# BULLETIN

*of the*

# AMERICAN ROCK GARDEN SOCIETY

*including*

# SAXIFLORA

Vol. 3 May-June, 1945 No. 3

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# KEEP THEM COOL

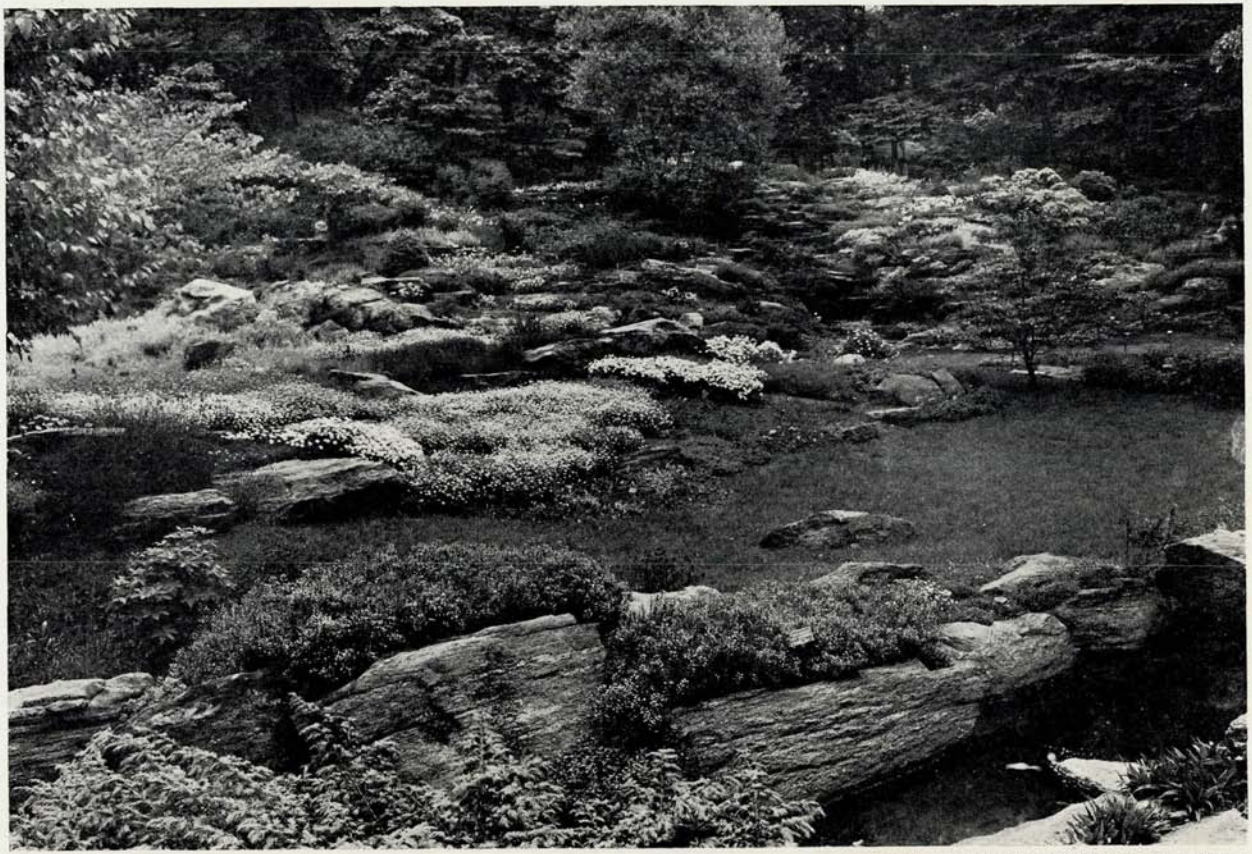
THE HIGH altitude and high latitude plants which we use most extensively in our rock gardens have, in the course of countless generations, become thoroughly adapted to rigorous environments. They can withstand extreme degrees of cold over long periods; but they are in general unable to thrive or even exist when the soil temperature rises above certain limits, and remains there for any considerable time. Since, however, practically all rock gardens are maintained at lower altitudes and latitudes than their native places, where the sun's rays are hotter and summer lasts longer, the problem of keeping the temperature down is a very real one.

Heating up of the upper layers of the soil is largely due, of course, to the sun's rays falling upon the surface. Anything which casts a shadow will accordingly lessen the heating effect. A good rule to follow, then, is to place those species which come from the bleaker habitats on the north side of projecting rocks, which shade their soil though not their tops. Mulches and ground-cover plants, if not so dense as to injure the alpines, are also valuable in this respect.

There is likely to be, however, considerable rock garden surface exposed to intense rays of the sun for long periods. Soil physicists have carried out investigations which show that the color of the surface has a lot to do with the temperature attained. The more deeply colored the surficial material, the more energy it will absorb and the hotter it will become. If black or nearly so it may readily become so hot as to actually burn the stems of plants at ground level. Species from southern climes may be able to resist injury, but most ordinary rock plants can not. In selecting the sand, gravel, or crushed rock for the rock-garden surface, then, choose the palest-hued material compatible with the desired effect.

When rain falls upon the earth's surface it tends to sink down through crevices in the soil and underlying rock. After the rainfall has stopped, the water held in superficial openings changes to vapor and escapes into the air; capillary flow then brings up more from the depths, and this in turn undergoes the same change. The evaporation of water absorbs a considerable amount of heat, rendering the surface at which it occurs manifestly cooler than any dryer surroundings. This is the basis for such rock garden structures as the "moraine;" special means are employed to furnish a continuous supply of water at some depth, and the construction materials are selected as having a texture favorable to the capillary rise of this water. As a rule the plants thriving here utilize but minor quantities of water, and can not withstand having it stagnate around their roots. It is the cooling effect of the surficial evaporation which enables them to thrive.

In a sentence, if you wish to grow in your rock garden plants from higher up or further north, see to it that the surface material is reasonably pale in color, that there is something to cast shadows of moderate height, and that there is a never-failing supply of moisture evaporating at the surface.—E.T.W.



COURTESY NEW YORK BOTANICAL GARDEN

BULLETIN
*of the*
AMERICAN ROCK GARDEN SOCIETY

VOL. 3 May-June, 1945 No. 3

## THROUGH THE THOMPSON MEMORIAL ROCK GARDEN

A. C. PFANDER

A SERIES of ridges and ledges conforming as nearly as possible to the natural suggestion of the neighboring landscape with a trickling cascade terminating in a boggy pond, a natural woodland for a background, and we have the general picture of the Thompson Memorial Rock Garden. Built of native rock, it fits well into the long glen that gives a nice vista to the south; one needs but a comparatively short memory to recall the sheep that formerly had their home in this meadow. A peaceful and quiet place, it is nevertheless full of life when we happen to pay a visit early of a Spring or Summer morning—all the birds of the section congregate here around the waterfall and the air is full of spray and gay twitter as the winged population takes its early bath, singing and splashing and scrapping like a flock of youngsters at play.

At this early hour the air is still permeated with the mixed scents of many flowers and the plants that populate the garden are fresh and lovely —even the colors seem to be brighter than later in the day after the sun has taken away the early morning dew.

Is there a lovelier picture than a Dogwood in full bloom under-planted with mixed Primulas trailing down to the brook? *Myosotis semperflorens* has naturalized itself along the edges of the clear watercourse and lends a lively note wherever it appears. Walking towards the shadier section, we find *Epimedium* in variety from sulphur yellow to creamy white and pink to pale rose. I think this genus should be used much more generally, as it furnishes both a good spring show and splendid fall coloring. A multitude of small bulbous plants add color and interest all along the walk and contribute greatly to the jewel-studded spring display.

The billowy lavender clouds of *Phlox divaricata* var. *laphami* greet us next, with drifts of *Silene pennsylvanica* behind and above it, in various shades of pink from pale to bright rose, clean and lovely, a worthwhile addition to any garden.

We are gradually getting into sunshine and a riot of color that seems to fairly tumble over the slope in competition with the cascade; and here we find those plants which probably contribute more than any other type to the characteristic appearance of the rock garden. The Rockcresses, Aubrietas, Armerias, Antennarias, Linarias, *Mazus rugosus*, *Scutellaria alpina* Nana, and many Penstemons, Phloxes, Thymes, Veronicas, Sempervivums and Sedums.

A large colony of *Tunica saxifraga* set in a long drift, freely interplanted with Grape Hyacinth, makes a show that is both refreshing and unusual; while some few steps further on a mass planting of *Thymus serpyllum album* gives the impression of an Alpine meadow with Crocus and later in the season, Fritillaria producing striking effects over the pearly carpet.

We are now getting close to the Heath section and the picture changes. The rocks taper off and the soil is of a soft, peaty texture. A large collection of fine Heathers, a delight to those acquainted with these plants, make a continuous show from Spring to late Fall. A naturalistic planting of choice flowering shrubs frames this display in such a way that it becomes a show in itself without distraction.

Around the bend of the path the Sedums are planted along a sunny slope. This particular group of plants has many possibilities for the rock garden. Some of the lower-growing Sedums can be used for carpets of underplanting to great advantage, and often could transform a drab looking spot into a place of interest and real beauty. Most of them are easily grown in a gritty soil and many have all the necessary qualifications for showiness.

A planting of *Asperula odorata* underneath an ornamental cherry demonstrates well the successful use of the proper ground cover in an otherwise difficult and often unsightly situation.

A small moraine on the side of the road (unsuspected by the casual visitor) accounts for the well-being of some of the more demanding alpines. These plants often resent our hot and humid weather and are hard to manage in our climate. However, constantly flowing cool water near the roots helps to offset these adverse conditions and gives us a chance to keep some of these really choice plants in the garden. This small moraine was our first try and has led to the building of a much larger one somewhat further down the path. This second moraine is now well populated with treasures and invites the enthusiast to spend more than just a passing glance.

The story would not be complete without mentioning the very successful use of one of our own eastern natives,—*Arctostaphylos uva-ursi*. This low growing evergreen covers a large area like a glistening green carpet, and suggests many and varied uses wherever a good evergreen cover in full sun seems desirable. The cover is not too dense to permit the judicious insertion of a good plant here or there; and many of the bulbs will grow through very successfully to emphasize and heighten the picture.

A bit of Faryland? Yes, the rock garden should be just that and while we cannot hope to give all these plants the kind of home they so justly deserve, we will keep on trying to cater to them and to make them comfortable so that we may enjoy them to the fullest extent of our appreciation of their beauty.

## CLEMATIS MACROPETALA

There are few vines that are not too aggressive for rock gardens. It would occasionally be interesting to see a fragile thread of leafage and bloom over some tiny tree or shrub, sufficiently restrained not to obliterate the character completely. *Clematis macropetala* will serve such a purpose. The leaves are divided, the leaflets rounded and curving, decorative in themselves. The flowers vary in color—gray-blue, pink or dark violet with centers of white. This is a Chinese species.—E.M.F.

# A SCREE IN CONNECTICUT

H. LINCOLN FOSTER, Norfolk, Conn.

EVERY rock garden presents a unique set of problems. No two gardens, even in the same town, possess identical conditions of exposure, slope, ground moisture, or sub-soil texture, so that information as to what has proved successful in one location may not be of any use in another. On the other hand, though we often think certain plants possessed of diabolic perverseness, a good many rock garden gems are adaptable to variation in detail so long as their primary needs are met.

Many of the choicest subjects, those delightful miniature carpets of intricate leafage spangled with dazzling bloom, are generally the ones presenting the greatest difficulties and are therefore the most sought for. Their native home may be high alpine, in Europe or the Rockies, or sometimes in the varied conditions of our extensive midland high plains. All, however, demand two primary conditions,—excellent surface drainage and root moisture, at least at the flowering season. The moraine, accordingly furnishes the ideal home.

For most rock gardens, however, a moraine is too ambitious a project; but a scree-like formation can be fitted in to a garden of very slight dimensions, and it is amazing how many of the small jewels can be grown in a limited area. A natural scree is usually found at the base of a cliff-like rock formation where the crumbling fragments of stone have accumulated to considerable depth. Mixed with the detritus and washed by rains and melting snows down among the debris is a humus composed of decayed vegetation. This provides that ideal combination of surface drainage and root moisture.

Such a feature is not difficult of construction. Here in a rock garden in the north-west corner of Connecticut is how one was made and a few of the plants adapted to it.

At the foot of a good sized rock formation an area roughly four feet by eight feet, slightly fanned out at the base to suggest a natural spreading out of the material as it rolled down the slope, was excavated about a foot. The natural slope was retained; and, because the sub-soil was gravel, no under-drainage was necessary. Where the sub-soil is heavy an extra six inches of excavation should be filled with coarse gravel. Upon this well-drained base was spread a generous six to eight inches of thoroughly weathered peat moss and horse manure. This is a fortuitous combination as there was found ready to hand a large pile from a horse barn where peat moss is used as bedding. The pile had been exposed to the weather for about three years and was in perfect condition. A combination of weathered peatmoss and leaf mold should serve the same purpose. Then upon this moisture-holding and food providing layer was spread a final three to four inches of pure sandy gravel just as it came from the gravel bank, with some pebbles as coarse as two inches in diameter but mostly less than an inch.

This "bed" faces, because of its slope, toward the north; but, except for that section close to the upper ledge, receives sunlight for most of the day. A distant tree on the east provides early morning shade, a benefit when foliage is frosted.

Up near the ledge, which is of limestone, grow *Saxifraga aizoon, austromontana, apiculata, umbrosa* var. *primuloides* and hort. var. sanguinea-superba. Just below are *Dianthus alpinus, nitidus* and *noeanus* in company with *Douglasia montana* and *vitaliana* (despite the books this blooms very willingly here), *Dryas octopetala* or *suendermanni, Silene acaulis* and *Erigeron compositus.* Where the area widens out and tends to be dryer are planted, (not necessarily in the following arrangement) *Arenaria sajanensis* and *laricifolia, Armeria* (*Statice*) *caespitosa, Penstemon nitidus* and *teucrioides, Actinea acaulis, Physaria brassicoides, Townsendia exscapa, Lewisia rediviva, Androsace sarmentosa* var. *chumbyi, Drosace carinata, Draba fladnizensis* and *bertoloni, Globularia nana, Lupinus confertus, Thlaspi coloradense, Phlox hoodii* and *andicola, Corema conradii, Vaccinium vitis-idaea minus, Iberis saxatilis* and *Arctostphylos uva-ursi.*

There are others, but the above list will indicate what diversities will come together without argument when provided with congenial conditions. Not the least of the advantages of such a formation is that it can be copiously watered during periods of drought without danger of surface damping.

In this type of bed plants are hardier because of the dry surface of their winter home. And as if to announce their satisfaction, they have all bloomed with greater abandon than was their custom in other sites.

## CHOICE CALLUNAS

IN HABIT, foliage, and general aspect of the flowers the genera *Erica* and *Calluna* are much alike. On close examination one finds, however, that in *Calluna* the calyx is longer than the corolla, though just as conspicuously colored. The ordinary forms of Scotch Heather, *Calluna vulgaris*—which have escaped from cultivation on Nantucket and elsewhere in the United States—are not especially desirable as garden subjects. There are however, a numbr of horticultural forms well adapted to rock garden use.

Variety H. E. Beale has ascending flower-spikes a foot in height, studded with tiny orchid-hued rosettes,—an explosion of color arrested in curving upward flight. It begins to bloom the first of August and continues for about four weeks. J. H. Hamilton grows 4 to 6 inches high, with upright two-inch spikes lined with clear pink double rosettes,—a dainty precious thing of great beauty. It also comes during August. Mrs. D. S. Maxwell bears from late August well into September sumptuous groups of coral red bells.

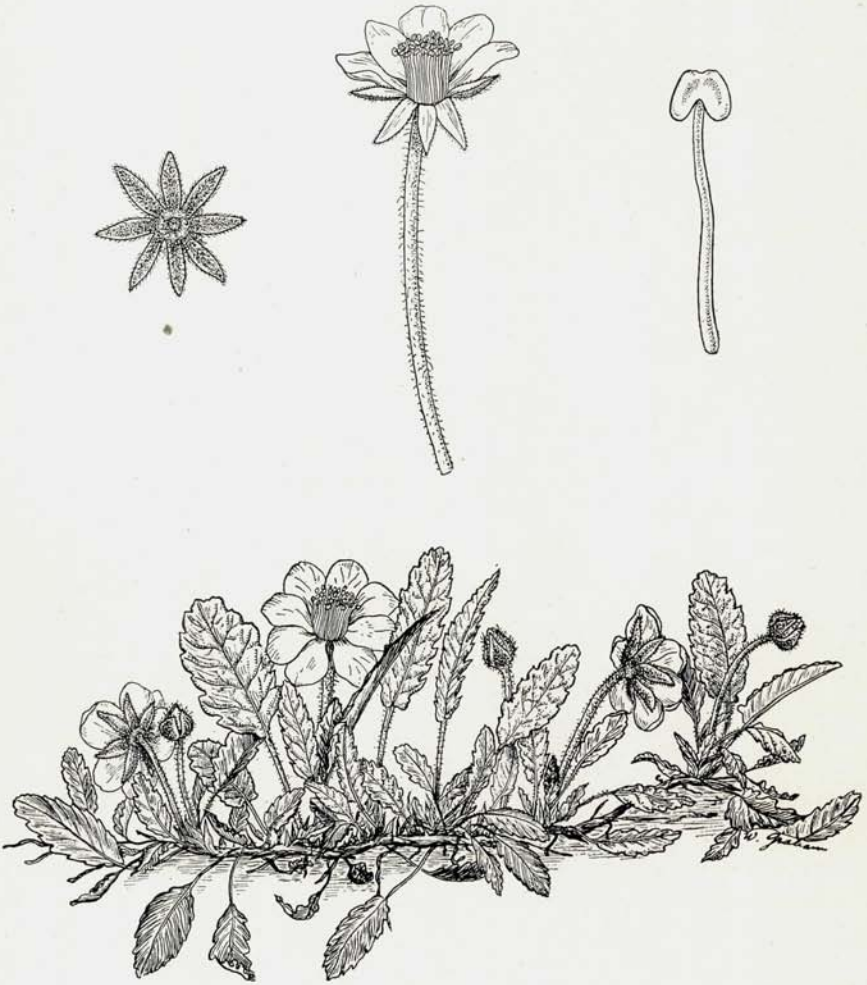
Like the Ericas discussed in a previous number of the Bulletin, these Callunas can be highly recommended for their beauty and their compactness, at least when grown in sandy soil at sea level. In other soils and climates they may become larger.—WALTER D. BLAIR, Nantucket, Mass.

# SAXIFLORA No. 24
# "DRYAS SUENDERMANNI"

THIS plant was first described by F. Suendermann, in 1925, as a hybrid between *D. octopetala* L. and *D. Drummondii* Rich. in the following terms (translated):

"*D. octopetala* has white flowers, carried erect; *D. Drummondii*, yellow, nodding, bell-shaped flowers. The hybrid has slightly nodding flowers, yellow in the bud, opening yellowish, ultimately white."


This is true enough for *D. Drummondii* Rich. but not for *D. octopetala* L. In some forms of the latter—as shown in the reproduction, inserted here, of the beautiful drawing (t.31) in the Flora Danica (1762)—the flowers are not "carried erect." And a survey of geographical forms of the species reveals enough yellow pigmentation in the buds to weaken Suendermann's claim that this coloring represents a heritage of *D. Drummondii*. Moreover, the shape of the leaf-blade in Suendermann's plant, as seen in gardens, — the short-attenuate to cordate base, and the even crenation — are characteristic of *D. octopetala*. There is really nothing in the original description, nor in the plant cultivated as "*D. Suendermanni*," to demonstrate hybridity with *D. Drummondii*. I doubt, therefore, his statement that he raised his plant as an "artificial" hybrid, and believe that it represents simply a form of *D. octopetala*, of unknown origin, and unfamiliar to Suendermann at the time.



**Dryas "suendermanni"**

**ROSACEAE**

An evergreen subshrub capable of forming a wide mat, with prostrate, woody, branched stems, partly clothed with dry remains of leaf-bases and stipules; bearing on short, mostly ascending branches, crowded leaves, in tuft-like arrangement and, laterally, in each tuft, an ascending, more or less curved scape carrying a solitary flower. Of the short branchlets, the terminal ones and others, favorably placed, become elongated into prostrate stems, with the ends tipped up.

Flowers somewhat nodding in the bud stage, often erect when open; the petals, breaking from the calyx, showing their yellow underside; the expanded petals creamy-white above. Scape ultimately much elongated, rising well above the foliage and widely recurved, carrying a mop of elongated, feathery, silky-hairy styles, an inch or more in length, subtended by the persistent, dry calyx.

Leaf-stalks bearing a fine, white, fluffy pubescence; stipules fringed with fine, longish hairs. Upper leaf-surfaces glabrous, dark-green and shiny; lower surfaces, densely white-felty. Calyx cup and sepals bearing a dark, glandular pubescence on the outside. Pubescence decreasing in prominence during the growing season.

Leaf-stalks mostly longer than the blades. Blades oblong, with short-attenuate to cordate base and rounded apex; margin with an evenly distributed crenation. Each tooth tipped with a more or less obscure mucro. Nerves sunk into the upper surface, raised on the lower. Stipules two, extending along the base of the petiole.

Sepals and petals of equal number, mostly 8 to 10. Form of the sepals as shown in the drawing; of the petals, variable, mostly obovate, more or less distinctly narrowed into a short claw. Stamens and styles numerous. Anthers yellow.

CULTURE:—The plant is often difficult to establish in gardens, but, once established, usually very permanent. Unless covered in winter, the foliage is likely to suffer injury, though quickly replaced with new, in the spring.

In the writer's garden this Dryas proves unpretentious as to soil, insisting only upon a gritty medium. It has maintained itself for years in an open situation, in poor, gritty soil, wedged in among lime rocks.

Much of the difficulty in establishing it in gardens may be accounted for by the fact that Dryas has only one annual period of new root development. Transplanting must be done at that time. At Poughkeepsie, N. Y., that is about August 1st, when the new prostrate stems send out, mostly near their ascending point, robust, thick, unbranched, perpendicular roots, which penetrate deeply in a short while.

These rooting pieces may be taken off during the period of their first development of roots. The procedure may be improved by plunging small pots, filled with a sandy, gritty medium, beneath the points at which root development is noticed. Let the roots grow into the pots; then snip off the branch, and transfer into the garden without waiting for a pot-ball to form, but keeping the mold of the contents of the pot intact. At no other time of the year can one expect root-growth to occur. The flowering season, at Poughkeepsie, N. Y. is early May.—P. J. VAN MELLE.

*Dryas Suendermanni* Kellerer. Allgem. Bot. Zeitschr., 26-27: 21—22, 1925.

## DRYAS SUENDERMANNI IN MAINE

MRS. EDWARD G. BABB, Portland, Maine

ONE OF my favorite and most satisfactory rock garden plants is the Dryas discussed in the foregoing Saxiflora article. It is a dwarf evergreen shrub, completely prostrate, and following every contour of the ground and rocks as it spreads. The foliage is very distinctive, tiny inch-long oak-leaves, dark green on top and pure white beneath, and growing so thickly as to make a perfect ground cover. The blossoms are truly lovely, saucers of palest yellow with centers of golden stamens; they are over an inch across, with the eight petals making them completely rounded, on stems of four or five inches. They open over a long period from mid-May well into June here in Maine, and the fascinating seed-heads, soft and fluffy as powderpuffs, are already appearing before the last blossoms are gone. Some charming neighbors for the Dryas are the blue Crested Iris and its more rare white form, rosy creeping Phloxes, Birdfoot Violets, and lavender Polemoniums.

The foliage burns so badly in spring here that I have given up hopes of preventing it; and it seems not to hurt the plant at all. Although every leaf falls, leaving a most desolate and dead-appearing plant, in a short time every stem and branch begins new growth and covers itself again with the shiny new leaves. Then buds appear all over the mat, at the tip ends of the short branches. My original plant, (bought from a dealer in Vermont), was put in a dry spot in sandy acid soil, and has shown its satisfaction by spreading in every direction, into a mat over three feet in diameter. A small cutting planted on a hot ledge which had been a problem has likewise cascaded over the edges, and is well over two feet across. Once or twice a year, I scratch a mixture of sand and leafmold around under the branches, and this seems to be all the attention it wants. The branches root constantly into this mixture, and may be detached easily for new plants. The seeds will germinate quite quickly if planted immediately after ripening, but cuttings are much simpler.

## SIBERIAN COLUMBINE

REGINALD FARRER says of this flower in his book "My Rock Garden," "*Aquilegia glandulosa*, the Siberian Columbine, is another gorgeous great blue creature with white center. He carries his flowers half-pendent, and is rather less fairy-like and more solidly splendid than coerulea. And, like *A. coerulea*, he has a bad reputation—indeed, a worse one than the Rocky Mountain Columbine. At Forres, in Scotland, in Mr. Wiseman's garden, he grows and ramps about amazingly in a *moist, cool, peaty soil*, most creamy and delicious to the touch. But in dry southerly gardens he is very emphatically what a woman I know calls a 'Mimp.' With me he grows well; and now I have a bed full of seedlings which seem wonderfully vigorous."

In Mr. J. A. Reau's garden, nine miles from Butte, Montana, at an altitude of about 6,000 feet, this lovely Columbine grows to perfection. Here it has a soil composed of coarse granite sand, mixed with loam, and some peat. The drainage is perfect. It grows well in sun or shade. The flower attains a height of about twelve inches in a sunny location; but in shade, it reaches a height of fourteen inches. Some of the plants in poor dry soil grow not more than ten inches—ALMA HIGGINS, Butte, Montana.


BY FLORENS DE BEVOISE

## A CONTRAST IN CROWN-VETCHES

THE LEGUME genus *Coronilla* is regarded as comprising about 20 species, mostly shrubs, but a few hardy perennial herbs, native to the Mediterranean region and neighboring mountains. They have pinnate leaves of pleasing tones of green and moderate-sized pea flowers in attractive crown-like clusters. Especially desirable as a rock garden subject is the one here figured, *C. cappadocica*,—a trailer with glaucous leaves and golden flowers.

But related plants do not necessarily behave alike in the rock garden. In the present genus this fact is well exemplified by the performances of the pink-flowered *C. varia*. In general habit this is much like the species illustrated, and its pink and white pea blossoms are undeniably appealing; yet in spite of all this, it had better be kept out. It spreads unbelievably rapidly by vigorous, all-pervasive rootstocks, from which arise numerous rosettes of foliage capable of smothering many an alpine treasure.—E.T.W.

# PRIMULA JULIAE AND HYBRID JULIANA FORMS

LOU ROBERTS

OF THE wealth of plant material collected in the Caucasus during the last century, Primula Juliae, introduced into Great Britain in 1910, is held in the most affectionate regard by Primrose enthusiasts everywhere. This amiable little plant bursts into bloom with the first bird song of spring, the display continuing on through early summer and again in the fall, if happily situated.

Primula Juliae's form and habit of growth is quite different from others of the Vernales section, forming mats by creeping rootstocks. An herbaceous species, the very small, heart-shaped leaves, finely toothed on the edges, are studded with bright starry blossoms on one-inch stems. A well established plant will frequently measure from a foot to eighteen inches across, and seldom attains a height of over two inches.

British and Dutch hybridists were probably the first to see the possibilities of producing an interesting race of hybrids from this newcomer to the Vernales group, of which Primula acaulis, the Cowslip, Oxlip, the true English Primrose and the Levantine Primrose are but a few. Crosses were made between Primula Juliae and each of the above mentioned Primroses over a period of years, and countless varieties with a color range from white, yellow, blue, pink, lavender, rose through innumerable shades of purple and red resulted.

The hybrids of Primula Juliae are for the most part intermediate between their parents in form and habit of growth. Many, like Juliae, are herbaceous, and like her too, have creeping rhizomes, although they may be Cowslip or Acaulis in appearance of foliage and bloom.

The Juliae clan is not capricious or moody, does not need to be pampered as some of the others which are not so easily grown. They, as most other Primulas, appreciate a situation with morning sunshine, the filtered sunlight of trees, or a border which protects them from the heat of the afternoon sun. If planted in deep shade, however, the tendency is toward more foliage and scant bloom. Loose, deeply dug loam, and sufficient water through the hot, dry summer to provide a cool, moist root run are essential. Primroses loathe dank, soggy, undrained soil, and will rot if this condition is forced upon them. Here it would be well to warn against allowing Primroses to dry out in summer. More Primulas succumb to excessive summer drought than to severe winter weather. There still prevails the erroneous idea that it is natural for Primulas to go entirely dormant in summer, whereas actually, this is the season for making new root growth and storing vitality with which to provide next season's leaf and bloom. This growth is impossible to achieve in a dry, parched earth. Thus it requires little imagination to understand what happens to a plant when the severe frosts of winter occur with alternate freezing and thawing so common in many sections of the country. The helpless Primrose, with little or no root system to anchor it firmly in the soil, must give up.

Most growers of Juliaes, noting the tendency of the rhizomes to creep to the surface, protect them from heat and frost by applying a mulch of sandy leaf mold or loam each spring and fall.

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Supplying these simple essentials, Juliae Primroses will thrive happily and increase tenfold yearly, needing little attention other than the routine weeding, cultivating and dividing when they become too crowded.

Since the appealing charm of these Primroses is their miniature form, it would be well to apply fertilizers of any sort with a light hand—if at all, otherwise they may lose their characteristic Juliae daintiness and assume the stature of their other parents.

Whether the garden is large or small, there are unlimited possibilities for the use of Primulas. The Juliaes are eye-taking in drifts along the border, making delightful color harmony with yellow Polyanthus and Forget-me-nots. They are indispensable for bright spots, trailing over and between stones in an otherwise drab rockery not yet abloom with the summer flowers; and make congenial companions when tucked in with Snowdrops, Scillas, Squills, Hepaticas, Crocus and tiny Daffodils.

Some varieties of new colors are priced too high for average mass plantings, however, their increase is rapid if well grown. They may be divided, each spring and fall, thus a surprisingly large stock can be accumulated in two or three years.

The urge to collect Juliae hybrids is upon those who are familiar with their easy-going habits and exquisite colorings. With the demand great and the supply limited, new varieties could quite easily be brought into existence in private gardens by planting Juliae hybrids, or hybrids and species, in close proximity so that natural pollination by bees would be encouraged, with the possible result of fine hybrids occurring from the seed obtained. Unless purple or magenta shades are desired, the grouping should include only the lighter colored Juliae hybrids among which could be planted an occasional Cowslip, Oxlip, or light colored Acaulis. If planted with large flowered Polyanthus, however, the outcome could more easily be inferior Polyanthus' or gross Juliaes rather than good Polyanthus with the tiny, insignificant eye.

You will find that some Juliaes cross more readily than others. This is due primarily to two reasons—some hybrids have become all but sterile in their high degree of hybridization, while in some the flower tube is extremely slender and tight with the sexual organs more or less enclosed below the surface of the flower thereby making it almost impossible for bees or other pollenizing agents to reach them.

If your interest is keen enough, you may wish to undertake some simple hybridizing through hand pollination, and to that end a short outline as to tendencies might be of value. When using two Juliae hybrids as parents, no conclusion as to the outcome could possibly be drawn in advance since it would be impossible to thread one's way back through the ancestors and number of crosses made to produce the particular hybrids being worked with. But it is interesting to know behavior trends when starting from the beginning with species whose blood is pure, of course, in so far as they are plants native to certain localities which have not crossed with any other plant or plants.

It has been found in certain English experiments that P. Juliae, when crossed with the true English Primrose, P. vulgaris, will produce seedlings in the first generation that favor the magenta coloring of Juliae, but the form of the Primrose—the exact reverse of the hybridist's aim. When these first-generation seedlings were crossed, the next, or second generation, produced six instead of two shades of purple, in addition to yellow and white, and with more modified foliage. With the breaking up of the color and the diminishing form of growth, new, light colored hybrids could be

expected to follow within the next few generations. The additional crosses are needed to breed out the large characteristics of the Primrose, to attain and fix the diminutive, preferably creeping, form of the Juliae, at the same time pushing the dominating color of the Juliae into the background with the aid of the yellow Primrose.

As the crosses go on into third and fourth generations, the hybrids are very apt to become less and less fertile, so that fewer and fewer seeds are obtained, which explains the reason for the infrequent offering in the trade of any other than what must be first generation seeds, judging from the seedlings. Germination, by the way, is slow and uneven. When a hybrid is considered worthy of propagating by its originator, it is named and increased by dividing and re-dividing the original plant over a period of years.

In crosses between Juliae and the Cowslip, the color of Juliae dominates as in the Juliae-Primrose cross; but in crosses between Juliae and the true Oxlip (Bardfield Oxlip) the first generation usually results in a good proportion of yellow flowered hybrids caused by what is called an 'inhibitor' not contained by either the Primrose or the Cowslip and which acts as a check on the dominant color of the Juliae. The form of flowering and foliage in both instances was that of the Cowslip and the Oxlip.

In Juliae hybridizing little difference has been noticed in the amount of seeds resulting from 'legitimate' or 'illegitimate' crossing—that is, crossing thrum with thrum type of blossom (or pin with pin) known as illegitimate mating; or the crossing of pin with thrum, the legitimate way. Crossings are almost always made without regard for length of style which determines whether the flower is pin-eyed as with the long style, or thrum-eyed, as with the short.

## OUR DESIRE FOR SOMETHING DIFFERENT

I KNOW a woman whose husband's work keeps her living at an altitude of 11,000 feet during the summers. On the rocky slopes above her house there grow in profusion such alpine treasures as *Aquilegia saximontana*, *Boykinia jamesii*, *Eritrichium argenteum*, *Silene acaulis*, and the ravishing blue drifts of *Mertensia coriacea*. Since there is no rock-free land thereabouts she has, perforce, a rock garden. In this she grows exclusively European plants, such as Alyssums, Sempervivums, and believe it or not, pansies.

It seems just human nature to want something as unlike our natural surroundings as possible. Few dairy farmers drink milk, and egg custard is despised by chicken ranchers. Most horticultural enthusiasts in the Rocky Mountain region want every conceivable kind of a garden except a rock garden.

So it comes about that the most numerous and finest rock gardens are to be found on plains and near cities. It is up to the Rocky Mountain division of our Society to find out what members of our native flora can best adapt themselves to lower altitudes and wholly different climatic conditions.—KATHLEEN N. MARRIAGE, Colorado Springs, Colo.

# RANDOM NOTES ON SOME ASIATIC PLANTS

Harold G. Rugg, Hanover, New Hampshire

It is gratifying to note that some mention of late is being made of one of the most charming of Asiatic spring flowers,—*Jeffersonia dubia*. It is also satisfying to know that now stock of this plant is available in this country.

Several years ago when it was possible to obtain plants from Japan I imported several kinds of Cypripedium and one plant of the Jeffersonia. This was planted in a bed in naturally acid soil under a large pine tree. Later the bed was abandoned and forgotten. Three or four years ago I happened to discover the one plant of Jeffersonia in full bloom. No attention had been paid to it, yet it had withstood neglect and the cold of several winters when the thermometer had dropped to twenty or thirty degrees below zero.

The plant resembles a glorified hepatica, the petals being of an exquisite shade of lavender. It is, also, an early spring bloomer like the hepatica. Another plant purchased a few years ago has survived in an acid fern bed in deep shade. Whether or not this Jeffersonia demands an acid soil or not I do not know, but anyway it does very well in such an environment.

Of the Cypripediums imported only *C. macranthum* has survived and blossomed each year for five or six years. This is grown in shade and in slightly acid soil. The handsome plant usually has one or two flowers, rose purple in color with several leaves.

Another plant secured from Japan but not seen listed in this country was purchased from Tanaka Boekibu as *Scilla thunbergii*. No such name, however, is found in Hortus. This is a fall flowering bulb of a lovely pink. The plants bloom so late that the seed never matures, so I have never been able to propagate it. In Boekibu's catalog it is described as "lavender" in color. Is this plant the same as Scilla autumnalis? Speaking of fall-flowering Scillas,—does anyone know the source of a fall-blooming blue Scilla? Such a plantw as shown at the Fall Show of the Alpine Garden Society in 1939. The displayer cannot now supply bulbs or seeds.

I have tried *Glaucidium palmatum*, mentioned by Mrs. Frye in the September-October issue of *The Bulletin*, but the plant barely survives and has never flowered, producing usually only two or three leaves. In *Alpine Flowers of Japan* by Takeda the author notes that this plant is found in rich soil in half shady situations in the high mountains. He states that it should be planted in two parts leaf mould and eight parts loam. He further says "it is pretty difficult to grow." Another plant imported from Japan, not beautiful but interesting because of its brownish flowers, is the hellebore, *Veratrum japonicum* v. *typicum* (*V. nigrum*). This does well in rich soil in semi-shade. *Gentiana makinoi*, something like our closed or bottle gentian, *G. andrewsii*, did well for several years in a similar habitat, but this past year failed to bloom for the first time in several years, and appeared stunted. According to Takeda most alpines in Tokyo are grown in pots and this gentian will do very well if repotted each year. So possibly my plant needs a new environment, or at least new soil.

# THE AMERICAN ROCK GARDEN SOCIETY

Despite the cold and wind a large number of members enjoyed a delightful day on Saturday, April 28, in the beautiful rock garden of Mrs. J. M. Hodson at Greenwich: after luncheon the committee in charge conducted a "Stump the Expert" session which proved both instructive and entertaining; Harold Epstein did the questioning and the experts were Dr. Edgar T. Wherry, Peter J. Van Melle and Marcel LePiniec.

## OUR FIRST FLOWER SHOW

THE long-anticipated flower show was held, as had been announced, on May 16th and 17th in New York City. The Editor was particularly impressed by the skill shown in the building of the three miniature rock gardens: the rocks really looked like natural outcrops, even bearing undisturbed lichens and mosses on weathered surfaces; and the plants were set in so carefully that it was hard to believe that they had not always grown right there. It was also a pleasure to see several "names come to life." For example, in a recent number of the Bulletin there had been a note on Rhodohypoxis. Heretofore this had only been a name; but among the exhibits were plants of both its red and white varieties, beautiful as well as of botanical interest. The show was such a success that it deserves a full report, so we will publish an illustrated account of it in the next issue of the Bulletin.—E.T.W.

In future issues of the Bulletin there is to be a "Rock Garden Quiz," conducted by Mrs. C. I. De Bevoise. Herewith is the initial set of questions and answers; members are invited to submit their own problems.

*Ques.*—Can cuttings be taken only when plant or shrub is at the growing season? A.J., Maine.

*Ans.*—Cuttings will not root if taken when the plant is in the first period of becoming dormant. In the northeastern section of the United States cuttings of flowering perennials should be taken during August or September; evergreen shrubs in autumn; deciduous shrubs in July and August; Rhododendrons and Azaleas during June and July. The base of the cutting should be from a stem that is not more than one year old. Pruning shears should be used and a straight cut across the stem is better than one that slants.

*Ques.*—Has any member succeeded in wintering successfully outdoors in the latitude of New England for a number of years Lithospermum prostratum Heavely Blue or Lithospermum Grace Ward? L.A.T., Boston. (*Ans.* next month.)