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MAGAZINE



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# The American Horticultural Society

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Although many of our members are growers, breeders or collectors, still more are just amateur gardeners—people with a bit of a garden in their back yard where they grow a few fine Peonies, a few Irises and other precious treasures which they have collected through their gardening years. Therefore, the members of the American Horticultural Society should be particularly interested in this kindred society. Our Bulletins in a special field have the same point of view as the National Horticultural Magazine has in the broader field of general horticulture.

To the isolated gardener our Bulletins have brought notes drawn from the experiences of our members in many parts of the world. To the gardener who is fortunate enough to share his interest with many neighbors, our society offers an opportunity to cooperate in some sort of community work. Each year many local exhibitions are held under our auspices and we owe much to the members who have aroused local interest. Gradually, also, it is becoming possible for our members to inaugurate display plantings of Irises, which are not only of interest to all gardeners, but, more important, do much to make public open spaces more sightly.

Thus both to the individual member and to the community, The American Iris Society offers something of value.

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# The National Horticultural Magazine

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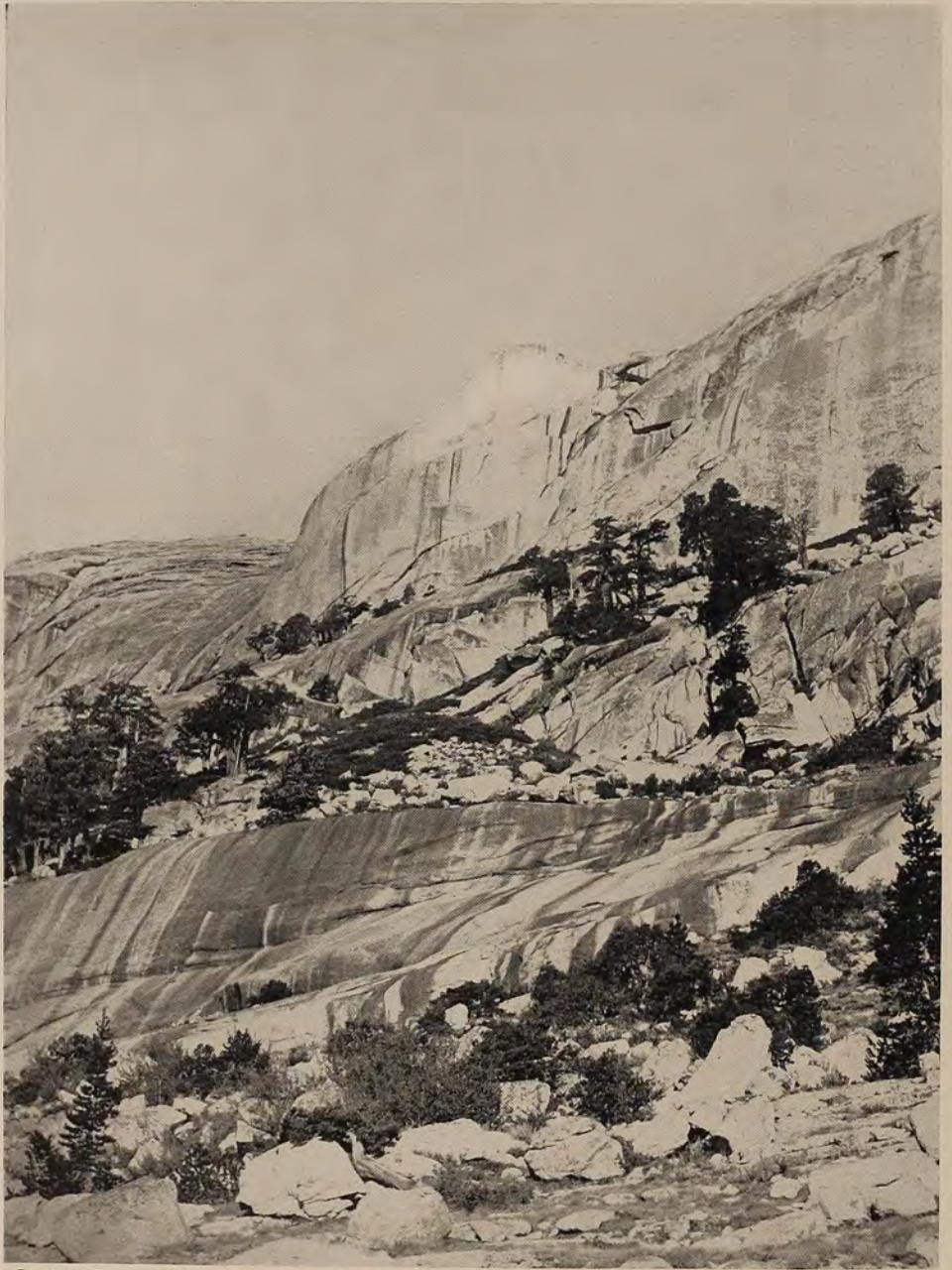
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No. 1

## JANUARY, 1932

Flowers of the California Sierras. By LESTER ROWNTREE.....	5
Notes on Saxifraga I. By FLORENS DEBEVOISE.....	9
Water-Lily Hybridizing. By ROBERT VAN TRESS.....	17
Creating an "Antique Garden," Old Roses. By LILY LOGAN MORRILL.....	22
Santa Fé Gardens. By HELEN M. FOX.....	26
A Series of English Rock Gardens: Photographs by MALBY.....	29
Plant Notes From the New Jersey Pine Barrens. By BERNARD HARKNESS.....	34
A Series of Rock Garden Portraits: Photographs by K. JOSEFSKI.....	37
The Idealist in the Garden.....	43
A Book or Two.....	50
The Gardener's Pocketbook:	
<i>Campanulas</i> . By P. J. VAN MELLE.....	51
<i>Rhododendron atlanticum</i> . By BERNARD HARKNESS.....	54
Notes. By ISABEL B. BUSBEE.....	55
<i>Narcissus</i> , Dawson City.....	56
<i>Lilium medeoloides</i> .....	58
Iris <i>sindpers</i> .....	58
<i>Allium reticulatum</i> .....	60
<i>Bryophyllum tubiflorum</i> .....	60
<i>Aronia atropurpurea</i> .....	62
<i>Viburnum dilatatum</i> .....	62
<i>Pyracantha crenulata kansuensis</i> .....	62
<i>Cotoneaster salicifolia floccosa</i> .....	64
<i>Prunus serrulata</i> var. <i>Shogetsu</i> . By PAUL RUSSELL.....	64
Rock Garden Notes.....	66
The Illusive Ivy. By ALFRED BATES.....	68

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*Lester Rowntree*

*Glacial rocks near Lake Tenya*

# Flowers Of The California Sierras

By LESTER ROWNTREE

Through many ages the Sierra Nevada mountains of California have been preparing for the floral display which in a good year is now possible. In the centuries which have elapsed since the Glacial period, its debris has become a flower-bed and natural moraine gardens abound. By a "good year" I mean one in which a plentiful supply of snow and rain has fallen to blanket deep the tiny plants of the mountain crests, to fill the streams and lakes and to keep the meadows lush and soft. The year of 1931 was not a "good" one. The waterfalls had deteriorated into mere dribbles, the lakes were shrunken and instead of being spongy to walk upon the meadows were dry and crisp beneath the tread.

In spite of a dry winter and spring there is much beauty in the Sierras at all times, and one who had never seen them under more auspicious conditions would feel no sadness and would take what is presented as enough loveliness indeed. The mountain flora does its duty in each zone and if sparingly bestowed are not the loyal blossoms all the more noticeable?

Floral poverty in the Sierras is not discernable at a distance. Only a close-up reveals what a lean year can do to our mountain flowers. From afar the mountain slopes give no hint of hard times. Tamrac pines (*Pinus contorta* var. *murrayana*) climb like an army to their constitutions' limit and fall back. A few brave stragglers forge ahead, standing out defiant and spire-like but soon abandon-

ing the field to low mats of willow, *Castanopsis sempervirens*, *Arctostaphylos pastillosa* and *Quercus dumosa*. Soft and cushiony as these brushy colonies appear from below, close inspection proves them to be harsh and hostile. And beyond and above these, *Pinus albicaulis* gathers and, crouching low, forms wind-battered units on the sides of pearl-gray perpendicular crags and glistening glacial domes of silvery smoothness.

Nearer and within the range of recognition, shaggy-barked patriarchial *Juniperus* rear imposing spectacular outlines, while still closer *Arctostaphylos nevadensis* clingingly covers granite boulders with low dense growth. Scarlet-berried *Prunus demissa*, in late summer, colors wide portions of the lower slopes, and in the same zone, *Chamaebatia foliolosa*, not so tall, spreads fern-like foliage and single white rose-like flowers over large areas. Among this charming low ground-cover, *Iris hartweggii*, *Calochortus leichtlinii*, *Brodiaea congesta*, *Delphinium decorum* var. *patens*, and sometimes *Aquilegia truncata* find congenial quarters. In this, the Transition life-zone, evidence of the season's drought was rife, for blooms were unusually scarce and much smaller. In the sandy clearings *Calyptridium umbellatum*, commonly so generous with soft little pink "pussy-paw" blooms, flowered very sparingly, though still carpeting open space with circular mats of small spatulate leaves.

Along the sides of streams dense clumps of tall pink-flowered *Mimulus*

*lewisii* are jostled by the taller umbels of creamy *Sphenosciadium capitellatum*, rose-colored heads of *Allium validum* on three-foot naked stalks rising from clusters of narcissus-like foliage, slender spikes of white *Habenaria sparsiflora* and the thicker and taller ones of *H. leucostachys*, large buttercup-like *Parnassia palustris* var. *californica*, orange-yellow *Lilium parvum*, purple *Aconitum columbianum*, blue *Delphinium scopulorum* var. *glaucum*, strawberry-red *Castilleia miniata*, *Lupinus superbus* and *L. latifolius*, *Gentiana calycosa* and *G. holopetala* (an annual) and many potentillas, asters, arnicas and hypericums.

Each Life Zone has its own characteristic wild flower gardens, just as it has its representative trees and birds. Northward the same floral pictures naturally occur at lower altitudes than they do in the southern portion of the Sierras. The plant conscious mountain-goer soon acquires an awareness which estimates his expectancies and enables him to gauge the flora by the altitude and vice versa. The scree gardens of the upper talus slopes and granite cliffs, the tree fringed mountain meadows, the shady needle-covered pine slopes and the open mountain side, each claims its distinctive occupants and has its own picturesque attraction.

The harsher the elements, the closer, lower and sometimes softer the plant mats. Many of them seem so soft and fragile that they look better fitted to quiet sheltered places. Yet here they choose to dwell. On high wind-blown crests of 11,000 and 12,000 feet altitude, Alpine willow (*Salix petrophila*) with downy leaves of silver and barely an inch tall, creeps among stone chips or finds places where moraine seepage has encouraged

low grasses. Tiny erigerons, arabis, arenarias, astragalus, castilleias and everlastings make low tufts or close cushions. *Eriogonum ovalifolium* forms silver-white rosettes and decorates them with tiny upstanding flower-heads or rose pink. *Phlox douglasii* expands stiffly and untidily with flowers of lilac, pink or white. *Pentstemon menziesii* var.  *davidsonii* wedges itself into the granite cracks. *Potentilla fruticosa*, which, lower down the mountain-side forms a little shrub, is here pressed close by wind and is also discouraged from rising by the constant nibbling of deer. Its lovely yellow flowers rise hardly high enough to attract notice.

Where moraines terminate and the moisture from beneath their jumbled boulders makes diminutive meadows closed in on both sides by sheer bluffs, damp-loving plants congregate in the grass. *Gentiana holopetala*, which at lower altitudes makes husky plants fourteen inches tall, in these exposed spots becomes nothing but a single deep purple crocus-like flower on a one or two inch stem. Alpine laurel (*Kalmia polifolia*) is one of its companions, with terminal tufts of upright leaves, gray beneath and green shading to red on the surface and deep rose flowers.

Two beautiful heaths fill in the places where blue-gray granite boulders and gray fallen logs give sharp contours to the mountain heights and the humus of old wood is mixed with sharp talus rock and the decayed needles of *Pinus albicaulis*. Here they wander over log and rock and mould-fill crevice and form huge wind and sun beaten stands. *Phyllodoce breweri* sends up bright green six inch stems well clothed with needle-like leaves, almost every stem capped by a cluster of dark rose-pink flowers. *Cas-*





*Castanopsis sempervirens* on granite slope

*slope mertensia* chooses for the most part the northern exposures and has a prostrate spreading manner of growth with upturned stems thickly covered with scale-like leaves. The more prominent of the stems carry one to several white bells nodding from stiff little upright flower-stalks.

At an altitude of about 9,000 feet, two pentstemons share the rocky outcrops. *P. newberryi* suggests a large form of *P. menziesii* var.  *davidsonii* and there is a pleasing harmony between the pastel gray-green of its foliage and the clear soft bright pink blooms. The flowers of *P. bridgesii* are scarlet and the plant taller. In this same Life Zone but on sunny slopes at the edge of pine woods, *Gilia aggregata* colonizes, frequently in the company of blue *Linum lewisii* and red castilleias. This two foot perennial *gilia* is a striking plant with

salverform flowers in beautiful shades of scarlet, salmon and pink, shades which blend well with the gray-green foliage. In this Life Zone also little sedums (*S. stenopetalum* and *S. obtusatum*) follow the rocky crevices and form dense clumps and here silver-leaved *Zauschneria tomentella* rejoices in similar locations, where it gives plentifully of its vivid scarlet tubular blossoms.

Beautiful as these wild flower pictures are, the mountain meadows have a charm and an endearing quality that few other natural flower scenes can equal. At all times of the year, even at their driest they keep their fascination and unfailingly call forth one's admiration and love. From 7,000 feet up they are for most of the summer months a mass of color, the flowers becoming smaller and more brilliant as the altitude increases. In

the damper places the coarser plants rule supreme. The Sierra shooting star, *Dodecatheon jeffreyi* and its fragrant-leaved variety *redolens*, almost two feet tall, arnicas, tall asters and erigerons, heleniums, larkspurs and potentillas struggle for supremacy. Where lower growth lessens competition, *Pedicularis groenlandica* and *Dodecatheon alpinus* put in an appearance and tiny yellow *Mimulus primuloides* joins low massed violets and swarms up over the old trees that have been offered up by the God of Lightning to do garden duty on these sunny meadows where they melt into the cushioned softness. These old logs provide many a delightful flower bed and few intimate mountain sights hold more loveliness than a colony of this tiny mimulus early in the morning when the dew is still imprisoned and glistening in the hairy leaves and minature mountain meadow frogs, the exact bright green of the leaves, leap about among the numberless small yellow flowers.

One of the choicest blooms of these alpine meadows is *Gentiana newberryi*. It forms low rosettes and sends out creeping prostrate stems which turn upward at the ends, presenting on each a single flower cluster. These

are upstanding funnels of faint lavender. Each lobe is green-dotted and decorated on the reverse with wide green-brown stripes which show through on the inside of the flower. *Penstemon confertus* var. *caeruleo-purpureus* is a gem of the high meadows and covers acres with dense growth and whorled bloom of vivid purple. Another meadow treasure is *Aster andersonii*, without doubt one of the best of all dwarf asters. Narrow of leaf, large of flower, bright of eye, it stands erect, six inches tall, one lavender bloom to a stem. Many of these smaller plants peep from the shelter of *Vaccinium occidentale*, the mountain huckleberry and near them are the beautiful large round crinkled leaves of white-flowered *Caltha biflora*, California's only marsh-mari-gold.

Most of the flower species mentioned here have long since been introduced into English gardens where they are cherished with an intelligent care insuring gratifying results. But how seldom do we find our national treasures in the gardens of their own country and how few of our wide-awake citizens even know of their existence.

# Notes On Saxifraga I.

BY FLORENS DEBEVOISE

For many years, gardeners in this country have looked to other countries for patterns in their garden making. Imitations of English, French, Spanish and Italian prototypes are found scattered with monotonous sameness throughout the United States. This was true also of the rock garden until a few years ago when this form of gardening began to develop along individual lines, the result very largely of the taste of the owner and of the topography of the plot of land to be developed. From this beginning the development of the rock garden in America has gone on in rapid strides, due probably to the fact that originality in the creation of the garden has fullest sway, no two being similar in construction or planting, to the fact that almost any plot of ground, no matter how small may have a bit of mountain scenery, or to the fact that alpine plants possess an individuality, beauty and charm utterly different from all other types of flowering plants.

The difficulties encountered in raising alpine plants in the eastern part of the United States are traceable to two causes. The gardener fails to make a thorough study of the soils and situations in which these plants flourish in their native environments in order to reproduce them here or to modify them to meet the altered climatic conditions. Again, he follows too closely the instructions on cultivation given in the many splendid English books on the subject, forgetting that these methods were devised for English gardens and that a

rule which might be highly successful in Great Britain might result in failure here.

The Northwestern coastal territory of the United States more nearly approximates the climate of England, profiting from the beneficial results of ocean currents while the eastern states have a typical continental climate with greater summer heat and winter cold. London lies ten degrees farther north than Connecticut, which would cause the sun's rays to be much less intense there for which reason, one should not compare results even when the mean temperature is the same, since the drying effect of the sun's heat is felt much more acutely here.

It should be remembered also that the rainfall in the two countries is quite different, and that these can not be compared simply in terms of actual precipitation. In some parts of England the actual rainfall is less than in our own country and yet there are far more rainy days and plants that do not succeed here unless the natural rainfall is supplimented, do perfectly well since they are never subjected to periods of sudden drying. The reverse is also true since many plants that are tender in England for lack of proper ripening withstand greater extremes of temperature with us since they have properly prepared for the winter. In general, plants that are recommended for full sun in England will do quite well in partial shade, those calling for semi-shade, should be given full shade here. This rule I have found safe to



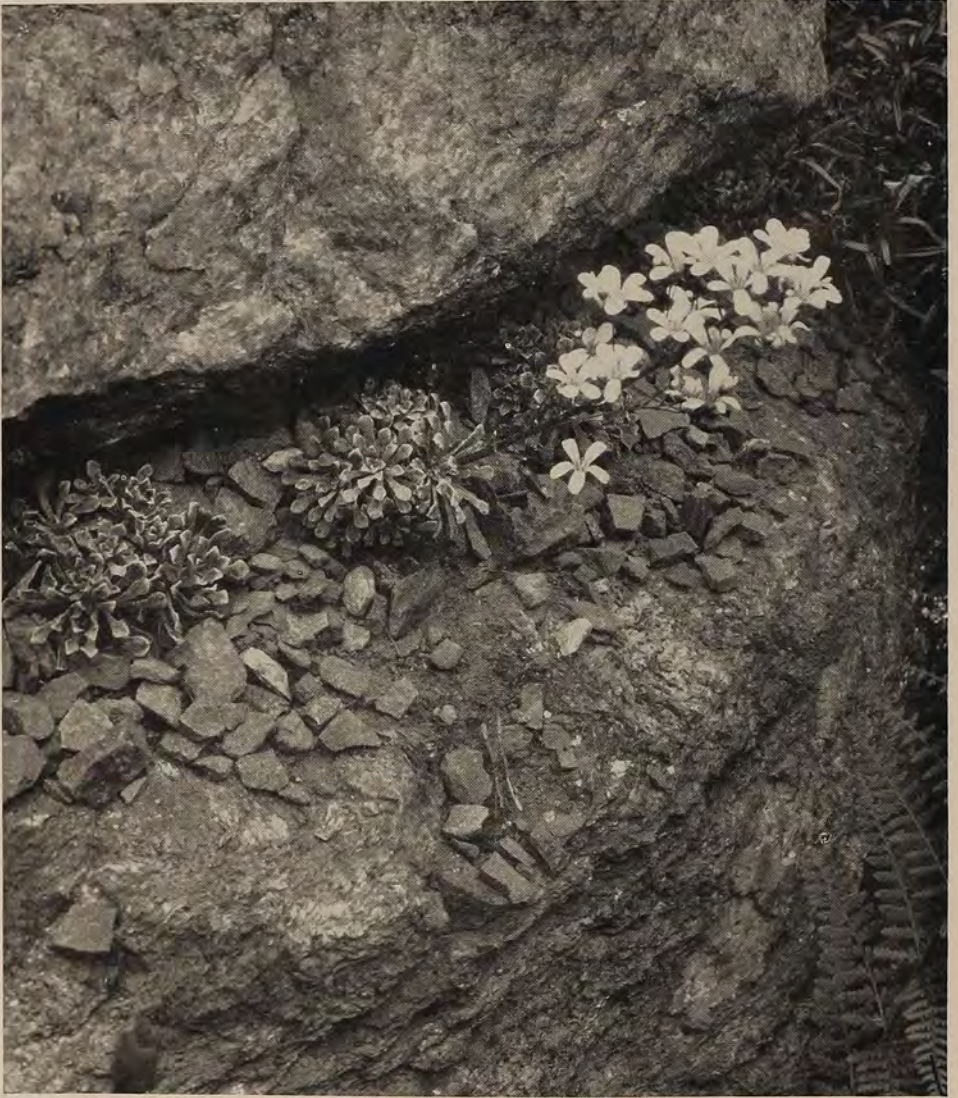
*J. Horace McFarland Co.*

*Saxifraga virginensis*



*J. Horace McFarland Co.*

*London Pride—Saxifraga umbrosa*



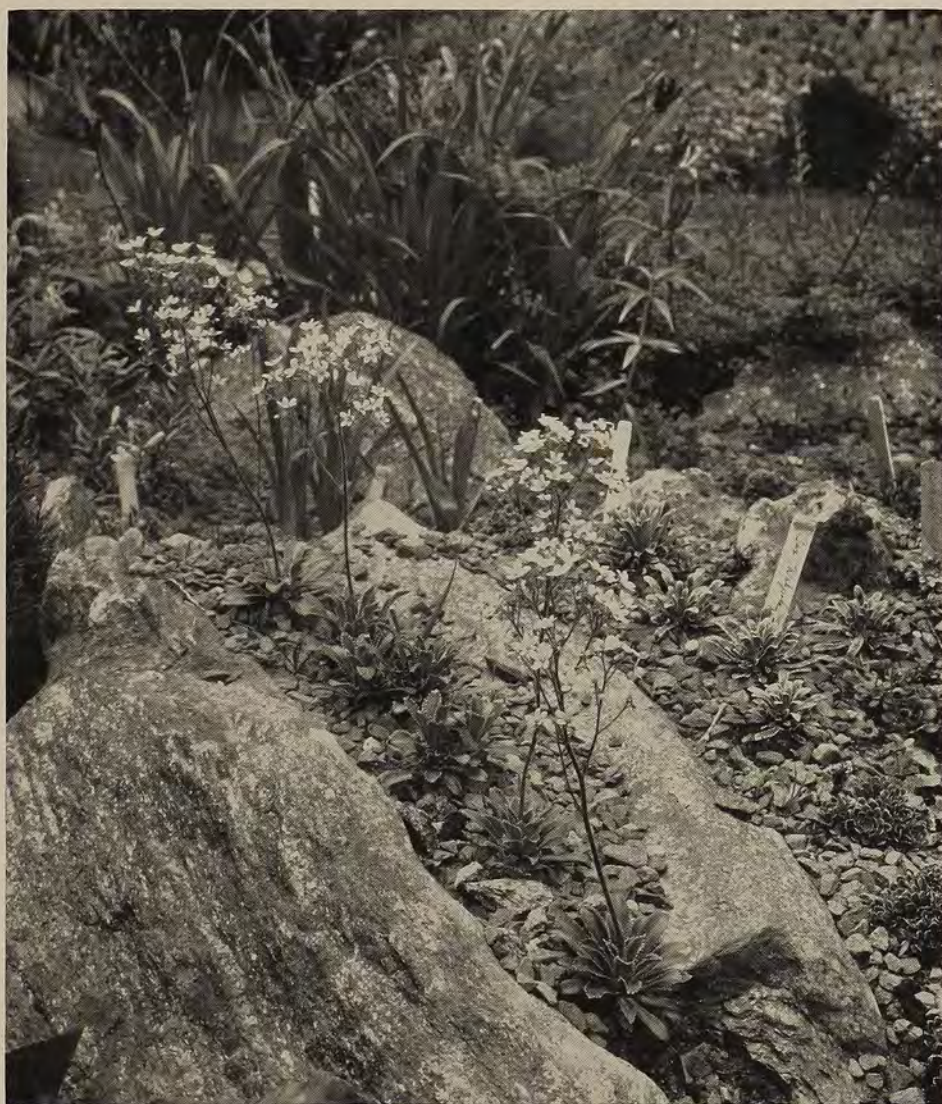
*J. Horace McFarland Co.*

*Saxifraga, Elliott's Silver Variety*

follow with the single exception of those plants that have a furry texture to the leaf surface, plants which may be planted in full sun in almost any open situation.

The most beautiful species of vegetation in the Alps occur in the region

between the coniferous trees and the glacial zone, or from about 7,000 feet to 11,000 feet elevation, a few species climbing as high as 14,000 feet and many descending to much lower levels. In the Central and Western Alps many species occur at



*J. Horace McFarland Co.*

*Saxifraga andrewsii*

greater elevations than in the Eastern Alps, due perhaps to the more intense light radiation on the western side.

The main characteristics of alpine plants are their low habits of growth, their large and brilliantly colored

flowers, the rapidity of their seasonal development and growth, and the amazing extent of their root systems. Nature has given many of them close tufted forms, wide-spreading mats, curious rosettes, growing close to the ground probably as a protection from



*J. Horace McFarland Co.*

*Saxifraga decipiens*

the weight of the winter snows and the violence of summer winds, and to receive the full benefit of the warmth of the sun's rays that is not intercepted by the thin mountain air but is stored up and radiated again by the

earth and stones, keeping the tops warm while the roots drink deep of the melting snows below ground.

There are many possible cultural divisions of the plants that go to make up alpine flora. One has al-





*J. Horace McFarland Co.*

*Saxifraga cordifolia*—now *Bergenia cordifolia*

ready been noted, that great group of plants with hairy or silky leaves, a protection that conserves their water supplies and reduces transpiration. Species belonging to this group have found a common place in our rock gardens and usually are not difficult of cultivation if given a sunny location where there is a decided slope to the soil surface to prevent the remainder of excess moisture about their crowns or leaves. This question of good drainage, however, is characteristic in the cultivation of all alpines.

The great family of the saxifrages which are to be the special subject of these notes do not belong in this group but have for the most part smooth leaves of many styles, shapes and sizes, some of them curiously marked with limy encrustations, which give the name to that section of the family. Since they are found in their several forms all about the Northern Hemisphere it is to be expected that they will show many forms and habits. This is so marked in fact, that the botanists have divided the genus into about thirteen sections, more or less clearly marked with characteristic forms for each

group. Their nomenclature is by no means settled. Botanists are still at work, attempting to decide if some of the sections should not be separated and made into genera by themselves and to see what are true species and what may be natural hybrids. These studies are complicated even more by the fact that soil and situation seem to play some part in changing or modifying the external characters. The accompanying illustrations give some idea of the various types of plant and flower habit that one may find, including here for the sake of discussion the familiar old *Saxifraga cordifolia* which has recently been taken away from the genus and put into the genus *Bergenia*. It is strange and unfortunate that more of these charming plants are not grown in American rock gardens for often the genus is not represented or else is shown only by the rather common *Saxifraga Macnabiana* and *S. aizoon*. Many gardeners consider them difficult subjects and indeed they disappear rapidly if their requirements are not considered, but given the proper situation and care, they thrive and increase amazingly.



*Nymphaea, Pink Pearl*

## Water-Lily Hybridizing

BY ROBERT T. VAN TRESS

There is no more fascinating hobby for the water-lily enthusiast than the hybridizing of water-lilies. It is a field of absorbing interest for one who has the time and patience to devote to it, and there is always the anticipation of developing a lily of real merit. The veteran Mr. James Gurney was one of the pioneers. In 1902 he produced *Nymphaea* Frank Trelease by crossing *N. Devoniensis* with *N. Omarana*. This lily still ranks as one of the best of the red tropical night-blooming lilies. The Missouri Botanical Garden has introduced several noteworthy water-lilies, among which the best known are *N. Mrs.*

Edwards Whitaker and *N. Mrs.* George H. Pring. The history of these hybrids is quite interesting. In 1912 a pink-flowered hybrid was obtained by intercrossing two light pink races of *N. capensis* var. *zanzibarensis*, and was called *N. castaliiflora*.

Shortly after this the Bureau of Plant Introduction at Washington, D. C., introduced seeds of the white *N. ovalifolia* from Africa. They were successfully germinated by Mr. E. T. Harvey of Cincinnati who sends seed to the Missouri Botanical Garden.

These seeds were grown in 1915, and two years later a cross was made between *N. ovalifolia* and *N. casta-*

*liiflora*. The resulting lavender-blue hybrid was named *N. Mrs. Edwards Whitaker* and is a popular variety today.

The best pure white, tropical, day-blooming lily, *N. Mrs. G. H. Pring*, was introduced in 1922 as the result of a cross between *N. ovalifolia* and *N. Mrs. Edwards Whitaker*. Previous to that the only pure white tropical day-bloomer had been *N. flavo-virens*, a small-flowered species from Mexico. The new hybrid bore flowers 8 to 10 inches in diameter, and produced plenty of fertile seed, a factor of great importance in later hybridizing.

This year four new hybrid water-lilies were disseminated from Garfield Park, Chicago, Illinois, as the result of experiments carried on over a period of nine years. These new lilies have created a sensation and surpass anything on the market at present.

*N. Mrs. W. R. James* is the result of a cross between *N. Mrs. Edwards Whitaker* and *N. castaliiflora* in 1922. Seeds from this cross were sown in October 1922 and successfully germinated. The hybrid produced pink flowers with foliage resembling *N. Mrs. Edwards Whitaker* but with a slightly smaller flower. They were, however, deeper pink than *N. castaliiflora*, and appeared very promising.

In 1923 and 1924 the flowers showed an increase in size, so in 1925 this pink seedling was recrossed with one of the parent plants, *N. castaliiflora*. The seed capsule contained plenty of seed which germinated well.

The seedling were planted in 1926 and bore flowers 10 to 14 inches in diameter of a deep pink color. There was no mistaking the quality of this lily. The following three years the plants were closely observed for any

defects or reversal of form. None being found the hybrid was named in 1930.

The new lily, *N. Mrs. W. R. James*, has olive green leaves, brownish red below, sinuses overlapping at the base, margin sinuate, leaves 14 to 16 inches wide and 15 to 17 inches long. The flowers are a beautiful shade of rose-purple with deep rose pink sepals, (Ridgway's Color Standards) 10 to 12 inches in diameter, borne on a leaning stem 5 to 6 inches above the water. Petals average 26 to 32, and 2 to 3 flowers are open at the same time. This is a strikingly gorgeous variety and is always the center of attraction, first because the flower does not fade, and second, because of the manner in which the flower is borne.

Another highly successful cross was obtained in 1926 using *N. castaliiflora* as the staminate parent and *N. Mrs. G. H. Pring* as the pistillate parent. All of the seedlings were either pink or blue, the blue probably derived from *N. Mrs. E. Whitaker*, one of the parents of *N. Mrs. G. H. Pring*. All the seedlings were numbered, and during 1927 and 1928 the best were selected and grown on.

In 1930 three of this lot were selected for superior qualities and named. *N. Governor Louis L. Emerson* was the largest in size, grayish violet blue with pale blue sepals (Ridgway's Color Standards) carried on an erect stem 10 to 15 inches above the water. Petals average 24 to 28 and the flowers are 9 to 12 inches in diameter.

Leaves are olive green mottled with light brown, reddish brown underneath, sinuses overlapping at base, margin irregularly crenate, 16 inches wide by 18 inches long. Outstanding due to the erect stems which carry



*Nymphaea, Gov. Louis L. Emerson*

*liiflora*. The resulting lavender-blue hybrid was named *N. Mrs. Edwards Whitaker* and is a popular variety today.

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the flowers to a height of 12 to 15 inches above the water.

*N. Pink Pearl*, which is really the gem of the entire collection, cannot be praised too highly. It is the most prolific bloomer in cultivation today, bearing 12 to 20 buds, 5 to 10 of which are open at the same time. The color of the petals is of singular beauty, tips are rose pink grading into Rosolane pink and white at the base (Ridgway's Color Standards) white sepals turning yellow with age and pink tipped. This remarkable color is retained as long as the flower lasts, and is unlike any lily on the market. The petals average 28 to 32 in number carried on an erect stem, rising 8 to 12 inches above the water.

The leaves are oval in shape, green above and brownish red beneath, margin slightly undulate, 7 to 8 inches wide, and 8 to 10 inches long. The flowers are only 6 to 8 inches in diameter, but exceedingly fragrant, making this an ideal plant for small pools and especially so for tub culture. For the small home owner, or the man with limited facilities who has room for only one lily, *Pink Pearl* cannot be surpassed. The third hybrid of this cross to be named was *N. Chicago*. The color of this lily is a remarkably clear pink, with sepals a shade lighter. The flowers are 8 to 9 inches in diameter, borne on erect stems 8 to 12 inches above water.

Leaves are mottled with brown above, light green mottled with carmine underneath, lobes overlapping at base, margin crenulate, 11 to 15 inches wide, 15 to 17 inches long.

The actual operations of hybridization are comparatively simple, if the following precautions are taken:—First, the exclusion of insects from the flowers to be used, and second,

the removal of the stamens from the female parent to prevent self-fertilization. The former is easily accomplished by enclosing the flowers to be used in a muslin bag, thus preventing foreign pollen from affecting the cross.

This work should be done the latter part of August, since few of the pods will mature their seeds in the early part of summer.

The male or staminate parents must be selected two days before the pistillate or female parent is ready to be pollinated. It should be covered with a muslin bag large enough to permit the enclosed flower to open fully. On the second day after opening the anthers split and liberate the pollen. The best method is to cut off the flower and take it indoors. After removing the bag, shake the pollen on to a small glass plate or dish.

On the first day that the flower of the female parent is open all the stamens must be removed and the petals neatly cut off. The stigmatic cup in the center will be filled with a sweet fluid, which indicates that the stigma is receptive. On the following day, using a dry camel's hair brush, dust the pollen into the stigmatic cup. Shortly after the fluid will be absorbed and the pollen grains will remain on the surface of the stigma. After this operation, the muslin bag is replaced, and remains until seed is formed.

If the fertilization was successful the ovary will begin to swell within 8 days. If not, the flower soon decays. It is a good policy to cut off several flowers near the one pollinated to insure an abundant food supply.

The time required for seed to develop is usually three to five weeks.

When the stem on which the seed



capsule is borne begins to rot, remove the capsule to the greenhouse and place in a dish of water. After the capsule finally falls apart the seed will sink to the bottom of the dish.

Plant the seed as soon as possible in a pan of convenient size, using good garden loam and nothing else. The seed should be covered very lightly and the pan should be placed in the tank so that the top of the soil is just above water.

Fresh seed will germinate in two to three weeks. When the first thread-like, seed leaves appear, lower the pan so that the soil will now be under water. As the seedling develops, keep lowering the pot in order that the plant will always be under water. The greenhouse temperature should be 65 to 70 degrees Fahrenheit.

When about two months old the seedling lilies will be large enough to transplant to another pan and given

more room. After the young plants have produced three or four leaves, prick off into separate three inch pots. The water in the tank should be 70 to 75 degrees. Let them grow as fast as possible and repot when necessary. Plenty of sunshine is essential for a vigorous plant, and above all, never let a plant suffer from need of shifting.

After all danger of frost is past, the lilies can be hardened off a little in cooler water and taken outside. There will follow a period of keen anticipation until the first flower blooms and the success of the cross is observed. It will also pay to raise plants from the seed of one year old hybrids, since some of the best results appear in the second or third generation.

Different results are often obtained by using one species as male and the other as the female and vice versa, for which reason a cross should always be attempted both ways.



*Gladys Müller*

*Garden at Enniscorthy*

## Creating an "Antique Garden," Old Roses

BY LILY LOGAN MORRILL

While I was worrying myself ill, trying to decide what to do with a ragged edge of this old place—Enniscorthy—I recalled that my four times great-grandmother, Martha Daniel Logan, had written one of the earliest planting treatises in our South, *The Gardeners' Kalendar*.

The thought of that ancestral "Kalendar" gave me an inspiration. Why not smooth off those ragged edges with a garden containing only those roses Mrs. George Logan might have planted in her day had she lived in Virginia instead of Carolina?

"But how can I even start when I don't know a thing about old-fashioned plants, nor how to look them up?" I wondered, completely bewildered, realizing I was facing a problem which could not be "muddled through."

The plant list given in the ancestral *Kalendar* suggested itself at once; followed by a reluctant memory that our family's copy had been destroyed by fire during the Civil War. Of course there still remained a partial edition in the Charleston (South Carolina) public library with mention

of Mrs. Logan's list in the South Carolina Historical Magazine, Vol. 15 (1914), and again on page 124, "Charleston, The Place and The People" (Macmillan), by Mrs. St. Julien Ravenel. Right here a teasing half-memory reflected almost within reach! Where had I recently seen mention of that Kalendar? In our family record, of course, but where else—where—?

"Oh, I have it," I suddenly congratulated myself, "it was in Alice Morse Earle's Old Time Gardens—here it is on page fourteen."

From this moment on, my research work was well begun. I followed with the same author's "Sundials and Roses of Yesterday," with parts of Lady Warwick's Autobiography, and The Garden Month by Month by Mabel Cabot Sedgwick (Stokes). My Bailey's Cyclopaedia and Britton and Brown's Illustrated Flora were almost worn to ribbons. Meanwhile, I searched in odd corners of my own library and found Floral Emblems by Margaret Coxe, 1843, and a Botanists' Calendar published by B. and T. White, Fleet Street, London, 1797. Another valuable help was Maeterlinck's Old Fashioned Flowers (Dodd, Mead & Co.). Meanwhile I almost lost my friends by torturing them with questions. Current magazines supplied their share of suggestions, culminating in that priceless article "Plants of our Great-grandmother's Day" by E. H. Wilson in last April's *House and Garden*.

But why go so far afield when Albemarle horticulture, as well as architecture, seem to center around Thomas Jefferson? In 1805 he introduced our so-called "mimosa"—*Albizia julibrissin*—and even earlier (1791) he was ordering an old Virginia favorite tree, *Paulownia tomentosa*, cov-

ered in late spring with large purple blossoms.<sup>1</sup> Another Jeffersonian choice without which no "antique" garden would be complete, is *Calycanthus floridus* with inconspicuous chocolate blooms, but with an unrivaled fragrance.

On the list with calycanthus and paulownia (1791), Jefferson ordered his favorite roses:

"Moss Provence, yellow, rosa mundi. Large Provence. The monthly. The white damask. The princess, musk rose. Cinnamon rose. Thornless rose. 3 of each, making in all 30."

Jefferson's "yellow" was probably the Austrian yellow. The Provence above is *Rosa gallica* (Linnaeus), supposed by Johnson, editor of Gerard, to date back to Roman days and Pliny's "Rose of Praeneste." Of this same group is Rosa Mundi, similar to York and Lancaster, but the latter is rarer and not nearly so prickly.<sup>2</sup>

These species with Damask and musk *R. moschata* were known in the sixteenth century. See Bailey, pp. 2985, 2986 and 2989.

*R. moschata* has been so much mixed with *R. chinensis* and *R. gallica* that it is now hard to find a pure specimen. Roses called "musk" are

<sup>1</sup>For "mimosa," called by Jefferson "Julibrizin," see his papers, marked "Series 1," Vol. 2, No. 246, manuscript division, Library of Congress. For Paulownia, called by him "Carolina kidney bean with purple flowers," see his plant list in Jefferson Papers, Massachusetts Historical Society. Calycanthus is in same list, also in "Domestic Life," page 331.

<sup>2</sup>Stephen F. Hamblin, Director, Lexington (Mass.) Botanic Garden, from a short article in *Horticulture*, entitled "York and Lancaster Rose." Hamblin puts York and Lancaster into the Damask group. Write for reprint of same author's "A Rose Testing Garden," from *Landscape Architecture*, July, 1925.



*Gladys Müller*

### *Sweet Briar*

often the Himalayan kind *R. brunonii* or one of the various hybrids.

Some of the hybrids of musk and China—the favorite noisettes—should be classed as antiques, originating as they did in Charleston, South Carolina, in 1816—raised first by John Champney. (Bailey, page 2988.) But the best-known of all, Marechal Neil was not produced until 1864.

Jefferson' "monthly" was probably the "Blush Monthly," his "Thornless," the Boursault, his Cinnamon, the old-fashioned hardy *R. foecundissima*. (Bailey, page 2993.) This is closely related to the readily obtained *Rosa rugosa* (Thunberg, 1784). Most of the roses so far given can be found today in Albemarle gardens.

In my own garden, I came upon

bushes hard to date, until I find that they were classified by Linnaeus. Happy thought! The Swedish botanist necessarily made his lists between the years 1717 and 1778, therefore I was safe in choosing as "antiques" any roses in his classifications.

Under this heading, I put my *Rosa alba* (several varieties) and the cabbage *R. centifolia* with its precious little offshoot, var. *muscosa*—the old pink moss, of which I have lovely specimens at Enniscorthy. This is supposed to have appeared in Holland in 1596 (Bobbink and Atkins). *Rosa rubiginosa* (sweetbriar) is also given by Linnaeus. His pupil Thurnberg (1743 to 1828) lists the well-known *R. multiflora*, our darling little black-berry rose—so often running wild in

Virginia. *R. multiflora*—variety *platyphylla*—the familiar “Seven Sisters” and origin of Crimson Rambler, is not really old in this country, having been brought from China in 1821. From this species were started many hybrids, especially with our native *R. setigera*.

The best-known form of *R. setigera*—prairie rose—is Baltimore Belle, developed by the Feast Brothers of Maryland around 1836.

The thirties and forties of the last century were active periods for rose culture and many of our so-called “old” favorites date from about that time: Madame Plantier and Bon Silene, both 1835. The tiny Hermosa, well represented in my garden, 1840, and Chromatella (a noisette), 1843. Coming down to the fifties, we find Gloire de Dijon and my favorite of all—Duchesse de Brabant, 1857.

It was a great delight to find at Enniscorthy many Duchesse roses blooming from May to Christmas. Another long-timer in my garden is the less lovely, but more quaint, *Rosa chinensis*—var. *viridiflora*, with all green blossoms.

Appearing only in the spring, but

exceeding all else in loveliness, is my Gold of Ophir—*Rosa fortuniana* or Fortune’s double yellow, which is salmon to red on the outside of petals. This is said by Mr. Hamblin to be “one of the oldest of climbing roses.” My sister has taken several “slips” which have covered her trellises in a few years.

Both of the last—Green rose and



*The Green Rose*

Gold of Ophir—coming as they do from China, should be allowed in the class with “antiques.” Chinese, too, is the “old blush” (Parsons, 1796), known also as Bengal, “pink daily” and “monthly cabbage.” From this *R. chinensis* we have the variety *minima*—tiny “fairy”

roses, of which I possess several at Enniscorthy.

It sounds easy enough to speak of “discoveries” at Enniscorthy, but not so easy was the actual work. But, oh, the joys of discovery! During my excavation, I am not only making out an old rose “kalendar” for Enniscorthy, but also continuing to smooth out ragged edges in the garden. This gives an unfinished but delicious feeling that no matter how long and how hard I may work, there will always be waiting—a new ragged edge.

# Santa Fé Gardens

BY HELEN M. FOX

When we move to a new country it takes us some time to become acclimatized, and therefore when we begin to garden, instead of using the material we find in the woods and meadows, we generally attempt the far more difficult task of trying to grow the shrubs and perennials familiar to us in the old gardens we left behind.

Gardening in and around Santa Fé is still at the pioneer stage. Few native plants grow on the high plateau 7,500 feet up in the air where it is extremely dry with nights always cold and the sun hot even in winter. The finest of the wild flowers tuck themselves along the river beds or up in the mountains where there is moisture and a little shade. In these favored spots grow the famous penstemons, thalictrums, aquilegias, sapphire blue gentians, lilies, mariposa tulips, and many others. Also on the northern exposures or in narrow valleys one sees magnificent native spruces, the tall pines, and everywhere in sun or shade the grey leaved junipers, and the dwarf pines called pinons. These junipers grow fifteen to twenty feet high and if sheared would make magnificent material for accents or foundation planting as handsome as any Virginia box.

Out in the sun grow the castilleias, sand verbenas, the chamiso (*Chrysothamnus*) handsome low bushes with grey-green leaves, yellow blossoms, and seeds like fluffs of transparent cotton, the artemisias, sages, cacti, yucca, coreopsis, gaillardia, and others.

Many of the gardeners are growing the plants they knew at home and it was a shock to me to find sweet peas, which we generally associate with moisture and some shade, growing lustily out in the high thin air where no clouds or mists temper the fierceness of the sun's rays. Of course all the plants have to be watered, almost constantly. Iris we would except, and they do very well, as do hollyhocks, and dahlias (these are practically native as they originate from Mexico). In addition to these the sedums, chrysanthemums, delphiniums, clove pinks, violets and many annuals at present made up the gardener's palette.

Among the imported shrubs, are the lilacs, tamarisks, black currants, some varieties of bamboo, and box. One also finds the *Rhus cismontana*, a native with scarlet berries and foliage like the English hawthorne, which turns scarlet in the fall. I should think this plant would make a good hedge. The trees which do well are the poplars, and cotton woods, both turning a ruddy gold in the fall, the lindens, Chinese elms, larches, and of course the ubiquitous willows. Apples thrive as do pears and walnuts, and there is a handsome wild plum with delicious and decorative tiny orange fruits. The clematis ramps over the trees in the woods and so does the Virginia creeper. The vines imported are the silver lace vine, English ivy, and the white and the yellow jasmine.

There are two outstanding gardens in Santa Fé where native material is



*Garden of Mrs. David McComb*

*Landscape Architect—Wm. P. Henderson*

combined with imported plants. Each of these has solved the problem of a garden amidst positively breath-taking scenery in a different way.

Mrs. David McComb has enclosed hers with a thick adobe wall covered with cement plaster matching the tawny pink of the hills, glimpsed over the top of the wall. Beyond the walls are trees which partially shut out the view and give one a sense of aloofness and seclusion. These trees are cottonwood, locust, box elder and tamarisk. The design of this little rectangular garden is of such classic perfection that it could be in any warmish country from Spain to California. The paths are paved with native pink sandstone, crushed and then tamped to a hard surface. There is a

fountain in the center and a wall fountain on one side, and the geometrically arranged beds are bordered with luxuriant, clipped box.

More cool green foliage in the form of English ivy is festooned on the walls as are vines of silver lace, jasmine and wisteria. Pots of agapanthus, oleanders, and cacti are used with taste. Coming into this sophisticated and well-ordered garden, from the brown plains which seem to heave like the waves of a sea, rimmed about with mountains bright blue in the blinding, scintillating light, one has the sense of relief in being able to grasp and understand the situation.

Mrs. McComb has started a commercial nursery where she is experimenting in acclimatizing many kinds

of plants, and placing them in different exposure to see where they will do best. She is trying out hawthorns and rose bushes, robinias, some of the cornels, symphoricarpus, the spiraeas, viburnums, and the cut-leaved elder. She is also working with vines of various kinds especially with roses. In time she will know exactly what to grow in this section of the country in a very difficult situation and climate.

The other garden belongs to Dr. and Mrs. F. L. Proctor, who have included the view as part of their scheme and have made their house and garden harmonize as much as possible with the landscape. They have carried their knowledge of Mexican and Indian antiquities from their charming house out into the garden. The house is built in what is called the "Santa Fé" style of one story and rambles along informally. It is covered with a salmony-red adobé and the garden walls are also of this material patted smooth by hand. The walls follow the lines of the distant hills, rising and falling in rhythm with them. The walks are of native stone and there is a Mexican dish for a bird bath.

The little garden is rectangular and on two levels and the beds form a geometric design and seem to be a continuation of the terrace. When I saw it in October it was aglow with chrysanthemums, zinnias, speciosum lilies, carnations, petunias and many other flowers. There are no

vines on the walls as the natives do not use them "for fear the adobé would get too moist and melt!" Pots were used and a pair of strawberry jars looked as if they too had gone native with a cactus plant growing out of each lip. The color of the walls and stones were so much a part of world beyond the garden walls that the little formal patterned garden seemed like a prayer rug before the god-like magnificence of the view beyond.

For this section of the country the good looking Mexican flower pots are appropriate and quite individual in shape and color. Also, in time, no doubt copies will be made of the handsomely shaped Indian grain jars, some of which are now reposing in the Museum. These would be more original and fitting for American gardens than the everlasting reproductions of Italian jars good as these undoubtedly are.

A goodly number of the furry grey-leaved plants of which the native flora is chiefly composed give a permanent look to the garden which it would never have if planted mainly with the blue-green plants of rainier sections.

When we see how charmingly the native American plants can be used and how beautiful so many of them are we cannot help wondring why we Americans do not make more of our own flora, and why so many of our most beautiful natives are hardly grown in our own gardens at all?





A SERIES OF ENGLISH ROCK GARDENS

*Photographs by R. A. Malby, Inc.*



*Formal dry wall above; informal dry wall and  
rock slope below*



*Dry wall above; calcareous rocky slope below*



*Two low treatments with broad horizontal rock ledges*



*Two low treatments with a minimum of rock visible*

# Plant Notes From the New Jersey Pine Barrens

BY BERNARD HARKNESS

One of the most easily accessible regions of special botanical interest in the East is the region of the New Jersey pine barrens, an elevated tract of rolling country in Burlington and Ocean counties. It is possible to make a collecting trip there from the vicinity of New York in one day, though a longer stay in the Pine Barrens would be well repaid. The conspicuous elements of the vegetation are the dwarfed trees. The pines and oaks of this region rarely grow over ten feet in height and many are gnarled and picturesque like the similarly stunted trees at timberline. Here in the barrens the stunting of the trees is due primarily to a stiff, impervious subsoil and a light, sandy surface soil which freezes deeply in winter and dries out quickly in summer.

A scientist, Dr. John W. Harshberger, who studied this region, termed the formation of stunted trees and low shrubs a coremal after a characteristic low shrub, *Corema conradi*. Coremal, then, becomes an ecologic term analogous to chaparral and chemisal. The coremal offers a unique selection of plants to the gardener. All the plants described have been successfully established, some of them for several years, in Mr. Anton G. Hodenpyl's rock and wild garden at Locust Valley, Long Island.

*Corema conradi*, the broom crowberry, is a handsome heather-like plant, densely branching from one to two feet high. Coloring of the leaves varies from light green through dark green to a rich brown. Staminate

and pistillate flowers are on different plants and for ornamental purposes the staminate plant with its tufts of purple filaments and brown-purple anthers is preferable. Cuttings taken in the early fall root very readily in a greenhouse and selected plants of *Corema* may be propagated in this way. A light, gritty soil made acid by peat moss or acid leaf mold and well drained will suit *Corema* best though it is not as fussy as some of its companions.

The early attempts to establish *Pyxidantha barbulata* in England were not successful due mainly to the fact that old and woody plants were shipped over. However a plant sent from Delaware in the spring of 1851 was received full of perfect flower by Sir W. J. Hooker, Director of Kew Gardens, and a drawing made from it appeared in *Curtis's Botanical Magazine* of July first, 1851. The whole period of flower and fruit development of pyxie is accomplished in about three months from March 10 to June 15. All who have seen it flowering in the barrens have been delighted with it. Old plants make large mossy patches often over a foot across, green when under a protecting oak or pine but very bronzed when exposed to the sun. The flower buds are tinged pink or red opening out to white starry blossoms. One writer tells of a charming picture made by a blending of the pink clusters of the trailing arbutus with the sprays of pyxie in an area where they grew together. In the fall of both 1928

and 1929 we carefully lifted the youngest plants of pyxie that we could find and we transplanted them with plenty of the white sand in which they grew to the rock garden. Several clumps have grown and spread out. We find that it appreciates a little protection such as the light shade of some sparse growths of *Hudsonia* that were present in the collected clump. A mixture of acid peat moss, leaf mold, garden loam, and stone chips, to which was added sand from the barrens, was the medium in which it was placed.

*Leiophyllum buxifolium*, the sand myrtle, is a low dense evergreen, like a miniature boxwood. Its shiny leaves will take on purplish tints when fully exposed to the sun. Its white flowers appear in abundance from early May to early June. It can be used not only as an evergreen in the rock garden but to face down a broad-leaved evergreen planting.

The pine barrens produce a gentian that by its merits can be placed beside any gentian, American or Asiatic. Though *Gentiana porphyrio* is very much unknown to rock gardens at present, it seems unlikely that it will remain so for long. First the plant is reliably perennial. One plant, or possibly two close together, lifted in 1929, produced eleven flowers this year. Secondly, it graces the rock garden in late September and early October with its wide flaring flowers, the color an intense azure-blue with delicate markings within. It is a truly choice plant and deserving of a wide use. William Bartram probably discovered it first as he sent a drawing to Edwards, the British naturalist who published it in his *Gleanings of Natural History* in 1758 under the title of "Autumnal Perennial Gentian of the Desert." There are few, if any,

references to it in recent English garden magazines and it is doubtful if it is well-known abroad.

Another heather-like plant of the barrens is *Hudsonia ericoides* which really belongs to the rock rose family. This will make as fine a mat as *Calluna vulgaris nana*, though somewhat more bristly and in addition, in May, the upper branches are covered with bright yellow flowers. The plants on which I base this judgment were not under cultivation, but were found along the Wisconsin river in south-central Wisconsin. I believe that this plant will give a dwarf-heather effect in climates where *C. vulgaris nana* is prone to brown in patches. Of *Hudsonia tomentosa* not so much can be promised. It is a low plant, woolly in appearance with yellow flowers in late May or early June. It is apt to be somewhat scraggly in growth. In both species the flowers are fleeting, leaving the main value of each to rest with its foliage. Both should be easily grown from cuttings but apparently you will have to go out to collect your stock plants.

*Arenaria caroliniana* is a plant of the bare patches of white sand where it finds little competition except for a few grasses. It forms dense tufted rosettes at the top of a long perpendicular root, so characteristic that it has received a local name of long-root. Slender stalked branches to a height of two or three inches bear the white flowers with greenish centers.

The thin, long, flat leaves of *Aletris farinosa*, like some *Carex*, will make a variety in the picture if you are planting a coremal association in your garden. The spike or mealy-appearing white flowers resembles superficially the spike of a spiranthes. It is a member of the lily family and, like some other denizens of the pine

barrens, has strayed westward along the Great Lakes.

*Chrysopsis mariana* has been widely used at Locust Valley than any other of the pine barren plants. It has proved especially valuable in association with *Aster ericoides* to give late summer and fall color in beds of Scotch heather. From early August to early September its golden yellow flowers are abundantly produced. It is apparently a short-lived perennial, but it readily self-sows. The fluffy light tan seed heads are only slightly less ornamental than the flowers.

Though not at all confined to that region, *Rhexia virginica* is especially abundant in the sandy swamps of the pine barrens. There it often appears in masses making a carpet of almost crimson color. Singly the flower is magenta varying somewhat in intensity. It spreads rapidly and should be used in broad masses by the shore of a pond or stream where the soil is more or less moist.

*Talinum teretifolium* is included in this list because it seems certain that the plants that appeared in the garden came in with a clump of pine-barren gentian, despite the fact that it doesn't seem to be included in the floras of the region. Although not as showy as *Talinum calycinum* from the middle west, it is an interesting plant to have in the garden. The leaves are short and thick and portulaca-like. The dainty rose-pink flowers, flecked with golden anthers, seem to float on the branched, wiry stems. Their grace is evanescent, though, for theirs is a matinee appearance only, from two o'clock until four or thereabouts. The performance is continuous, however, on pleasant days throughout the summer. The plants do not seem to be reliably perennial, but seedlings will abound.

The turkey's beard, *Xerophyllum asphodeloides*, appears in the pine barrens though it is probably more often thought of as a plant of the Rocky Mountains. A gardener in Vineland, New Jersey reports in *Garden and Forest* for November 12, 1890 the successful transplanting into the garden of *Xerophyllum*. At Locust Valley the plant has never blossomed but its long needle-shaped leaves are persistent and might be very effective in a large rock garden.

I am indebted to Mr. Meehan's *Ferns and Flowers of the United States* for an explanation of the common name, studflower, given to *Helonias bullata*. Bullata is derived from the Latin *bullata*, the name of round nailheads or studded ornaments on castle doors and other objects, hence, Mr. Meehan suggested the name studflowers; individual florets of *Helonias* suggest the pattern of the studded ornaments. *Helonias* is one of those exciting plants listed as rare and local in Gray's Manual. In the pine barrens it appears in the swamps that border the streams traversing the region. The flower stalks rise from a mass of large, glossy evergreen leaves to the height of one or two feet with a dense raceme of reddish-purple flowers in early spring. This plant is not hard to establish in a shaded damp place.

A perusal of the manuals of the region discloses three more plants characteristic of the region that would seem to be worth while searching out to bring into the garden. *Lophiola aurea* with a woolly inflorescence would be an interesting companion to *Helonias*. *Asclepias lanceolata* with bright orange hoods and a red corolla should be a gay milkweed. As for *Schizae pusilla*, the curly grass, it

(Continued on page 50)





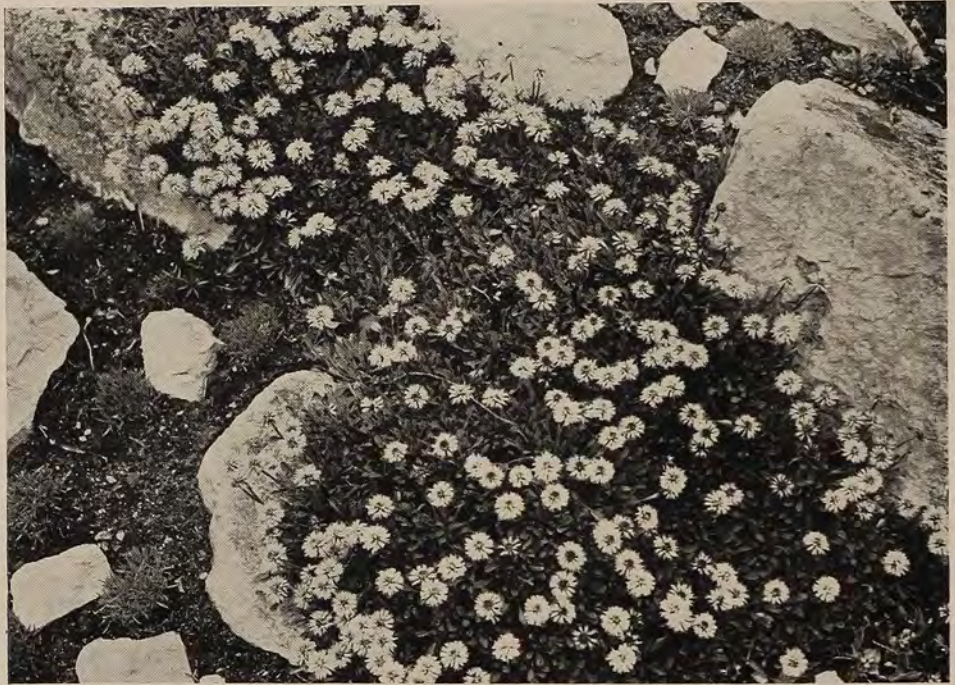
*Inula ensifolia*

A SERIES OF ROCK GARDEN PORTRAITS

BY K. JOSEFSKI

BOTANIC GARDEN, DAHLEM, BERLIN, GERMANY

[See page 66]



*Globularia cordifolia* (above); *Anthemis aizoon* (below)



*Aster alpinus* (above); *Wahlenbergia bosnaicus* (below)



*Valeriana tripteris* (above); *Alyssum montanum* (below)



*Dryas octapetala* (above); *Moltkea petraea* (below)



*Aethionema grandiflora*

## The Idealist in the Garden

Curiosity is one of the most valuable assets of a gardener's make-up. One almost might say that it is the earmark of the true gardener. It spurs him on to read about plants that are unknown to him and then impels him to try to grow them that he may see for himself just what they are like and know at first hand whether or not he likes them. He reads through a catalog and a name intrigues him. Perusing a book, some mere mention of a plant starts his curiosity and nothing will satisfy him until he has that plant growing in his garden where he can form his own opinion of it. Sometimes it is a long and glowing description that starts him on the trail of a plant; or perhaps there is so little that it whets his passion to know more; but often it is the mere mention of the name that stimulates his wonder, that appeals to his imagination.

There is a magic in names, both in their sound and in the sight of them in print, that is independent of association. The witchery of the name stays with one and entralls one until after years of waiting perhaps one comes upon it listed in some catalog and it is like meeting an old friend after a long separation. Such a name was *Anomatheca cruenta* to me—and still is. Bowles' meager mention of this plant in one of his three garden books started me on its trail but it was several years before I found seed listed in Thompson & Morgan's catalog. I could hardly wait, being an impatient human, until the seed arrived and had been planted. That was six years ago; and every spring since I have sown its seeds in every sort

of a place but so far with no other result save that they always germinate and then surely but slowly come to an untimely end. Sometimes they, the young plants, have dried out; sometimes they have damped off. Several times I have been able to carry them through the summer but whether I carefully covered them or covered them not at all, the next spring knew them not. But I have kept on trying. The summer of 1930 brought a new American catalog to me and as I read through the contents I suddenly found my old love was for sale here in America, and real live corms at that. But it was listed under the awful name of *Lapeyrousia*—there is no music in that name and even though Bailey so lists it in his cyclopedia I hope that it is only a wornout synonym now and that Lindley was right in calling it *Anomatheca*. When the corms came early in the autumn I planted them a full five inches deep in the hottest ledge of the rock garden. Bowles spoke of them in his garden as growing in semi-shade but I had tried that several times with the seed and I remembered that with him *Iris tectorum* will only bloom in semi-shade whereas with me it luxuriates in full sun; then too the plant is native to the Transvaal and all Africa to my simple mind means heat so such a situation seemed fit for them. Long before frost came they were up and worrying me. I tried to make them comfortable with a covering of ivy sprays and holly twigs at Christmas time and carefully pinned the protection down lest the winds of winter scatter it but to no avail.

Spring came but the foliage of the anomatheca was scant and sere and sickly; eventually it withered away leaving my label as a tombstone marking hopes deferred again. One day in August I noticed some green spears coming through the soil and my heart leaped for joy; but August was a terrible month this last year with no rain and the steady downpour of a torrid sun so that the next time I saw the garden after two weeks of absence showed nothing, not even the dead brown leaves and I wept over a second death. Late in November I wanted space for some sun-loving plants from Texas and attacked the ledge where the anomathecas were buried. As I prepared the place, much to my surprise, I found strong healthy corms, much larger than those I had planted, that were just beginning to send out roots. While it is much too soon to glory in my attainment—for I may have not yet attained—there is a reasonable assurance that the corms have tried to acclimatize themselves. But whether so or not I shall keep on trying until I do manage to make them happy, for, I am not one of those gardeners who, believing in the rule of three, tries a thing for three times only. The reason I speak of them here and before I can glow over my success is that I hope some of our members may have grown this plant and will write in full detail just how to grow it. I refused to be daunted by the statement that it is not hardy north of Washington.

Another name to lure me on was *Nierembergia frutescens*. Several years ago while skimming through Farrer's "English Rock Garden" my eye caught this name and I was held by it. All that that noble plant-lover says about it is, "*N. frutescens*, which suggests

a fine spraying Flax-bush with bigger, blue-white flowers, darkened at the eye, and delightfully abundant through summer." That was enough; the quest was on and seed finally procured. This time I have more to boast of for I have now seen it in blossom for the last three summers and will not willingly be without it. I have sent it out into the world in several directions and everywhere that it has gone it has met with enthusiastic praise. I may say this much more; harboring the delusion that it would not be hardy in southern New Jersey I pulled up the plants that first season after the first heavy frost. The next spring there were scores of lusty seedlings near where the old plants had been and by the first part of June they were in full bloom. That autumn only such plants as were in the way of other things were pulled up and every one which was left lived through the winter and started to flower in mid-May. It transplants well for I have moved blooming plants from one garden to another in mid-summer and this past year sent some foot high seedlings which were ready to flower out to a friend in Illinois in early June hardly expecting them to pull through but every one did and was in blossom before they were in their new home more than a month. I have tried to gather seed of it but am never able to find any.

My mind has a peculiar twist which makes the plant-name *Linaria* a word to conjure with. I must confess to being so depraved in my tastes as to love the common yellow toad-flax, the Butter-and-Eggs of childhood days. If only my garden were larger that I could devote an out-of-the-way corner to it and all of its "weedy" foreign cousins I would be extremely happy and am sure that something quite



fine would evolve from some of their mixed marriages. But, alas, with my cramped space I have to weed out every *Linaria vulgaris* that strays into my domain lest it obtain a footing and smother rarer plants. Perhaps because of this harsh treatment of its cousin, *L. alpina* refuses to like me for longer than one flowering and seldom seeds itself as it does in other gardens so that I am forced to get seed each year for I will not be without this charming little jewel. This year for the first time English catalogs offered a novelty which caught my eye and took my heart. As a rule I rather toss my nose at "novelties" having once in my early childhood saved up my pennies until they were a dollar with which to invest in that ugliest of irises, "*Pfauenauge*," the first year Farr offered it in America and earned the scorn and ridicule of my family; then later, when I should have known better, I got the rose, "Star of Persia," the year it made its bow to the public and have been waiting ever since for it to show me the color of its heart: no, I don't go in for novelties.

But this case was different; it was a *linaria* and a cross with *L. alpina*. The description read, "about six inches high and has flowers in a great variety of colors ranging from yellow through orange, red, crimson, grey and blue" I quote in full because it has! and many others and also in such charming combinations as bronze and lavender, maroon and cream and brown and violet; and this hybrid inherits the manner of growth of *alpina* and sprawls delightfully over the rocks and sempervivums, casting so scant a shade that the houseleeks never mind it in the least. The flowers are larger than those of the alpine toad-flax and the sprays are larger too.

It is altogether a thing to take one's heart and demand adoration always. It is a cross between the aforesaid *alpina* and *anticaria*—a species of which I know nothing—and is listed as a perennial; however I took no chances and saved seed. I was late in getting my foreign seed planted this past spring so I can not say when it would normally start to flower but after it did begin early in August it bloomed constantly until the nights were frosty in early November. Here is a flower of the first water to provide color in the rock garden during August and September and any one who cares for such tiny gems should not be without it.

There is another *linaria* which comes from Spain and Portugal, mention of which I have never seen save in that gardener's treasury, the garden series of Mr. E. A. Bowles. It was here I first read of it and of how its name means bearing three birds; it lives up to its name for the flowers are in rings of three around the stem and they sit on short stalks in a position which makes them look exactly like tiny little birds from fairy-land that have through some magic been lulled quiet in groups of three along a stately stem for this species is no dwarf, attaining the height of a couple of feet. *L. triornithophora* is not as hardy as I had hoped it would be, for this spring none of my plants arose to greet me and as I had not gotten more seed I was forced to be without it again, but only for a year as it is a plant that is altogether to my liking. Its color is described as violet or purple with a goodly lip of strong yellow but I shall have to confess that all of the few plants I saved were of a very magenta-ish persuasion, though there was a wide-ness in the range of tone of the much

maligned color, so much range that I have hope that in this years sowing I will have some of a truly violet or purple hue. You will find an excellent cut of it in Bailey's Cyclopedia and will see there that he says it is a handsome and interesting plant seldom seen in American gardens, and also refers to it as an old-time favorite, old-time being before people had discovered magenta. To any one who succumbs to my praise of this plant I would advise starting the seed early in cold frame or in the house and setting it out as early as possible in a warm sunny spot that it may set about preparing to flower earlier than mine did.

*Kirengeshoma palmata* cast a glamour over me the first time I saw the name in Farrer's rock plant cyclopedia and in spite of the fact that I knew I could never give it the cool moist site and the shade which it requires I persisted in trying seed which always came up and then always vanished. Then I read the glowing description which A. T. Johnson gives of it in "A Garden in Wales" and my heart was sore for it but in my hot garden there was no satisfying the plant. Having read in this magazine that Mr. van Melle had it growing in his garden and also because I had learned that he had the true *Sedum brevifolium* among his treasures I decided to make a pilgrimage to Poughkeepsie to satisfy my sight-craving in regard to the Japanese and hoping to gain possession of the long lusted-after European. Then there was the chance that I might be able to see the garden of the late Mr. Lown, that Mecca for all lovers of rock plants. Not least among the many benefits which I derived from that journey was, and I hope still is, the final acquisition of the long-coveted *Sedum*

*brevifolium*. I say I hope I still have it for I fear lest so lovely a thing may also inspire the adoration of my enemies the slugs and so madly inspire them that they become willing to suffer the tortures of lacerated undersides, or whatever that part of them is called which creeps along the ground, and they, so enfrenzied, agonize over the sharp and pointed stone chips with which I have encircled the sedum for inches around, and devour the object of their affection and of mine.

That I have at last obtained the true *S. brevifolium* I am sure for it not only agrees with what my memory holds for me of those I saw in England years ago and with Praeger's description of it but also because of Mr. van Melle's assurance; for after seeing the carefulness and thoroughness with which he studied his plants I am certain that nothing could come from his garden that was not correctly named. Such care deserves special commendation in an age when so many nurseries seem to feel that anything which is somewhat like the plant ordered is sent out in the hope that the customer does not know the difference. And how shall I attempt to describe the little sedum? It is a miniature edition of *S. dasyphyllum* save that added to the bluish grey-green of its tiny fat, round leaves and stem is added a stronger bluish purple cast that also verges into a reddish purple at times, the whole having a metallic sheen which is quite beyond my powers of description so that I must end weakly by saying that it is altogether lovely. I now have a series of small sedums, all gotten under this name, which range from the true species through five degrees of difference to what I am sure is *S. album* var. *brevifolium*. Next in size to the true

one is what I am almost sure is the type var. *quinquefarium*; but as I have never had the time to go into its physical character with a copy of R. L. Praeger's monograph on the genus in my hand I am only "reasonably sure" about it. Some day I shall have to do it for I want very much to give a number over to the smaller members of the family which are growing in my garden and only hope that I shall be right in the nomenclature.

I said that there were many benefits which I derived from my Poughkeepsie visit and not the least among was the lessons I learned about rock plant growing and rock gardens in general. For some years I have been gradually questioning the advisability of striving for a landscape effect in rock gardens; being more interested in the plants and their flowers, or in other words in the detail rather than in the mass effect. I have been slowly coming to the conclusion that it is a mistake to attempt to imitate nature and especially so in a small space. Of course there will always be the two types; those who will want to have the whole rock garden form a complete picture and those who, being primarily interested in the individual plants, will care little for a general canvass preferring charming and unrelated bits of lovely detail. At Poughkeepsie I was able to see examples of both types on a large scale and within a few hours and so able to make comparisons while the impression was still fresh in my mind.

Please bear in mind that I am not going to decry the former class because I personally prefer the latter; surely in gardening there is room for all kinds of opinions. But because of the fact that I hear so many people laugh at the scenic attempt when it

does not measure up to their liking and also because I hear many owners of rock plants complain that they are unable to make a good complete picture yet they love the plants and want to grow them well, do I wish to champion the less popular, at least at present, idea and encourage those who are, like myself, striving to grow the little creatures for sheer love of the plants.

An example of the first type was the garden of the late Mrs. Dobson, I think that I have the name right, and a most delightful picture it made on the sharply sloping north bank of a gully through which a brook ran. The southern side was heavily wooded with large old trees and I was told that even in the hottest days in summer a fresh cool air came up from the wooded brook-side and over the rockgarden. The plantings were mostly in large masses and the stones were exceptionally well placed; there was not a flaw that I could find except that the individual plants were lost in forming the complete picture. As the area was fully an acre the little plants easily sank into minor importance; so much so that I did not notice a small group of *Cyclamen europaeum* which was almost at my feet until my attention was called to it. It was a charming whole but it was the picture which came first and the plants merely fitted into it.

In the Lown garden it is the other way round; the plants come first and form a series of pictures. Here there was not any attempt at forming a finished composition; raised stone-edged beds were made under the shade of old apple and pear trees, beautiful gnarled old trees, wherever the erst-while gardener had seen fit. One did not know that stones were there, it was only the plants or

groups of plants which one saw. And I liked that type far better than the other. I especially liked the way in which perennial border merged into rock-plant bed and alpine plantings blended into rose bank. One knew that there was a beyond to each bed but after the first all inclusive glance one forgot about that beyond in the interest of the immediate surroundings while plant-picture lead into plant-picture until one reached that beyond—and then there was more further on. It was like an ever receding climax. And that is just what a garden should be according to my flower-loving mind. It was not necessary to call my attention to a plant for I was leading up to it myself, my attention was not striving to take in the whole but busy with each detail of it. And I seemed to feel the presence of its grey old gardener and I knew that were he physically with us we should have liked each other at once which is the way with all kindred plant-lovers.

It was here that I saw the oldest specimen of the kirengeshoma and fully realized that no matter how many times I should try to grow this lovely thing my garden could never give it a home; for it demands a moist, cool, deep loam and full shade. I was, alas, much too early to see it in its prime, if it could ever be said to reach such a state, and the buds were only just formed and still like small jade acorns but I will say no more having vowed never to write of any plant that I did not know at first hand and have growing in my own plot of ground. So if you are interested in this plant you may read what Farrer has to say of it and then if you want more you can look it up in that most delightful of recent garden books, "A Garden in Wales"

by A. T. Johnson. I take it for granted that you have already reread what P. J. van Melle wrote about it in the April number of last year; bearing in mind that no picture in black and white can ever do it justice.

At the risk of being monotonous I must continue to dissertate upon the type of garden where Clarence Lown found happiness. In this kind of a garden all sorts of plants may be grown and made to feel at home. For with raised rock edges the alpinists are taken care of while the larger plants and shrubs and small trees which are in the background of the beds give their shade to screen the little folk from broiling sun or blustering winds while their roots absorb excess moisture from the soil and so provide snug warm homes for tiny bulbs and plantlings which demand such comfortable resting places while dormant. Such a garden is not planned by a method of rules, of course it should be well thought out before hand; but generally speaking it grows with the development of the garden. Nature helps the loving gardener and blends even unpropitious groupings into pleasant pictures in nine times out of ten. I have gradually come to the conclusion that such a type of garden may eventually become our national type because it is flexible and adjustable to our extremes of sun and cold.

Then too in such a garden the plants have a chance to seek out their preferred environment in that they will show by their manner of growth to and away from shade or damp just which kind of position they like best. To be more explicit: I first planted *Phlox divaricata* var. *Laphami*—dear, patient editor PLEASE leave the cap! (I know that it is an American innovation popular at the

present time to destroy all trace of the plant having a specific name in honor of a person; but as an idealist I crave the boon of having things my own way both in my garden and in what I write. Beside, as far as I know, the Vienna Code still adheres to the use of capitals in such specific names and I am so catholic in my mental processes that I see no reason to go contrary to the ruling of so august a body. When I read Mr. Bates' article on tulip species in the last issue I had to pause at each uncapitalized name to figure it all out; it was like reading a list of our national presidents and seeing their names in small letters—george washington, john adams, thomas jefferson, etc. One *may*, of course become used to anything; even a fashion of wearing our neck-wear tied at the back of our necks—but one would never like it. So again I plead for this special favor; especially as our magazine is read more and more abroad where such things have their true value.)

To return to the manner in which plants show the kind of situation and the soil which they prefer. I planted this phlox—I refuse to run the risk of the name being printed wrong—in what I thought to be exactly what it liked, a light shade and in a leaf mould soil. Here it did but indifferently well and persistently grew away from where it was planted into fuller sunshine and into a more limy soil where *Iris pumila* seedlings were perfectly at home and soon it was striving to crowd the little irises into oblivion. In spite of repeated transplantings back to where I thought it belonged around the clumps of *Ane-*

*mone japonica* the phlox persisted in growing into the irises and would not make any effort to grow in the opposite direction no matter how much I tried to lure it on. At last the truth dawned upon me and I was forced to move the irises; now the phlox forms a thick mat of stems and every spring covers the earth with a blue carpet such as it never did a yard or so further back.

The next lesson I learned was the value of shade, high shade, for the well being of alpiners in our trying climate. The Lown garden as I have said before, was in an old orchard and in no place did the sun beat down upon the plants for longer periods than three or at the most four hours at a time. In the Dobson garden there was a constantly moving shadow from the great trees across the ravine. In the van Melle garden also I found this ever-moving checker board of sun and shade for while the owner had no old trees to provide it he had planted mountain ash, crab-apples and such other small and flowering trees for the comfort of his plants. *Gentiana acaulis* which I have tried and tried in vain both in shade and in sun was growing marvelously here in that high shade where the sun only peeped at it from time to time during the day and many another rarer gentian was equally at home. Here many other plants were lusty and thriving which in my fully sun-exposed rock pile are having a hard time merely to exist. I began to make mental notes as to where I would squeeze in a small tree or two in an endeavor to make my own plants happier.

## A Book or Two

*The Modern Nursery.* By Alex Laurie and L. C. Chadwick. The Macmillan Company, New York, 1931. 494 pages, illustrated. \$5.00.

This is essentially a reference book giving a careful survey of all recent investigations related to nursery work, especially the phases related to propagation.

The preliminary chapters relate to the location, organization, and equipment of a nursery, the major part of the text to various discussions of propagation, and the closing chapters to nursery operation. The discussions are necessarily brief on account of the extent of the field covered by the text but the essentials are presented and are fortified by extensive bibliographic lists. While the book is of particular interest to the commercial nurseryman, it should be read with interest by every plantsman, including the amateur who has

never seen or appreciated all that goes into the production of the excellent plants that arrive at his door.

*The Garden Handbook.* By Mary Rutherford Jay. Harper and Brothers, New York, 1931. 280 pages, illustrated. \$3.50.

This is a very compact and entertaining handbook which gives a very brief review of the garden styles of the world, with particular comment on the elements of each style that deserve attention; a short discussion of the various specialized treatments; and a final section devoted to American adaptations. This last section, which might have brought most of interest to the inquiring reader, suffers most from the very abbreviated treatment.

There are several useful appendices of plants for various places and purposes.

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### Plant Notes From the New Jersey Pine Barrens

(Continued from page 36)

would be interesting to grow this fern having the narrowest of fronds near the equally local and rare hart's tongue fern which has the broadest undivided frond.

For a study of this region two books are of great value. "The Vegetation of the New Jersey Pine Barrens; an Ecological Investigation" by John W. Harshberger (Philadelphia, 1916), presents a great deal of interest concerning the relationships of the plants

to each other and provides an essential background for a study of the region. "The Plants of Southern New Jersey with Especial Reference to the Flora of the Pine Barrens and the Geographic Distribution of the Species" by Witmer Stone (Trenton, 1911) supplies much of the history of the exploration and discovery of the plants of the region together with a good general account of the pine barrens.

## The Gardener's Pocketbook



Clarence Lown

*Campanula garganica*

Those who cherish fond memories of that great garden in Poughkeepsie may be pleased with these photographs of *C. garganica*, *portenschlaegeana* and *tommasiniana*, made by the late Mr. Clarence Lown. Though a very successful photographer of plants, he did not, in late years, take many pictures, except of his most favored plants. Amongst those later pictures I found a good many of gentians, of the ramondias, of *Saxifraga fortunei*, but of no plant more than of *Campanula garganica*.

The garden contained many forms of it—some lighter, some clearer or more free-flowering than others. There was one called *pallida*—light blue, with shiny, dark-green foliage and another, with grayish, hairy foli-

age, called *hirsuta*. *Garganica* did well all through the garden, especially where it snuggled up to deeply embedded tufa rocks.

Of *C. tommasiniana* there were only a few clumps, which had been a long time accumulating. For it is a slow plant;—slow to establish itself (if, indeed, it does not die of indecision) and slow to increase. It is slow, even, in coming into flower. It does not bloom until late July, when it makes a pretty picture, hung all over with long, pale-blue tubes. In point of rarity, it is a greater treasure than *garganica*, but once we have one good clump of it established, we will probably continue to enthuse more naturally over stars and bells than over tubes. *Tommasiniana*, in so far



Clarence Lowen

*Campanula tommasiniana*

Clarence Lowen

*Campanula portenschlageana*

as I have seen it, has not the beauty or grace of *garganica*.

*C. raddeana* is a fine species to use in high places, where its flopping

stems, hung with large, blue, rosy-tinted bells, may be seen, hanging down from the rocks. Even the basal foliage—shiny, heart-shaped and long-





P. J. van Melle

*Campanula collina*

P. J. van Melle

*Campanula bellardi*

stalked, should be seen. *Raddeana* spreads rapidly and with great conviction, in any light soil. It wants to roam and should not be wedged into tight places. The drooping stems are up to 18 inches long. The plant forms,

outside of that, pretty patches of decorative foliage.

*C. collina* is a beautiful thing. Its foliage are mere tufts of dark green leaves, scarcely an inch high, increasing through far-reaching, underground

runners, once the plant is established. Out of these low patches, late in May, rise erect stems, up to seven or eight inches high, bearing handsome, nodding, deep-blue bells — beautifully fashioned and hung — not straight down, but a-swing. This is one of the loveliest campanulas I have grown thus far. It is in no way difficult, thriving well in any well-drained, gritty soil.

*C. bellardi*, says Farrer, "needs no praise." Nor does it require unqualified praise in gardens in these parts. Yet, to its many graces and virtues—add the quality of fickleness. It is at once the loveliest and the most exasperating of the little campanulas. It will flourish like a little weed in the spring, only to wear itself out in flowering, in July. It has a way of going off suddenly. One should, therefore, always have plenty of *bellardi* in the garden, so that always some of it can be counted on to survive. I find it best to dig up certain patches I want surely to save, after they have finished flowering, and to transplant the little runners into fresh soil.

*C. pulloides* intrudes upon the garden no more than a tight little sod of basal foliage, half-an-inch high, which increases lustily, until, in June, it sends up somewhat wiry, six-inch stems, topped with solitary, violet-blue, silky, wide bells that nod of their own weight and dangle on the breeze like poppies. *Pulloides* is a perfectly good-natured campanula, easy to grow, sure to flower, and permanent.

*C. stansfieldi*, as photographed in Mr. Lown's garden, differs somewhat from Farrer's description. It has much of the qualities of *tommasiniana*. It is slow to increase, has long leaves and makes clumps as tight as

those of *tommasiniana*. The foliage of this plant, in the early growing stages, is more or less yellow-tinted, like some *aurea* variety. It is a very fine campanula, with wide bells, like glorified Carpatian Bells. It flowered this year about July 1.

P. J. VAN MELLE,  
Poughkeepsie, N. Y.

*Rhododendron atlanticum* Rehder.  
(See page 55.)

A place can be found in many gardens for a native azalea of dwarf habit with fragrant, white flushed pink flowers with a blooming period between *Rhododendron nudiflorum* and *Rhododendron viscosum*. It was first described in 1917 by Ashe and named *Azalea atlantica*. The photograph was taken June 11, 1931 at Stewartstown, Pennsylvania near the nursery of Mr. Joseph Gable, who has introduced the plant into the nursery trade. Some indication of its natural habitat can be seen in the photograph. This plant grew on the edge of an oak thicket and seems dwarfed by the ostrich fern behind it. The atlantic azalea is stoloniferous and in open, damp fields makes large clumps of plants about two feet high. Plants in the woods grow up to four feet.

There are variations in the flowers and in the leaves. The flowers are flushed pink or purple; mature flowers usually become white. The leaves may be bluish green or a normal green. There is not apparent any correlation between coloring of flowers and the color of the leaves.

The range of *Rhododendron atlanticum* as stated by Rehder is from Delaware to South Carolina. In its southern range it is described by W. C. Coker as one of the most conspicuous flowers of the damp flat woods of the low country, often cov-



Joseph Gable

*Rhododendron atlanticum*

ering acres under old field or long leaf pine and scenting the air for a long distance with a fragrance that is far more pleasant than the much less obvious odor of *Azalea nudiflora*. Its blooming season in that region is in April, the flowers appearing before the leaves or simultaneous with them. However, in its northern range it blossoms in June and that would be its blooming season in northern gardens.

A natural hybrid between *Rhododendron atlanticum* and *Rhododendron nudiflorum* was discovered by Mr. Gable and introduced to the nursery trade as *Azalea pennsylvanica*.

BERNARD HARKNESS.

For those of us who live in a hot, dry climate, I feel that I cannot too highly recommend the new dianthus, Sweet Wivelsfield. A great deal has been written about this valuable new perennial, but I wish to add my endorsement of its good qualities. For me it has proven that it is entitled to all the good things that have been said about it. It seems to be absolutely unaffected by any kind of weather.

Another perennial that seems to be proof against weather, particularly heat and drought is one of the blue sages, *Salvia pitcheri*, or, according to "Standardized Plant Names," more properly "*Salvia azurea grandiflora*." However, it is usually listed by

dealers as "*fitcheri*." I do not know how recent an introduction this is but I have not found it in catalogues until the last few years. It is well worth growing for the color of its blossoms, if nothing else, which are a most heavenly blue. It is a late bloomer, commencing some time in August and continuing until frost. At this writing (October 23) after a light frost, mine is still a mass of bloom. The individual flower is like *S. azurea*, but the color is many shades deeper.

ISABEL B. BUSBEE.

Raleigh, N. C.

It is interesting to run across an example of how plants are able to adapt themselves to conditions totally different from those of their native habit. As we know the bald Cypress, *Taxodium distichum*, is found only in deep swamps and on wet stream banks and bottom lands of the costal plains of the South Atlantic States and the Mississippi Valley region. Here it develops what is known as "knees," a broad fluted or buttressed base, an enlargement of the trunk under and at the water's edge. It is the common belief that the tree breathes through these knees for the benefit of its submerged roots, but there is no scientific proof of this. Despite the fact that this tree is a native of the lowlands, transplanted to dryer soil, cooler climate and higher altitude, it flourishes and develops into a form quite different from that which it assumes in the swamp lands.

Up in the mountains of North Carolina at an altitude of thirty six hundred feet, one of these trees was planted many years ago. It has grown slowly and is now some 30 to 40 feet high, its lower branches

sweeping the ground with a spread of about 20 feet, its trunk straight and tapering with no sign of a knee and the growth of the whole tree being that of an inverted cone. It is a wonderfully beautiful tree and looks as much at home as though it were surrounded by the dark waters of a Cypress swamp. The Cypress is one of the few conifers that is deciduous.

ISABEL B. BUSBEE.

Raleigh, N. C.

*Narcissus*, Dawson City. (See page 57.)

Among the hosts of yellow trumpet daffodils that delight the spring there are few sorts that combine more happily the characteristics that make a good garden plant with those that distinguish a good exhibition flower. The subject of this note, originated by Van Tubergen about 1922, is probably one of the flowers of the future for it has the most robust habit and produces its flowers freely enough to suit any garden lover. In addition they show a perfection and symmetry of form that will delight him even more when he chooses his flowers for competition in the local show. The head is carried well up, the perianth sits at a fine angle with the trumpet, the segments are overlapping and of fine form and texture and the color is clear and pure, not so deep as in the familiar King Alfred but deeper than in the more familiar Emperor.

The breeding of the variety has not been reported but apparently if King Alfred is one of the parents, the other must have been as potent, for this is not one of the interminable series that are slight variants from that sort. Apparently it is not derived from Van Waveren's Giant either for its perianth is of a good self yellow color that does not fade



*Lilian A. Guernsey*

[See page 56]

*Narcissus, Dawson City*

to the edges as do so many of that variety's progeny.

Washington, D. C.

*Lilium medeoloides* Gray. (See page 59.)

Hanson's lily has been a familiar species in our gardens for many years delighting us every year with its robust stalks, its lush whorls of heavy foliage, the fat melon-shaped flower buds and the reflexing flowers of deep buff yellow with a light flecking of darker color. That it grows well in open woodlands where it is not too dry, has added to its value to gardens. On the other hand, the nearly related species, *L. medeoloides*, the wheel lily, has not been so much grown or talked about though in many ways it is quite as personable a lily as the last.

Its name comes from the beautifully whorled arrangement of the leaves lower down on the stem. These are much narrower than those of Hanson's lily and more pointed at the tip, as well as being much more numerous in each whorl. The flower buds are less melon-shaped but otherwise of the same color as Hanson's lily and the open flower shows much the same characteristics save that the color, in the plants grown here is much clearer and lighter in hue.

Planted on a gentle slope in heavy soil that had been lightened with plentiful supplies of leaf soil and sand, this species has persisted much longer than a group of Hanson's lily nearby, that seems to resent the sunny exposure and drier root run. So far it has not shown much indication of natural increase from young bulbs forming along the base of the flower stalk and has seeded rather sparingly. Probably in a less sunny situation and with a more moist loca-

tion, it would rival its better known relative.

There is every reason to believe that the species is entirely hardy since it comes from the northern and western parts of Korea, a land that has furnished so many excellent plants for our American gardens.

Washington, D. C.

*Iris sindpers*. (See page 61.)

Not many iris of the Juno section find their way into American gardens though of late one sees more frequent mention of the late flowering and rather robust *Iris bucharica* and occasional notes of *Iris persica* one of the parents of the present hybrid. In THE NATIONAL HORTICULTURAL MAGAZINE for July, 1928, one may see how close to the ground this species flowers and can estimate the influence of the taller growing *Iris sindjarensis* the other parent of the present hybrid. This latter parent grows to a height of about 10 inches and flowers somewhat later than *Iris persica* though much earlier than one expects to find such plants. Its color is quite different from that of the lovely bluish-sea-green *persica* tending more to slaty lilac and dull violet. Its growth is taller and more immediate for the flowers are borne in the axils of the leaves on clearly developed stalks, whereas in *persica* the flowers seem to rise from the very soil between the barely visible leaf tips. The hybrid resembles *persica* rather than *sindjarensis* in coloring, but the latter parent in growth and habit as can be seen clearly in the illustration, which shows a well established clump.

Now that the species of tulips are receiving such attention from the ordinary gardener, it is to be hoped that some will also pay proper respect to the dwarf iris of the Juno sec-



Lilian A. Guernsey

[See page 58]

The Wheel Lily—*Lilium medeoloides*

tion and to some of the species crocus, all of which may like to inhabit the same sunny and well drained border. Indeed if the gardener be really cosmopolitan, he might even add our native calochortus to the collection and find another beauty even after the crocus and iris, and most of the tulips have gone by.

Washington, D. C.

*Allium reticulatum* Fraser. (See page 63.)

There is probably some confusion in the garden sources of this charming native onion for two entirely different plants have come to the writer under this name and a third has come this last fall which may be the only correct one if one may judge by the very scanty texts given in the floras.

The subject of the present note, illustrated in the photograph came from a collector in North Dakota which is not within the range of the species as reported but since no intimation was given that the bulbs were gathered locally, that may not furnish a clue. At any rate from the gardener's point of view it is an excellent small bulb that produces a rather scanty foliage in early spring from which rise the ten to fourteen inch stalks with their small heads of flowers, pearly white in bud, deepening to rose as they open and wither. Seed is usually produced but in the years that the plant has lived in this garden there has been no sign of any bulbils nor of underground runners.

If this species did not flower earlier than *A. stellatum* another species from the same general region, it would not be of importance, for that sort is much showier and forms a larger head of deeper colored flowers. It comes, however, in late May when its nodding heads add to

the gayety of the upper parts of the rock garden, where it enjoys ordinary rich soil in almost full sunlight. One's only regret is that there is no Rocky Mountain nursery from which one might order a hundred bulbs to make a decent colony.

Washington, D. C.

*Bryophyllum tubiflorum* Harv. (See page 65.)

This most interesting succulent was brought in from Madagascar by Dr. Charles Swingle in 1928 together with other succulents from the region and was first distributed under the name *Kalanchoe tubiflora*.

Although many succulents are known for their curious and strange appearance, this species can hold its own among older sorts with its erect stems, clothed with narrow cylindrical leaves of strange pinkish greens dotted over with spots and stripes of dull brown and bearing at their tips tiny buds that develop into miniature plants that drop off when they are of a size and fill one's greenhouse benches and walks with myriads of new plants. Meantime the plant is lengthening its stalk and by January is ready for flowering.

Plants vary somewhat from seed but the color of the corolla is usually a warm pinkish orange, contrasting strongly with the calyx which is rather lighter in hue and tinted with purple. The flowers develop slowly and last rather well, even when cut from the plant which leads one to believe that this plant would be even more decorative for cut flower use than the familiar *Bryophyllum* that is sent up from Florida each winter.

Once possessed, nothing short of freezing will destroy the plant. New plants are constantly springing up and the old plants may be kept over





Donald G. Merritt

[See page 58]

*Iris sindpers*

from season to season, but here at least, they are much less vigorous the second season and break less well from the crown of the old plant than some of the other species.

Washington, D. C.

*Aronia atropurpurea* Brit. (See page 69.)

In the last issue was figured the common red-fruited aronia which makes a striking contrast to the dark fruited sort of the present figure. Unlike the last this sort makes a much less compact bush of lesser height and should be used rather where one wants a thicket like shrubbery than where one wishes a specimen bush. The leaves and flowers are not dissimilar in general appearance and ripening, showing much the same sort of autumn coloration but the flowers are rather larger and more interesting near by, though scarcely more showy at a distance since they are the same ivory white color and have the same beautifully arranged circle of stamens tipped with darker anthers. There is also a rather faint but pleasant scent.

Washington, D. C.

*Viburnum dilatatum* Thunb. (See page 71.)

Of all the oriental snowballs, this is perhaps the best for its fruits in autumn, for they are abundantly produced and are of such a brilliant and shining scarlet that they can be seen from far. Like some of the other viburnums that have splendid fruit, this species has rather indifferent flowers. They are the usual dull cream color and have the too common fault of a rather sickish odor. For this reason, the plant should never be located too near to dwellings or garden houses.

The plant is deciduous, very hardy and vigorous in its growth. It is propagated slowly by seed, by division and by cuttings of the one year wood in the usual fashion.

The illustration shows the habit of the fruiting shoot but does not properly show the brilliance of the color of the berries, which seem lighter in color value than they should, due in part to the fact that the specimens from which the illustration was made, had leaves strongly tinted with the bronze and russet of autumn providing an even greater contrast than is usual.

Washington, D. C.

*Pyracantha crenulata kansuensis* Rehd. (See page 73.)

The firethorns have been coming into their own in these later years although Laland's form of the European species has been known and loved for many years in this country where it was hardy and abroad. The other species are part of the treasure trove that has come to us from the southern parts of China, brought back by various plant explorers. While most of these Chinese species have been properly valued abroad, we have been a little slow to discover them, except on the Pacific Coast where they grow to perfection.

The northern limits of their hardiness have not been absolutely determined and probably will not be for some years. Here all are hardy in so far as tried and each has its particular merit with no special faults save in the case of *P. angustifolia* that seems singularly susceptible to Fire Blight with the result that it rarely keeps a decent looking bush. This is to be regretted since it is a lovely species with narrow leaves and rather orange-yellow colored fruits.



*Lilian A. Guernsey*

[See page 60]

*Wild Onion, Allium reticulatum*

Its place may be taken, however, by some of the yellow fruited forms of *rogersiana* that are less difficult.

Like all its fellows, this species makes a more or less irregular bush with stiff erect shoots that reach a height of eight or ten feet at maturity from which branch the spiny lateral twigs that bear the myriad fruits. As compared to Laland's firethorn, the fruits of this species are small but they are so freely produced and of such a brilliant and polished scarlet that one does not think of their size. From the gardener's point of view, it most resembles *P. crenulata* but is a rather handsomer bush than that.

Like all its fellows also, it is a little slow in forming a good bush and in coming into fruit. The first years may see only a few straggling irregular shoots but as the root system increases, strong shoots rise rapidly to their full height and once matured settle down to the business of an annual crop of berries.

Washington, D. C.

*Cotoneaster salicifolia floccosa.* (See page 75.)

There are evergreen cotoneasters and deciduous cotoneasters and in between a great horde of species that are evergreen in the South and shed their leaves conveniently as they go north, much to the disgust of their owners who had hoped for good evergreens from these beautifully berried shrubs. As to what the northern limit of evergreenness for this species may be, one can only guess. Unlike the semi-evergreen forms that go into the fall with a fine coat of leaves only to lose them by March, this representative of the family keeps its leaves into the following year when new ones are added to the short spurs. During the coldest parts of

winter, the leaves assume a deep purplish bronze color that adds to the beauty of the plant and makes a pleasant contrast with the shining red berries.

The flowers though profuse enough do not make a great show since they are of the typical dull white that characterizes so many rosaceous shrubs, but the bush, wide spreading in age, with a plantiful mass of strong canes that ascend in graceful curves bearing flexible, curving lateral shoots is reason enough for its use, even if it did not have the excellent evergreen foliage and the splendid crimson berries.

The species is variable, more in the shape and character of the leaves than in other ways. All of the varieties are good and should be propagated by cuttings rather than by seeds since the latter will produce some variation and an occasional plant in which the fruits are inferior in both size and color. The most nearly related species, commonly grown is *C. henryana* which is a much coarser plant and one that often forms a rather straggling open bush or small tree which should be used only in the back of the border where it will overtop its fellows.

Washington, D. C.

*Prunus serrulata* Lindl. Oriental cherry. Variety Shogetsu.

Among the great number of Japanese cherry varieties which fall within the group of "double-flowered pink" there is one which distinguishes itself clearly by two characteristics. In the exquisite grace of its long-stemmed loose flower clusters and the striking pale greenish yellow of the young foliage and leaf scales Shogetsu is as unique and poetic as its



*Lilian A. Guernsey*

[See page 60]

*Bryophyllum tubiflorum*

name which means literally, "moon hanging low by a pine tree."

While the tree generally is less than 12 feet high, the rather flat, wide-spreading crown often exceeds in width the height of the tree. The deep-pink flower buds are truncate, as are those of all of the more double cherries, and the green or pale brownish sepals are coarsely serrate or at times nearly entire. Although the color of the buds is decidedly deep pink, the fully opened flowers are pure white in the center with faintly pinkish margins. The large double, long-stemmed flowers, up to 2 inches across with about 30 petals, hang in loose clusters of three to six, making a pleasing variation from the more compact clusters of many of the other Japanese cherries. From the center of most of the flowers protrudes a green leafy pistil. It is interesting to note that the smaller flowers bear a strong resemblance to English daisies.

Shogetsu, in spite of its name, is a rather late bloomer as compared with other flowering cherries. It is as hardy as any of the double-flowered forms but is not yet very well known in this country. Only two or three Pacific Coast nurseries and a like number in the East include Shogetsu in their catalogs.

If the low-growing habit of this variety does not lend itself satisfactorily to a given planting scheme, it is possible that careful pruning and staking of the young tree might induce a higher trunk, so that one could walk beneath the flower-laden branches in spring. Since this variety blooms about the middle of the narcissus season, it might well be planted in the perennial garden, with the yellow and white of the daffodils blend-

ing nicely with the blush pink of the cherry.

PAUL RUSSELL.

Washington, D. C.

Dec. 24, 1931.

SIR:

Our magazine is so fine, and constantly improving not only in subject matter but in illustrations, fine paper and general excellence that I feel I must tell you and perhaps encourage by my appreciation.

I enjoy all except the technical articles which are a little more than my poor brain can quite absorb.

The letters are just what most of us need. We had some really helpful ones about a year ago. Keep that Virginia lady doing her stunt, please.

In token of my appreciation, I am enclosing one hundred dollars for a Life Membership. Hoping our Horticultural flag may continue to wave "proudly and valiantly," I am,

Cordially yours,

(Signed) EMMA BOND SMITH.

Rock Garden Notes [See photographs, page 37].

It is sometimes desirable to use coarser herbs at the base of a rock garden planting and for such a spot, *Inula ensifolia* is not a bad choice, producing large clumps of sword-shaped leaves and flowering stems up to eighteen inches, covered with golden flowers set off by their dark centers.

*Globularia cordifolia* is not the tiniest of its genus but makes an excellent evergreen carpet that is dotted over in early summer with the small heads of light gray-blue flowers. It likes a cool, rocky root run in a soil rich in humus.

*Anthemis aizoon* is a charming camomile forming drooping mats of gray-green aromatic foliage over which are produced loose heads of white flowers with creamy yellow centers.

In the fine high alpine turf of all the alps of the world you may find *Aster alpinus* with its cushions of narrow leaves and erect stems bearing solitary flowers of various hues of lilac and lavender.

*Wahlenbergia bosnaicus* hides behind this charming name a lovely campanula-like plant that is well illustrated in the photograph with its slender prostrate shoots and crowded heads of lavender flowers.

Like and yet unlike the old fashioned



*E. L. Crandall*

*Japanese Cherry, Shogetsu*  
*(2/3 natural size)*

[See page 64]

valerian or garden heliotrope is this species, *Valeriana tripteris*, probably not one of the elect of the rock garden and yet not to be scorned for its low masses of white flowers.

There are many forms of *Alyssum montanum* and the present picture was made from a clump known as *A. transylvanicum*. Like the rest of the yellow cresses it is a plant that presents no difficulties to the rock gardener.

Another round-the-world, high alpine is *Dryas octapetala*, which will spread out its carpets of shrubby stems covered with thick and decorative leaves and silver white flowers in season, while its roots run deep into a soil composed of broken stone and peat.

One of the special beauties of the rock garden in late June is *Moltkia petraea*, a relative of the lithospermums that is moderately hardy if kept well-drained in winter. It forms low spreading bushes up to eighteen inches high covered with coarse somewhat boragelike leaves and terminal clusters of pure blue flowers.

Suggesting in a way the alyssums, the aethionemas belong in the same group but have for the most part blue-green foliage, a more shrubby growth and fine heads of white to rose pink flowers. This species, *A. grandiflora*, much confused in cultivation with *A. cordifolia* and its hybrids, is no exception to the family and prefers a limey soil and a sunny spot.

## The Illusive Ivy

It is now over a year and a half since the advisability of publishing in this magazine a series of illustrated articles on the genus *Hedera* was first discussed with the editor. Having collected ivies for some years and having a dozen or so distinct forms the writer thought he had a comparatively easy task before him. The plan was to give a drawing of the leaf and of the growth with a description of each of the species and their varieties; at least such of those which could be obtained in this country.

As some of my ivies had been obtained from old gardens and without names they had been checked with descriptions given in the *Cyclopedia of American Horticulture* and with *Bean's Trees and Shrubs Hardy in the British Isles* and I felt that they were correctly named. I had already found that the nomenclature was rather mixed as types listed in one nursery differed vastly from those sent out under the same name by another. Also that the ivy is a most illusive plant in that it sports so much and yet rooted cuttings of the sports do not always prove constant; and that the soil and the moisture obtainable by the roots affect cuttings

from the same plant to so great an extent that it is sometimes hard to believe they are from the same variety.

If it were possible to import a full collection from some reliable English nursery the difficulty of nomenclature could be straightened out. The next best plan seemed to appeal to botanic gardens but little help was gained from this source because none that I got in touch with had collections of ivies. The next plan was to visit old and established nurseries in my neighborhood. Working along this line I found that W. A. Manda had had an imported collection of some thirty odd forms which he had got before the plant embargo closed down. But, alas, the war had intervened and during that period of scarcity of trained labor, names had been lost and the stock of many varieties had died or been sold. Should anyone who reads this happen to have been fortunate enough to have got ivy plants from this source will he or she kindly write me and enclose leaves of same.

While talking with the Messrs. Robert and Albert Manda I learned that Shirley Hibberd's book on the Ivy which was written in 1872 was still obtainable. At this point I should





Lilian A. Guernsey

*Aronia atropurpurea*

[See page 62]

like to acknowledge the great help in striving to place the various varieties, which I have received from these two ardent horticulturalists and also that received from the editor who kindly sent me named sketches of the leaves of those specimens which were growing at Kew while he was in England last spring.

When the Hibberd book finally arrived I began to realize that the task was going to be far greater than I had any idea it would be. Not only does this book give drawings which throw my former nomenclature of many of the sub-species into the wildest confusion but the drawings of some of the commoner forms differ vastly from what we know under the same name here in America. Amid such chaos it has been thought advisable to appeal to the members of the society for help; and to gradually publish articles as the nomenclature becomes unraveled. If members who have pronounced forms, either under name or without, will send me leaves of same with the understanding that should such be different enough to study a cutting will be requested, I should greatly appreciate this help.

It may be well to record some observations upon the growth of ivies before going into the questions which the drawing presents. The first thing I found out about nature of the ivy was the very great difference that the amount of moisture in the soil had upon it; causing so great an increase in the size of the leaf and in the distance between nodes as to completely change the appearance of the plant. Years ago three cuttings were got from a very small leaved, dark green variety of which I am still uncertain as to the name; after they were rooted one was planted in almost full shade where the ground was only compara-

tively moist, the second was planted below a low stone edging in almost full sun but where water stood for some time after every rain and the third was grown on in a pot where it was given regular and copious watering. The last two grew luxuriously until they approached the variety *gracilis* both in leaf and inter-node while the first, that in the drier soil, has still retained its small leaf and its rather short inter-node. It has slowly climbed up an old grape arbor post until now that it has reached the top and is beginning to send out stems which search for more support, I hope that I may be able to obtain it in an arborescent form. Up until the last year its stems have hugged tight to the square post and as the leaves lie flat it is a pretty sight, a square column of dark and glistening green; but for the last year the new growth has been larger, either because its roots are getting into a soil that has more humus in it or because it is approaching the "tree-form" for I have noticed that when an ivy draws near to the time of arborescence the foliage often doubles and even triples its size before the stems grow woody and the leaves change shape.

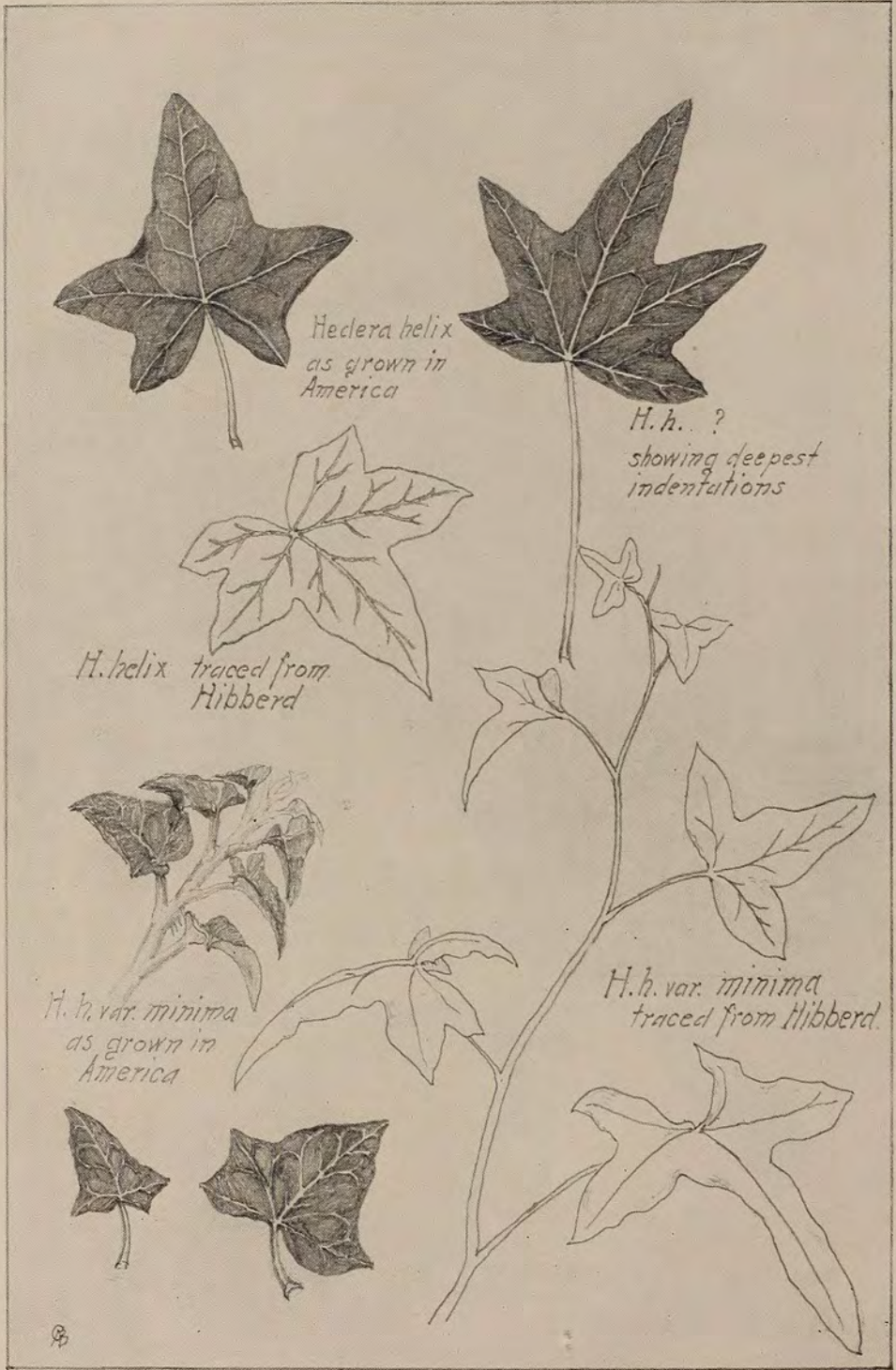
This effect of increased moisture upon the plant has been noticed time and again. Most notably this last winter when a year old plant of what I thought to be *H. h.* var. *scutifolia*, of Hibberd, upon being given excess water turned out to be what is known in American trade as *H. h.* var. *cordata*. The original plant from which my "*scutifolia*" was a cutting was growing in a seven inch pot with stems which hung down for over a yard; the leaves were less than an inch long and the internodes were extremely short; but I noticed that



Lilian A. Guernsey

*Viburnum dilatatum*

[See page 62]





Lilian A. Guernsey

[See page 62]

*Kansu Firethorn, Pyracantha crenulata kansuensis*

the earth was quite dry and was told that it was not heavily watered.

The next thing that I have learned is that all ivies will stand far more sun than is usually given them and especially when a stone is over their root or gives them some screen from the south. The rock garden treasures, *conglomerata* and *minima* — as we know it—are both thriving in my sun baked rock garden but growing more slowly than in others where they have much more shade. Several other varieties which through the death of intervening trees get full sun are doing well but growing more slowly. When one remembers that the sun of the southern part of New Jersey is “most mighty hot” and that in all cases it was a young plant which was subjected to it, it will not seem illogical to claim that although the ivy is a shade loving plant it is fully able to thrive in full sun.

From these two observations the conclusion was reached that small leaved vining sorts might retain their tiny foliage and grow into gnarled quaint plants with woody stems, much on the order of the stem growth of *conglomerata*, if planted in sunny, well drained situations. While it is too early to feel that this attempt has met with success the growth of one season shows that such will probably be the result. I have several yearlings which I moved to a dry bank after a fatter soil had started them to grow a larger foliage and in all cases the plants have gone back to the better leafage; whether the stems will grow woody and congested only the future can tell.

As to the soil for the ivy I have come to the conclusion that it does not demand a lime impregnated one as Shirley Hibberd thought it did nor one rich in humus as most people provide

for it. Having growing space here in the northern part of New Jersey where I work and a garden in the sandy neutral soil of the southern part of the state I can observe both a heavy and a light soil's reaction on plants and can see no difference. The main factor being the supply of water, which can be regulated.

I have inferred before this that my troubles began when I got the book by Hibberd. In it he gives a drawing of *Hedera helix* which I have traced to show how it differs in shape of leaf from what we know as the English Ivy and a glance at this drawing will show that the five lobes of his drawing are much more sharply indented than in any English Ivy we have over here. The drawing above his example shows a typical leaf of what I know as this plant and the drawing to the right shows the most sharply cut leaf I could find of what I am reasonably sure is the variety *digitata* although it differs from Hibberd's picture, it corresponds with his description; I give this form here to show that even in this form the lobes are not cut as in the leaf he shows. While I have shown an extremely deep cut leaf, most of those we see have a very obtuse angle between the lobes and the points of the lobes themselves are very nearly right angles in outline. For a while I thought that we were growing a different plant entirely; then I recalled that I had an impression of noticing all the ivies in France and England which I saw during the war were similar to the one shown. That was some years ago and I was not as much interested in the genus as I now am. I have asked several horticulturalists of English training about this variation and while assuring me that we have the true English Ivy upon being shown the



Lilian A. Guernsey

*Cotoneaster salicifolia floccosa*

[See page 64]

picture have all immediately declared it also to be true. When their attention was called to the difference they have all been silent for a moment and then made the same remark, "You know it varies a lot." If any one can supply a leaf which resembles the drawing from Hibberd I should like to see it. In the meantime I am wondering if the ivy in adapting itself to a drier atmosphere than that of showery England has not fallen back upon an increased leaf area; if this be true then most of the differences between the drawings in Hibberd and the leaves of what I have under the same name are explained.

But not so the case of *H. h.* var. *minima*. The drawings at the lower left of the sheet show this plant, natural size, as we know it; the leaves, are a dark, rich, glossy green, almost the shade of holly leaves, and the veins are rather a pale yellow green not grey or white as in many of the other ivies. Bean's description of it answers exactly:—"var. *minima*.—The smallest of all ivies. Leaves closely set on the shoot;  $\frac{1}{2}$  to 1 inch across, three lobed, the lobes triangular." Very seldom have I seen many five lobed leaves such as one of those I show. The subject of *Hedera* in covered in Bailey's Cyclopaedia by Alfred Rehder and in it he describes this form:—"var. *minima*, Hibberd (var. *donerailensis*, Hort.). Lvs. small, 3-lobed or pedately 5-lobed, with short and spreading basal lobes, dull purplish brown in winter." Very close to what we are after but there is no mention made of the short inter-nodes and I have yet to see the leaves "purplish brown in winter." But you notice that he gives Hibberd the credit of having given this form the varietal name and what Hibberd so called is shown to the

right in the drawing. Now let us turn to Hibberd and read what he has to say:—" *Minima*, smallest leaved ivy (syn. *Taurica*, *Donerailense*, *Pennsylvanica*.)—A pretty and curious little ivy, a counterpart in form of *pedata*, but the leaves attain only half the size of that variety, are less distinctly veined, and in winter assume a deep, dull purplish brown colour. Though curious and pretty, it is scarcely to be valued because of its strange winter colour—" and then refers one to the illustration which I have traced so as to render it exactly. You see where Rehder got the "purplish brown in winter." The variety *pedata* referred to above is a form with a very long and narrow central lobe very much like the bottom leaf in the tracing. Nicholson in his old Dictionary of Gardening lists the variety "*donerailensis*" and gives quite a delightful little cut of it which looks like the Hibberd plant and I find that among the sketches our editor sent me is one under this name with the note:—"Most variable; weak grower; as lobes are reduced in number they become wider. He gives the length of the longest leaf as being five inches. Now this certainly cannot be *minima* yet Rehder gives Hibberd credit for naming it. Two questions arise in my mind; is it merely a question of a wrong name so that we will have to call *minima* something else, I hope not for the name is most fitting, or is what we now know as *minima* an arborescent form of what Hibberd called *minima* and is still listed under its older name of *donerailensis* in the Kew gardens. This is another question upon which I hope to receive some help from some reader of this paper.

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