to the upper parts, five or more inches in length, a quarter-inch wide, channeled, curving, thick, smooth and very glaucous, as manifestly modeled by wind and sand as the hills. Lower stems too exhibited the ability to lengthen out when covered by sand and to carry on again when exposed. How wonderful to know *Penstemon haydeni* in its native fastnesses, recognizable by a picture in Dr. Raymond J. Pool's Vegetation of the Sandhills of Nebraska.

The showy, large flowers have been described as blue. Actually, as grown from seed from this place and another many miles remote, the color is a milky lavender. *P. haydeni* is curious, also charming, and very pleasantly fragrant. It is not difficult to grow in approximations of its habitat, easy access of infrequent moisture to the roots, bottomless drainage, coolness equivalent to easterly or northerly slopes and a lean rooting medium.

A nearby high point promised a view. But on attaining it after a quarter of a mile of tortuous contours there was only the close horizon of green hills on every side, seemingly at the same level. The center of interest lay just at my toe. Grains of sand loosened by my tread fell from the high southeast rim of a blow-out onto the fall-back slope, starting narrow trickles that descended slowly like sand in an hour glass. After a minute or two the tiny avalanches reached the narrow, hollowed depths, thirty or forty feet down. Well down the hillside, the wall to windward was concave but nearly vertical, twelve or fourteen feet high. and the lateral diameter of the pit was perhaps twenty-five feet. A light fringe of plant roots furnished resistance to cutting to a depth of three feet all about the rim. No plant grew in the blow-out.

Unfortunately the last miles to Valentine were covered in darkness and interesting features of landscape and vegetation were missed in the crossing of the deep valley of the Snake River.

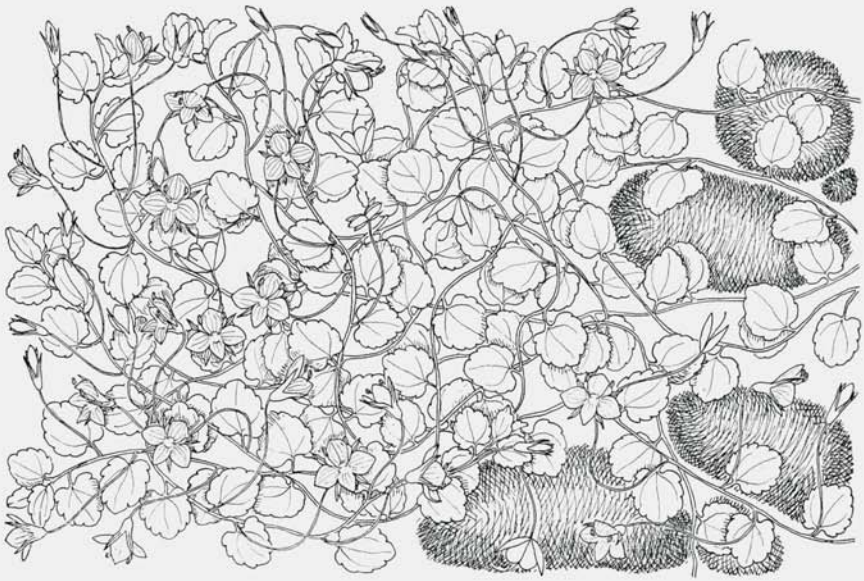
Next day some ninety miles more of sand were traversed, westwardly, again on a hard surfaced highway. The outstanding find was *Machaeranthera* (*Aster*) *sessiliflora*, on rather firm but bare sand by the roadside. Rich violet purple inch-wide blossoms, deep gold centered, lined the branching leafy stems more than half their length. This is a twelve inch, or taller, biennial, glossy medium green in stem and toothed leaf.

I left the Sandhills with the conviction that an entire season might not reveal all their well-guarded beauty.

MORE MEMBERS--MORE PLANTS

From several sources we have learned that some of our members are having difficulty in obtaining plant material to refurbish their rock gardens or to plant new ones; there is a dearth of the better varieties of alpines and rock garden plants due largely to social conditions; most nurseries are operating short handed and collectors are not ranging very far so that not only is there a limited supply of staples but the new things are practically out; there is little or no importation of plants and few new seeds are coming in from foreign countries. This, however, is only part of the picture in so far as rock gardeners are concerned; the American Rock Garden Society aims to encourage not only the creation and planting of rock gardens but also the raising and propagation of suitable plants; we can best do this by creating a demand and we will generally find that the growers will raise whatever there is a sufficient demand for. About the only way we can increase the demand is to increase our membership and frankly that is more your job now than it has been heretofore; during the past sixteen months we have enrolled 103 new members; 20% of these came in through your or your group's efforts; 70% through the efforts of this office and 10% from various other sources. On every side are those who only require to be asked to join our Society, surely if you believe in rock gardening and have the interests of the Society in mind you will want to share the advantages of such a connection with one of these, and every member added to our rolls will not only strengthen our organization but create a greater demand and thus encourage those on whom we depend for material to produce.—A.H.O.

VERONICA FILIFORMIS: BEWARE



TUCKED away in my garden within a rock-enclosed pocket is one of the most pestiferous and beautiful plants I own; years ago when this plant first came to me I was intrigued with its delicate beauty, and I allowed it to grow as it would; soon I was finding its fairy-like, tiny light green foliage and vari-colored blue tinier flowers in places where it should have been taboo and then it got into the lawn of my rose garden; still admiring it, I let it have its way until it covered the plot, and many others thought it beautiful. Alas, when my lawn should have showed green in the spring, it remained like a burned-out meadow cut over for rowen and I had to reseed it. The fight to eradicate my beautiful flower was on; after three years I was rid of it except for the one plant that I keep religiously penned up in the rock-enclosed pocket. Whoever brought *Veronica filiformis* from Asia Minor has on his shoulders the responsibility for many woes and much mutilation of the mother tongue.—A.H.O.

IN A MASSACHUSETTS ROCK GARDEN

VIEWS of the rock gardens of several of our members have been published in the Bulletin from time to time, but nothing has as yet appeared concerning one of the finest of all, that of our former President, Mrs. Clement S. Houghton, at Chestnut Hill, Massachusetts. This garden was started in 1919, and was inspired, Mrs. Houghton relates, by the writings of Reginald Farrer. Chancing to read an obituary notice of this eminent Englishman, she was encouraged to order one of his books, and found this so fascinating that she soon acquired all the rest. Many helpful suggestions were obtained from these, as well as from other writers, especially Henri Correvon, who visited the garden in the early days of its construction. In writing about it in the April, 1937, Gardeners Chronicle of America, Herbert Durand termed it "An Ideal Rock Garden."

BY MRS. C. S. HOUGHTON

The Houghton's property was well-endowed by Nature for rock garden construction, being underlain by a number of ledges of the rock formation known to the geologist as conglomerate, to the English country folk by the more picturesque appellation of "pudding-stone." In addition, the great glaciers of some thousands of years ago had brought in, and on melting had deposited, numerous loose rocks of various sorts, as well as much gravel and sand. On this, woodland had developed, and little disturbed for many years, had favored the formation of splendid humus-rich soils. And water was available in the form of a slow-flowing brook, which, as Mr. Durand put it, "was broadened into a tranquil stream, which meanders slowly through the woods and around a verdure-clad peninsula." In the view shown above, the brook lies between the clump of *Eremurus* and the gray birch in the background; how well it is concealed!

Some years ago the writer made tests of the soil reaction, and found it to be dominantly subacid, a condition favorable to the majority of the plants concerned. This degree of acidity is high enough to satisfy the Rhododendrons and other Ericads, and there is no rapidly soluble lime in the nearby rocks to interfere with their growth, as is likely to happen in calcareous regions. At the same time, the ordinary plant-food elements are sufficiently available to satisfy all but the grossest feeders. For plants which seem to prefer a neutral soil, it is easy to mix in some crushed limestone, old mortar, or other calcareous material; and Mrs. Houghton has done this with conspicuous success.

Our second view represents a rock-ledge and boulder-strewn slope at the back of the rock garden, where the Phloxes and other mat-formers are obviously well-satisfied with their surroundings.

BY MRS. C. S. HOUGHTON

Many species from high alpine situations, and indeed some from other places too, demand a soil which is "moist but well-drained." Their needs have been successfully met here by the construction of concrete tanks, with outlet pipes at the bottom, buried in the ground and of course completely hidden by surface rocks; perforated pipes are then buried at shallow depths beneath the surface, and water is turned into these at frequent intervals. Moraine conditions are further approached by incorporating in the soil mixture an abundance of coarse material, insuring both copious moisture and perfect drainage.

One of the tests of a rock-gardener's skill has long been considered the bringing into bloom of the blue-flowered poppy-relative, *Meconopsis betonicifolia* (*baileyi*) from the high mountains of China. Needless to say Mrs. Houghton has had marked success with this plant, as well as with a host of others rarely seen in this country.—E.T.W.

NOTES

Two-year Index.—A detailed index to the material published in volumes 1 and 2 of the Bulletin will be issued next February.

An unrecorded plant-name.—When a strange plant-name turns up in a manuscript, the editor proceeds to look it up in Hortus, Standardized Plant Names, and that great reference work, the Index Kewensis. In the seed-list published on the September-October Bulletin there appeared one name not to be found in any of these: Iberis "castus." On inquiry, it was learned that this name, meaning spotless or chaste, had been applied to a sport from *I. sempervirens* Little Gem, which has been distributed in the horticultural trade for several years, and in some rock gardens has proved highly successful and attractive. In accordance with the usage we favor, the name-arrangement should be *Iberis sempervirens* Castus.—E.T.W.

ERRATA IN VOLUME 2

Two misprints have occurred which our readers are urged to correct. In No. 3, page 41, second line up, the third word should of course be "mulch." In No. 4—so numbered on the cover—page 67, the date line is wrong. It should read Vol. 2 July-August No. 4.

THE AMERICAN ROCK GARDEN SOCIETY

Illustrating with colored slides the development of a sloping, wooded meadow into a blossoming rock garden with running comments by the owner Mrs. Louis S. Levy of Dobbs Ferry made the regular luncheon meeting of the North Atlantic group on Thursday, October 19 a very pleasurable and instructive occasion.

At the annual luncheon in March Mrs. J. Norman Henry will deliver her lecture on some of her travels in the Rockies in search of new plant material; illustrated with motion pictures it is a fascinating story; we have heard it once and would not miss hearing it again.

On Wednesday and Thursday, May 16 and 17 the A.R.G.S. in cooperation with the Horticultural Society of New York will conduct a rock garden and flower show in the rooms of the Horticultural Society; the committee in charge is Clarence McK. Lewis, chairman, Marcel LePiniec and Harold Epstein.

The annual meeting of the Society next May will be held in Boston; Mrs. Houghton will entertain and there will be opportunities to see other gardens and other interesting features; the New England group know how to do things and we may be assured of a delightful occasion.

A garden party in June, at Mrs. DeBevoise's 'Cronamere'. Sounds thrilling, doesn't it.

Further details will appear in later Bulletins.