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The American Horticultural Society

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March 1, 1931

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The National Horticultural Magazine

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From Mrs. Francis King's Garden

Annuals for the Rock Garden

By ELSE M. FRYE

In this day of incipient rock gardens, it may not be amiss to discover the legitimate and artful use of annuals therein. In the early stages a rock garden usually has a very bleak and discouraging, as well as raw, aspect to its owner, especially if the builder and owner be one. The rocks themselves, even though placed in a correct manner, look unquiet, as if they knew not whether they would remain or depart. Time, bringing its annual deposition of leaf mold about their bases and spores of moss and lichens and even ferns to adorn their cracks and crannies, is a necessity which we can not hasten.

One of the allurements of rock gardening, which keeps us forever under its spell, is that it is an evolution and expansion which may give us personal contact with the farthest corners of the earth. It is not the part of wisdom to hurriedly fill every little space with no matter what coarse and weedy plant that is immediately available. Some parts might better be given over, for the time being, to annuals of a size and delicacy which makes them suitable subjects, the while the artist stands off and contemplates so that permanent beauty may be established.

No rock garden can give us joy to its greatest capacity unless here and there in little clumps and drifts, we see in earliest spring the blossoming of small bulbs, the wild species of other lands and of our own. Far rather than penetrate the turf made by so-called "cover-plants," which admit but little oxygen to the bulb and growing sprout, would these same, small treasures be associated with some lovely annual whose roots would not form a smothering web and which would still make a place of loveliness where otherwise would be emptiness.

Spring, very early if we have planned discriminatingly, and inevitably later, is the enchanted time in rock gardens. By July and August more and more it takes on the melancholy of a time gone by. Much liveliness and gladness may be imbued by the use of the gay though evanescent annuals.

First of all, none should be admitted which is out of keeping or scale in the garden itself—four to twelve inches in the small rock garden and not more than twenty inches in the large one. The rocks should form a natural background and support for the plants. Therefore the plant should not top its given location. If near by there is the more stable green of perennial plant or evergreen shrub so much the better. Annuals do produce a riot of color which we could at times wish were somewhat subdued by neutral green, more than the annuals themselves produce.

The annuals which are here described are of such nice dimensions and composition that they can not but delight the most fastidious and conservative rock gardener:

Asperula orientalis (azureus) gives us of its best in May and June. It is less than a foot high with four-angled stems and many very narrow, bristly leaves, arranged in whorls of eight, the whole surmounted by a perfect explosion of tiny, four-petaled, mauve flowers, so numerous that they completely obscure the foliage beneath. The seeds may be sown in the open in moist soil with half shade for their most beautiful development.

Collinsia grandiflora is one of the North American species from the Pacific coast. In its native country it covers the hillsides of California as well as the shores of the northern islands with a deep, coerulean carpet from April well into May. The leaves

are thick with somewhat of red in them. The lower ones are roundish and stalked and the upper ones are oblong and sessile, both slightly toothed. It is in the axils of these upper leaves that the flowers occur, in groups of three to nine. It is a close relation to the pentstemons, as may readily be seen in the bilabiate form of the corolla and the occurrence of a fifth rudimentary stamen. The lower lip is of deep blue color and the upper may be of the same hue or a lighter one. The seeds should be sown thickly in fall or early spring and the height of the plant may be governed by the condition of the soil. It grows to but four inches in a dry and sunny location but attains a height of twelve inches in moist soil and some shade.

Dimorphothea aurantiaca is a perennial in its homeland, South Africa, but in the greater part of the United States it must be treated as an annual. It is a comparatively late introduction, appearing in Europe in 1908. It is about twelve inches tall, very smooth, with stiffish branches and thick oblong leaves. The flower heads are large, two inches across, with curving rays of a satiny texture. The flowers occur in many colors, passing from white to purplish white, yellow, orange, pink, and salmon and the backs of the rays are beautifully shaded. The centers are a glorious purple-black color. These offer the most continuous show in bright sun, folding their petals together in the shade as at night. The seeds should be started in cold-frames.

Erythraea venusta (*Centaurium centaurium*), belonging to the Gentian family, is also found scattered on the hills of California and northward throughout Oregon and Washington. It is six to ten inches tall. The stems are erect, four-angled and branched at the top. The leaves are arranged opposite each other. They are entire and without stems, oval, blunt at the apex and about one-half inch long. The calyx lobes are narrow and keeled on the back. The corolla is salver-shaped with four to five lobes, each

less than one-half inch long. It is a bright, ardent pink, as its name, *erythraea*, signifies, and makes a wonderful splash of color through June and July. The seeds should be planted thickly and in half shade, for if in the glare of too much sun, the herbage takes on more of yellow in the green, than is beautiful.

Felicia bergeriana is a small composite coming to us from Africa. It is six to eight inches tall with alternate leaves of rather brittle texture. The flowers, which are solitary on their stems, are of an astonishingly intense blue, almost like the water in some hot springs or in the deep lakes of old volcanic craters. The centers are of soft, velvety yellow. It begins to bloom in midsummer and continues into fall. It is altogether so bewitching that it is a happy effect if here and there throughout the rock garden, plants of it were spattered as if they were a precious thread in the woof of it. That every one may be saved, the seeds should be planted in a flat and when the five to six leaves appear, the plants may be set out.

Gazania longiscapa, named after Theodore of Gaza, famed as the translator of Aristotle, comes to us from the Cape of Good Hope. It is six to nine inches tall, procumbent rather than erect. The leaves, which are crowded at the base of the plant and scattered along the stem, are densely and exquisitely wooly so that the foliage has a silver sheen, most accentuated on the under side. The flower-heads, which measure oftener three inches across than two, range in color from yellow through orange and golden brown with dark centers. It is a glorious thing in its proper place. Being so large and bold in design, it may not be crammed into too small a space.

Ionopsidium acaule, the violet cress, grows in little, herbaceous, mound-like bushlets, one to four inches tall. The leaves are oval, heart-shaped at the base, with long stems that send the leaves to the outside of the plant. The plant bears innumerable, four-

petaled, pale lilac flowers, each one-half inch across, and of a very precise pattern. They have a soft and eery quality like that of pallid moonlight. It likes a rich and moist garden soil so that it is a happy solution to the barrenness that follows the blossoming of early Gentians, Cypripediums and such. The seeds are very fertile and need only to be dropped upon the open soil. It is a wildling from the Mediterranean shores.

Layia elegans, tidy-tips, is another annual from California. It was named after Thomas Lay, the naturalist who accompanied the Beechey voyage. The flower-heads appear in spring and early summer and may be white or yellow. They are one-and-a-half inches across, with ten to twelve rays, each one three-toothed and white-tipped. The upper leaves are entire but the lower are pinnately toothed and all are somewhat hairy.

Limnanthes douglasi, meadow-foam or foam-flower, is found throughout Oregon and California and always near water. Its leaves form a rosette of bright green and are divided into many, sharply lobed leaflets, the whole having a lush, curled and crimped appearance which alone is attractive. The flowers are solitary, are borne on short stems and are a little more than an inch across. They are creamy white with large, yellow centers, delicately veined and notched about the edge. It begins to bloom in May and continues for six weeks. Nothing could be lovelier about a little pool, edging a trickle of water or at the base of a damp wall. It self-sows itself most generously and once gained is never lost—a happy chance in this case.

Linaria alpina from the Alps is listed as a perennial but frequently it acts otherwise. In my garden it bursts from seed to maturity in a few weeks, blooms profusely and after dropping many seeds departs this life. It is a small thing of less than eight inches with weak and flopping stems. The leaves are narrow, almost terete, of a soft, blue-green color and are

usually in whorls about the stem. The tiny snap-dragon-like flowers are in clusters at the end of the branches. They are a soft mauve-purple with a large, bright orange spot upon the lower lip. For all its subdued coloring, it is a gay thing. The seeds may be sown in the open ground.

Malcomia maritima, Virginian stock, named after William Malcolm, an English horticulturist of the Eighteenth Century, is a native of the south of Europe. It is at its sweetest when not more than six to twelve inches tall and can be kept so by sowing in a dry and sunny spot. The stems are erect and branching. The leaves are elliptic, entire, narrowed at the base, with many harsh, short, two-parted hairs which makes the herbage rough and irritating to the touch. The flowers are four-petaled and about three-quarters of an inch across and delicately veined. They are first rose color, but as they mature they change to purple-lavender and white which adds greatly to the joyfulness of the display. The seeds should be sown thinly and in the open. Continuous bloom is easily attained by successional sowings.

Nemesia strumosa, a native of South Africa, was introduced into Europe in the last years of the Nineteenth Century. The erect branches are four-angled, smooth below and hairy above and are six to twenty-four inches tall. The leaves are oblong and without stems, more or less toothed, and when young often have a little of red in them. The corolla consists of a short, spurred tube and two lips. The upper one is one-half inch long and one inch broad and is four-lobed. The lower lip is narrower and more shallowly lobed. The throat is bearded and spotted. The wide range of colors and shades in white, yellow, rose-pink, orange, crimson, scarlet and purple are of burnished brightness with a hot, oriental, glamorous quality. Seeds may be sown in the open but with greater economy in the cold-frame.

Nemophila menziesii, var. *insigne*, baby-blue eyes, comes from Oregon and California. It is a little trailing thing, its stem too feeble to bear its burden of flowers and leaves, so that it early falls back upon the supporting earth. The leaves are pinnately divided into seven to nine lobes which are again somewhat lobed or toothed. They are covered with fine hairs which slightly grays the color and imbues it with an almost succulent texture. The corolla is bell-shaped, one-half to one inch wide and of a gorgeous, bright, scintillating blue with a white eye in its depths. The pattern of the flower is unusual. The calyx is five-lobed but reinforced by five other appendages, reflexed, and alternating with them. The corolla is also supplemented by an inner ring of ten scales, covered with soft hair. Seeds may be sown in the open, not too thickly lest the pattern be lost in the mass, and an abundance of bloom will be offered from spring till fall.

Nigella damascena, devil-in-a-bush or love-in-the-mist as you please, from the Mediterranean region, is one of the large and varied buttercup family. It is a rigid little plant about twelve inches tall (var. *nana*), with bright green, very finely divided leaves. The silvery-blue flowers are surrounded by a large and lacy involucre. There are five sepals colored like the petals and five petals which are notched. The seeds should be sown in the open ground and thinned—once having germinated they do not like to be disturbed.

Omphalodes linifolia, bride's wreath, almost virginal in design and color, is an annual which will grace any rock garden, no matter how many treasures and jewels it boasts. It is six to twelve inches high, depending on the soil and moisture it may hold, too graceful a thing to be called erect. The stem and foliage are of a soft, greenish-blue and glaucous. The basal leaves are wedge-shaped. Those on the stem are narrower, both sessile and delicately ciliate on the margin. The

flowers are in lax racemes. Each one has a five-parted ciliated calyx in which lies the flower-bud like a lovely pearl. The corolla has a short tube and five, large, white, rounded lobes, curling a little on the edge and each marked by a heavy vein. The veins are swollen and thickened and raised at the opening of the throat and form a little corona which adds greatly to the design. This plant comes to us from the golden shores of Spain and Portugal and may be kept in bloom from May till September by successive sowings. The seeds may be scattered on the ground and demand only to be kept reasonably damp till they germinate and the roots have thrust themselves into the soil. Seeds, self-sown in the fall, do not always survive the winter.

Phacelia campanularia, one of the wild flowers of California, is nine inches high. The leaves are arranged alternately and are heart-shaped and toothed. The flower, a bell of gleaming blue, is about three-quarters of an inch long with five deeply scalloped lobes. The calyx lobes are very narrow and recurved. The seeds should be planted thickly in a dry, sandy spot.

Saxifraga cymbalaria is one of the least of the miniature plants and hails from Asia Minor and the Caucasus mountains. In my garden it has not exceeded a height of three inches though it has been described as reaching twelve. It is a wee, tender herb with bright green, glandular leaves, kidney-shaped and cut into seven to eleven sharply pointed lobes. The flowers are borne in a cyme and are solitary on their stems. The calyx, like the rest of the plant, is glandular and five-cleft. The corolla, also, is divided into five parts, oval and of clear yellow. The blossoms are not more than one-third of an inch across and appear from May through August. If it is happy in its home and accorded an adequate amount of moisture and shade, it will seed itself in a blithe and careless fashion that is a joy to the gardener.

Primulas--II

By JENNIE TILT ARMSTRONG

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In the Candelabra Section of primulas we have a splendid group of hardy and beautiful plants. This section is distinguished by the many whorls of flowers one above another on the tall flower stalks. In some of the species there is considerable meal on the flower buds and stems. The leaves, which are similar to those of the common primrose, but much larger in every way in all but one or two of the species, are deciduous, and as has been suggested before, should be removed from the crowns after they have been killed by frost, leaving only the fat dormant bud that quickly pushes up in the spring into lush green rosettes.

These primulas begin to flower in late May, or in early June, according to the season, and are quite gay in their many hues.

Primula japonica, the longest known, is usually the first to bloom and is a very handsome plant. The leaves in themselves present a fine appearance, really the handsomest in the section. The type color of *japonica* is almost a deep, crimson magenta, that often tabooed color, but when given a background of soft green and kept in a mass by itself, one that produces an effect not to be despised. The flowers vary, however, in shades of crimson and pink, including even whites and blush tints with yellow eyes. *P. japonica* Aetna is a most attractive plant with flowers of clear deep red, and *P. Balmakawan* is a new introduction, a pure pink *japonica*. I say a new introduction, although it was found, like so many other lovely plants, in an old cottage garden in England.

Primulas bulleyana and *beesiana* we naturally group together as between them they have produced some fine hybrids, and in color one complements the other. The first will harmonize

without candelabra species but the latter is best alone, as it is another of the magenta purples, although a lovely color if the plants are raised from seed of a good strain. *Bulleyana* has reddish buds, opening apricot yellow, providing one of the most jewel-like bits of color in the whole section.

P. pulverulenta has rougher leaves than *japonica* and has a pronouncedly mealy flower stalk. The type color is a lovely clear crimson, very striking. Since coming into cultivation, this species, like many others, has been greatly improved by selection of the best colors and forms. A fine strain, the Bartley variety, has been developed in an English nursery from a pink-flowered plant found in a group of this species some dozen or more years ago. This strain has become quite famous and very desirable. The flowers vary in different shades of pink and contrast well with their lovely powdered flower stems as in the species. In a letter, stressing the necessity for good drainage, the originator of the Bartley strain says: "I hope you agree with my remarks *re* common sense planting. So often I see the plants put in foul stagnant muck. Would the planter go and eat his or her meals off the floor of a pig-stye? Well, if not, why should these primulas revel in similar sort of conditions? Such aristocrats have more refined feelings and likes." This may be applied to primulas in general.

P. cockburniana is the smallest plant of the section, but is none the less attractive or useful. It has much smaller and more crinkly leaves, and a correspondingly smaller stalk of flowers with fewer whorls. The color is a fine cinnabar red. This primula is not so reliably perennial as others in the section, very often acting as a bien-



The Bartley Strain of Primula pulverulenta

nial, but sometimes may be kept longer than two years by dividing the crowns or preventing it from seeding. It is easily raised from seed and is well worth raising every year.

Some fine hybrids have been raised from *P. cockburniana* and *pulverulenta*. The best known of these are Red Hugh

and Ailin Aroon which originated in a well-known Irish garden. Red Hugh has a richer clear red flower, almost a scarlet, and with its powdered stems and crinkled leaves is a most striking plant. Ailin Aroon is very similar but not quite so deep in color. From this same garden came Asthore in



Primula sikkimensis

pinks, lavenders and apricots, derived from the parents, *bulleyana* and *beesiana*. Similar hybrids from the same parents are *Moerheimii* and *Edina*, both very attractive. A group of these hybrids with the afternoon sun filtering over them through tree branches

makes a beautiful picture of pure and glowing colors.

They are easily raised from seed and the roots may be divided as well.

A very hardy and satisfactory group of primroses is found in the Sikkimensis section, containing many of the new

primulas discovered in the last few years. In this section the blossom is characteristically bell-shaped, more or less covered with farina or meal. The flowers are sweet scented and the leaves glabrous and mostly long and narrow. A characteristic of the section is its late appearance in the garden in the spring. It is well to know this as otherwise the plants might be given up for lost. In our earlier experience we had just about said good-bye to many of the plants when they finally surprised us later by appearing quite fresh and sturdy from their long rest.

P. florindae, which was mentioned in the January issue, is a remarkable member of the Sikkimensis clan, and a notoriously late riser. Its leaves are quite large and heart-shaped on tall stalks and the blossoms, borne in many-flowered clusters at the head of a tall scape, sweetly scented, pale yellow, have the typical bell-shaped corolla.

P. sikkimensis, the name plant of the section, is not nearly so large as *florindae*. It has long, oval-pointed, shiny leaves and larger individual flowers, fewer in number, quite powdered and sweetly scented. This plant, while perfectly hardy with us, has been very chary in its blooming and may need considerable experimenting before it is suited. In transplanting, late last summer, we mixed a lot of peat with the soil for *sikkimensis* (and other primulas) and gave the plants collars of stone chips, all of which seemed to encourage them. This may prove the solution of our problem or we may have to experiment still further with soils and other conditions before the plants are entirely at home, yet this has been the experience with countless other plants.

For that reason, perhaps, *P. secundiflora* of the section now under discussion has been elusive with us. It is a most beautiful primula with heavily powdered bells of a rich crimson plum color, and of which Farrer said "It beggars language, Julia"; a potent remark. We had this lovely plant, raised from seed, live two years and

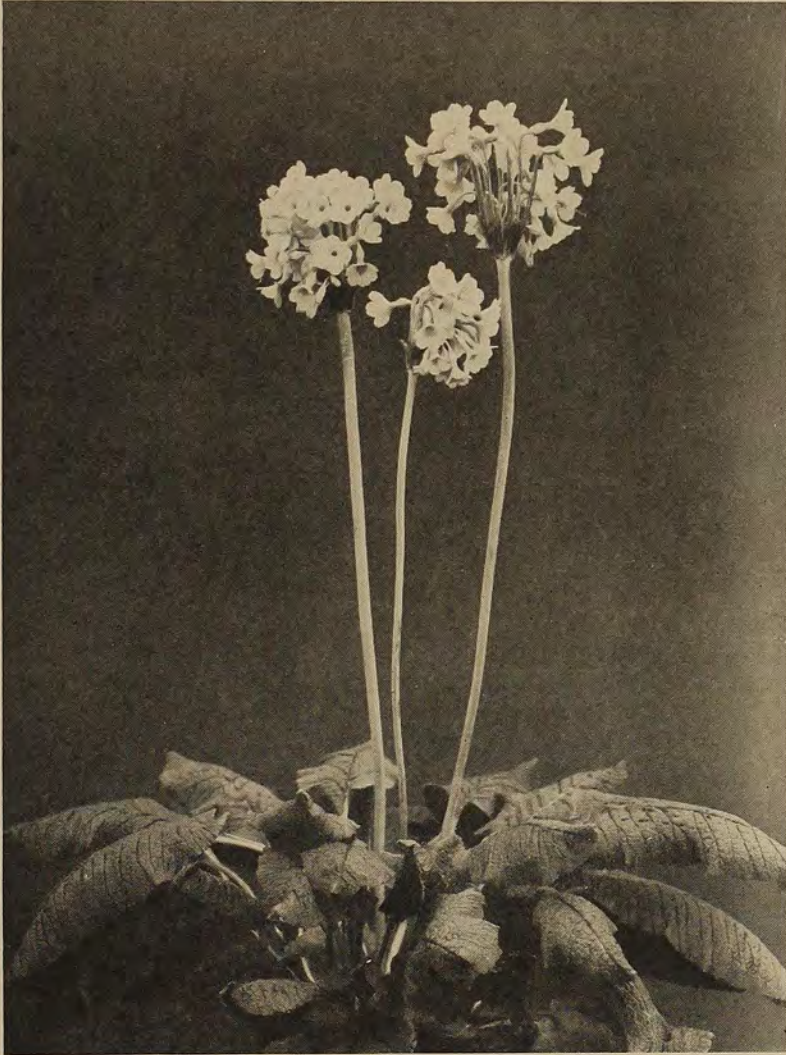
blossom in our garden, when it simply rotted at the crown and disappeared. Mr. Cox said that it required rather less moisture than others of the section, but I am inclined to think that by using peat in the soil, and a good collar of stone chips to insure further drainage, we may be able to keep this desirable primula. At all events it is worth much trouble to find out what it really likes.

Primula prionotes and *waltoni* are among the newer Sikkimensis primulas. The former has been two years in our garden, raised from seed, and last summer bloomed most profusely. The leaves are long and narrow and shiny, quite characteristic of the section; the blossoms very thickly covered with meal, and of such a deep maroon color that they appear almost black. The individual flowers are smaller than any of the other species and there is often a second tier. They have a fruity fragrance, much like that of black raspberries. This primula is more interesting than attractive, and may be, as suggested in English articles, more useful for hybridizing than for growing as it is. *Primula waltoni* is more of a wine color, has a much larger individual flower, and is generally more attractive, although quite similar to *P. prionotes*.

The Sikkimensis section primulas, *microdonta alpicola* and *violacea*, wine shades and white, are treasures. The blossoms resemble freesias and sometimes have a second tier. The individual flower is a good size and has the characteristic meal. The plant is fairly small and has rougher leaves than others of the section. We had all four varieties in bloom last summer in our garden from plants raised from seed two years before.

P. pudibunda is also quite new, and very much like the name plant, *sikkimensis*, but bloomed more freely for us.

P. pseudo-sikkimensis, if not for its attraction for slugs, would have graced our garden in numbers. From many seedlings, we managed to save



Primula microdonta alpicola

two or three plants, and the flower was tantalizingly lovely, I think even better than *P. sikkimensis*. (Slugs are fond of all the Sikkimensis group, especially in their early seedling stages. There are other species in this section, but those mentioned have proved that the Sikkimensis primulas are valuable garden citizens in hardiness, beauty, and durability. They will thrive in sun or shade, although some shade is

preferable, and like all their ilk, love plenty of moisture and demand good drainage.

In the Cortusoides section we have some good garden primulas. This group has much softer, hairier leaves than some of the others, and they are crinkled and shaped somewhat like a geranium leaf, but much softer. Two members of this section seem to be hopelessly confused, *cortusoides* and



Percy Armstrong

Primula sieboldii

saxatilis; so confused that it is impossible to really separate them, both plants and seeds commonly sent out as *cortusoides* being really *saxatilis*. The latter, however, is an attractive little plant and easily satisfied. It blooms profusely in the spring and on and off during the summer. The flowers are in pretty clusters, pink with perhaps a hint of magenta, but lovely against a gray weathered rock. The difference between *cortusoides* and *saxatilis*, is in the closer heads of *cortusoides*, for *saxatilis* has slightly more stem to the individual flowerets, giving a looser appearance to the whole stalk. *P. lichiangensis* has a firmer, more geranium-like leaf, the flowers have more magenta in their rose color and not so many blooms in the whorl. *Veitchii* is said to be similar to *lichiangensis*, but it has not yet flowered for us.

By far the finest plant in the *Cortusoides* section, and one of the good old garden primulas that has become very scarce, is *P. sieboldii*. The individual flowers of *P. sieboldii* are much larger than in other primulas in the section, and have differing types of bloom and shades of color. Some of the plants have quite fringy blossoms, some with darker backs to the petals, and the colors are in tints of pink and lavender and also white. The flowers have no distinct eye, as in so many primulas. There are plants of *P. sieboldii* in different parts of the country that were probably imported years ago, and have persisted when most other species imported at the same time have gone the way of all flesh. *P. sieboldii* dies down after the plant and seeds have matured, and that is perhaps the reason there are not more of them in the country, for the owners



Primula wardi

may have thought they were gone for good and dug up the place where they were. An old nurseryman up on the border of Scotland tells me that the old types of *P. sieboldii* have become very scarce in England, and even on the continent, although there are several firms that list a variety. The seed is hard to obtain, and self-saved seed does not always germinate. After

many attempts we finally got some true seed which yielded some good colors and one fine white. They have not all bloomed yet, so there may be some finer ones to follow.

There are some lovely species in the *Farinosae* section, some of which are quite difficult, and others the reverse. *P. farinosa* itself is widely distributed in America, as well as in England and

throughout Europe. Characteristic of most of the species are the long narrow leaves (long proportionately for the size of the plant), with thickly powdered backs, and powdered flower stalks. There are some members of the section that lack the farina or meal, which were formerly grouped in a section named *Auriculata*. At about the time of the last *Primula* Conference in England (1928), these two sections* were combined under the *Farinosae*.

To go back to *P. farinosa*; this little primula has figured in the earliest garden books, Parkinson speaking of the little "Bird E'en." It was called the Bird's Eye Primula on account of the little yellow center of the flower, which was supposed to resemble the eye of a bird. *P. farinosa* likes a gritty soil, and old mortar rubbish mixed in the soil gives a good medium; but it is very temperamental. Much hardier and easier to please is its slightly larger cousin, *P. frondosa*. The latter is very similar to *farinosa* with its dainty pink flower and yellow eye. Another form of *farinosa* found in this country is *P. misstassinica*, which has paler pink flowers and no meal on the backs of its leaves. It is is much more amenable than *P. farinosa*.

A scarce and comparatively new primula in this section is *P. conspersa*. We were fortunate enough several years ago to have some seed of this lovely little primula sent us. It has a rosette of very small toothed leaves, and a comparatively tall powdered scape topped with a cluster of the daintiest pinky lavender flowers imaginable, sometimes a second tier. It likes gritty soil and will thrive in either sun or part shade. It is entirely hardy, but is so very floriferous that it blooms itself to death, and for this reason has the reputation of being a biennial. This last summer we kept some of the plants from going to seed, and they looked quite thrifty going into the winter. But even if *P. conspersa* does have to be raised from seed every year it is quite worth the

trouble as it is so lovely. Indeed it is one of the loveliest in our garden.

Of the members of the *Farinosae* section which do not have the meal on flowers or leaves we have, among others, *rosea*, *luteola*, *involutata* and *wardii*. The latter two are similar and beautiful, with spoon shaped leaves and larger flowers than these mentioned before. *Involutata* is white, sometimes pale lavender, while *wardii* is lavender. We have not done much with these two primulas, but expect to do more in the future. *P. rosea* has very shiny leathery leaves, larger than those described, and vivid pink flowers in clusters. It blooms very early in the spring, and can do with any amount of moisture, even to the extent that it does not so greatly object to stagnant moisture as the others in the family. It is such a fine, satisfactory plant, however, that it should have nothing but the best. *P. luteola* is the largest plant in the section, with broader, smooth, shiny leaves devoid of mealiness, and umbels of pale yellow flowers. It is very fussy about winter wet, and for that reason does not always come through our winters, although otherwise it is perfectly hardy.

The *Capitatae*, *Denticulatae*, and *Muscarioides* sections are closely allied in their type of bloom. *P. capitata* has almost sessile flowerets in a close head, broadly pointed at the top, with the flowerets pointing downwards, blooming from the bottom upwards. *Denticulata* has a ball-shaped head with the flowerets pointing upwards, all in bloom at once; while *P. muscarioides* has a spike-shaped cluster of blossoms which point downwards and bloom from the bottom upwards.

The *Capitatae* section, while perfectly hardy, is another group that particularly detests winter wet, and for that reason does not always survive. Two of the best in the section are *capitata mooreana* and *crispata*. The former has a very pretty head of deep blue flowers borne on mealy stems, and leaves much like the common

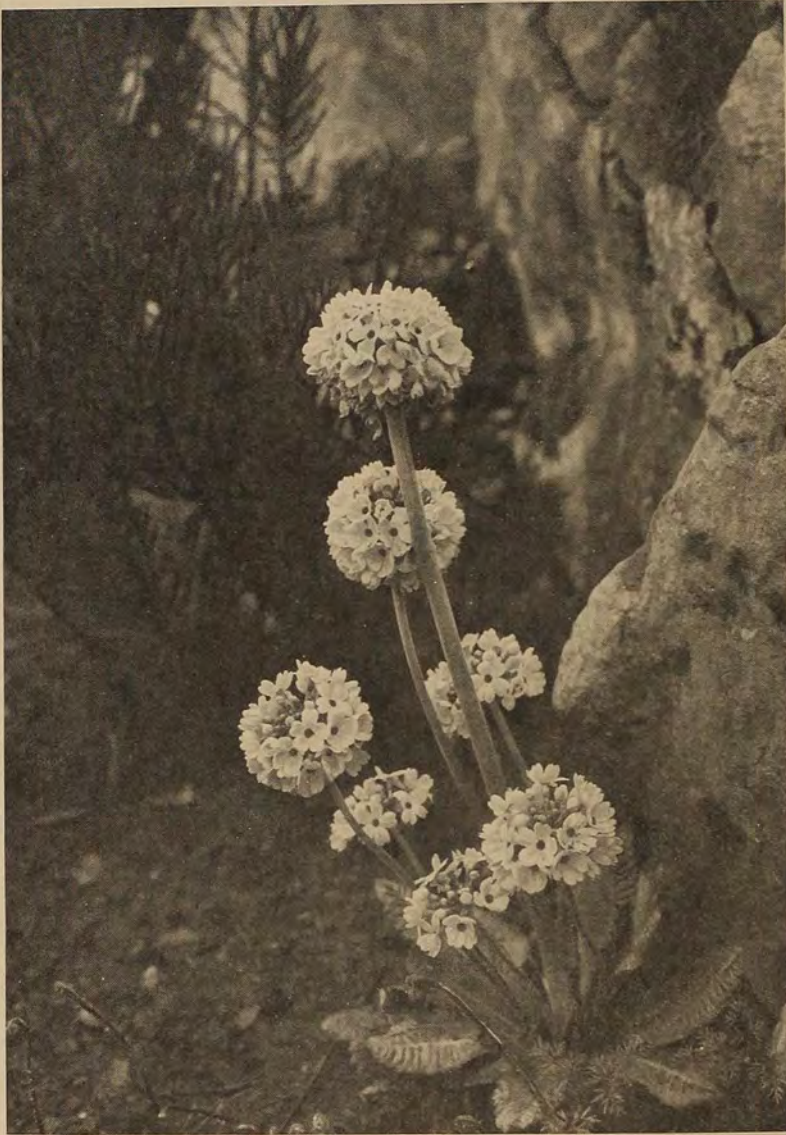


A hybrid of the type of Primula rosea

primrose except that they are smaller and more crinkled. *P. crispata* differs only in being slightly smaller.

In the Muscarioides section, so far, we have had only one species blooming in our garden, namely *P. littoniana*. This plant, with soft long oval leaves and a blossom spike resembling a miniature tritoma, with lavender florets in a crimson calyx, is most curious

and attractive. It is another late riser, sometimes waiting until May to make its appearance. It, too, greatly resents winter wet, but has remained four years in our garden, blossoming twice. This last year it was so late coming up that we did indeed despair of it, and finally only one plant of the three appeared, but that proved it was hardy, and worth trying to please.



Primula denticulata

Seed has been hard to get, but this year seems to be more plentiful, so we may hope some time to have *littonianas* in quantities.

As a last word I would repeat that primula growing, with a few exceptions, is really in its infancy in this country. Our conditions are different to those

they are accustomed to; and even in our own country conditions and climate are so widely different that we will have to treat Primulas as real infants, for a time at least, until we find the proper food, treatment and environment. Some species, like sturdy children, will thrive on almost



Primula littoniana

anything, while others with just as good heritage are not so complacent and require more care and special food. The family is one that is worth while in every sense of the word, providing great variety in color form and suitability for many garden uses,

and in time will probably settle down contentedly in our country as so many other new plants have done after having become acclimated, producing new generations of plants at home here from the first.

Glencoe, Ill.

The True Species of Fuchsia Cultivated in California

By ALICE EASTWOOD

Among the many fuchsias now cultivated in California, most of which have resulted from hybridization, are several true species from which these numerous hybrids have been derived. In order to attempt clearing the confusion now prevailing among the names it seems desirable first to recognize these true species. Since all have been described and illustrated in various publications a photograph of each from one of its illustrations is reproduced. This will show the shape of the flowers and habit of flowering with color descriptions added from living flowers. Some have been in cultivation in California since the 1850's. They are cataloged in a hand-written catalog of the Golden Gate Nursery of 1858-59. This catalog was given to the author by the late Charles Abraham and is probably the only evidence now in existence of the plants then growing in the gardens of the San Francisco Bay Region.

Fuchsia triphylla L. This is a native of San Domingo and was the first described; therefore the type of the genus. It is readily known by the purple lower leaf surface, generally three leaves at each node and the red flowers with both calyx and corolla of the same color. The many hybrids of which this is one parent show relationship generally by the characteristic leaf color and the shape of the flowers. The illustration is from the Botanical Magazine, year 1885, plate 6795.

Fuchsia fulgens, Moc. & Sesse, from DC. Prodr. vol. 3, page 39. This is a native of Mexico and one of the first to be introduced in California. It is listed in the catalog of the Golden Gate Nursery. The illustration is from Botanical Register, year 1838, plate 1. In this the calyx has a longer

tube than ours but in all other respects is similar. The calyx and corolla are carmine red, the divisions of the former lighter in color and green-tipped and the petals of a different texture and somewhat darker.

Fuchsia cordifolia Benth. Pl. Hartw., page 74. This was originally collected on Xetuch, a volcano in Guatemala at an elevation of 10,000 ft. The illustration is from the Botanical Register, year 1841, plate 70. The calyx tube is a brilliant crimson, the divisions green-tipped with slender points surpassing the broad abruptly pointed petals. In all the illustrations the petals are greenish, while those in cultivation here are white. A variety figured in Hooker's Icones, year 1842, plate 45, is more like ours in the shape of the flower, but the color is not given. If it is killed to the ground it springs up again from the swollen fusiform caudex.

Fuchsia serratifolia R. & P., Flora of Peru & Chili, vol. 3, page 86, plate 323. This was first introduced in England by Messrs. Veitch of Exeter about 1845. The illustration is from the Botanical Register, year 1845, plate 41. The calyx is crimson, becoming paler towards the lanceolate, green-tipped divisions. The petals are shorter and a lovely rose-color. The leaves are generally in threes, short petioled and red-veined. It is listed in the old Golden Gate Nursery Catalog. Some growers say it is a difficult species to raise and keep.

Fuchsia arborescens, Sims Bot. Mag., year 1826, plate 2620. The illustration is from the Botanical Register, year 1826, plate 943. The seeds came from Mexico in 1824. This is quite unlike the other species and resembles some lilacs. A closely related species has been named *F. syringæflora*. It differs



J. San Miguel

Fuschia triphylla; *F. fulgens*
F. cordifolia; *F. serratifolia*



J. San Miguel

Fuchsia arborescens; *F. globosa*
F. gracilis multiflora; *F. coccinea*



J. San Miguel

Fuchsia riccartoni; *F. procumbens*

in flowers of a deeper pink and the calyx tube is longer. *F. arborescens* is somewhat tender, but where sheltered becomes a large, spreading shrub with the branches terminating in the large panicles of small rosy flowers.

Fuchsia thymifolia, H B K Nov.

Gen. et Sp. Pl. vol. 6, page 104, plate 535. Our illustration is from the Botanical Register, year 1829, plate 1284. This is one of the tiny-flowered fuchsias and blooms almost continuously. The illustration shows the shape and size of the flowers and leaves. It suckers and becomes a bushy plant.

Fuchsia magellanica, Fl. Peru et Chili, vol. 3, plate 324.

We have three varieties of this species in cultivation, similar in the color of calyx and corolla but differing chiefly in the calyx tube. They are related to *F. coccinea* but are smaller.

The illustrations are as follows:

F. magellanica globosa, Bot. Reg., plate 1556.

F. magellanica gracilis, Bot. Reg., plate 1052.

F. magellanica riccartoni, year 1896, Revue Hort., figure 31, in black.

F. magellanica gracilis is the most common in cultivation in California. One in Golden Gate Park has climbed to the top of a Monterey Cypress about 40 feet high. *F. magellanica*

riccartoni has a different habit of growth and in Ireland and southern England forms hedges. All have red calyx and purple corolla.

Two species from New Zealand are in cultivation in the San Francisco Bay Region. The tree fuchsia, *F. excorticata* is not common, rarely flowers and is very tender. It has large veiny leaves silvery on the lower surface. The trailing fuchsia *F. procumbens* has small, smooth, green leaves, the flowers are upright, the calyx has a yellowish tube and crimson divisions, there are no petals and the anthers are blue. The berries are a bright red. It is a lovely, trailing plant for the rock garden and likes moisture and shade. The illustration is from Hooker's *Icones*, plate 421, year 1842.

Some Unusual Wild Flowers of the Northern High Plains

By ALLAN L. TRUAX

Many of our finest garden flowers have been evolved from our native wildlings, and some of them have even been returned to us from Europe, hybridized and otherwise improved by foreign horticulturists. There is still a large field for the improvement and adaptation of our native flowering plants for use in our cultivated gardens.

I shall speak of a few of such that I have met in the northern part of the "High Plains Region," which region comprises that part of the Great Plains which extends from about the 100th Meridian to the foot of the Rocky Mountains. This is a sort of "overlapping" region where the Rocky Mountain flora spreads to the eastward and meets and overlaps the flora of the lower prairies of the North Central States; in fact, where I live, more of our native flora is written into Coulter's "Rocky Mountain Botany" than in Britton & Brown's

"Flora of the Northern United States and Canada." While the topography of the northern "High Plains" region is typical of that of all prairie regions, its high altitude of from two thousand to five thousand feet, its severe climate and rather scanty rainfall tend to eliminate all but the very hardiest species of plant life, and consequently anything found growing wild here should be hardy anywhere in the United States.

Most of our beautiful garden penstemons, such as the hybrid *P. gloxinoides* and others, are so tender that they are usually grown as annuals in northern gardens and even the brilliant *P. barbatus torreyi* is not always reliably hardy. There are, however, a number of absolutely hardy penstemons growing wild in this northern High Plains region, of which *P. grandiflorus* is probably the most handsome and conspicuous. It is found on

the summits of the high bluffs along the Missouri River and on the tops of isolated buttes in the Bad Lands, and is seemingly impervious to cold in any well-drained situation. Its glaucous, shell-shaped leaves and thyrse-like racemes of lavender or purple bells raised to a height of from two to four feet, entitle it to be ranked among the grandest of our northern wild flowers. It responds splendidly to cultivation in any alluvial, well-drained soil and besides being well worth growing for its own sake, it might be made the foundation for a race of hybrids that would be really hardy in northern gardens.

About twenty-five years ago I met with another beautiful wild penstemon in Day County, South Dakota, near Andover. As compared with *P. grandiflorus*, its individual blossoms were somewhat shorter, the throat more inflated, and the color a much more brilliant violet-purple. It also bloomed several weeks earlier than *P. grandiflorus*, its flowering period in South Dakota being the last of May and the first of June. Coming, the way I did, unexpectedly upon a great colony of this brilliant and striking penstemon in full bloom, it was a breath-taking experience. Unfortunately, at that time I was not botanist enough to analyze and classify it, so I simply called it a penstemon and let it go at that. From what I remember of it, it might have been *P. haydonii* but at this time I can not be sure. I have been told that it has disappeared from the locality where I saw it, due to the encroachment of cultivation. I hope that this article may reach the eye of some South Dakotan who knows this fine penstemon and will rescue it from oblivion.

About the time that our earliest spring flower, the Pasque-Flower, *Anemone patens*, var. *nuttalliani*, is fading, our northern High Plains are carpeted with the pale gold of *Thermopsis rhombifolia*, called locally "wild sweet pea," or "buffalo pea." It has a delicious sweet-pea fragrance and,

when seen on a hillside, a sheet of its pale yellow against its native setting of gray-green prairie grass is a charming sight, especially after a spring shower when the air is redolent with its fragrance. It would be fine in the wild garden and possibly could be made the basis of a race of perennial dwarf sweet peas.

Cacti are generally thought of as tender plants, yet we have two absolutely hardy varieties here on the northern High Plains. *Opuntia rafinesquei* unfolds its great, silky yellow blossoms in low, wet, alkaline spots where nothing else will grow, but it will do finely under cultivation in any sunny place and is not particular as to soil. Then there is the "pincushion cactus," a mammillaria, which prefers dry places, and bears dazzlingly brilliant blossoms of magenta-red. With these two, any one can enjoy the novelty of growing hardy perennial cacti out of doors in a northern garden.

There are a number of varieties of the so-called tufted or stemless evening primroses in cultivation, but all that I know of are more or less tender in northern gardens, yet growing in arid, sandy places on the High Plains even as far north as North Dakota, is found the true tufted evening primrose, *Oenothera caespitosa* or *Pachylophus caespitosus* of some botanists. After the manner of its kind, it bears, close to the ground, startlingly large flowers which expand suddenly shortly after sunset and close and wither by noon of the next day. The great hawk moth loves it, and when poised above it in the dusk is often mistaken for the humming bird which it resembles. This lovely flower brings to the far north the exotic fragrance of the southern magnolia, and in all the enchanted region of flowerland I have seen no fairer sight than this child of the desert on moonlit nights or in the dusk of evening, lifting its snowy and perfumed chalice to the evening star, while over it the humming hawkmoth hovers. At such times one thinks that it might well have bloomed in the Garden of

Eden. It is iron-clad as to both cold and heat, but must have a sunny place and a fairly light soil. Then, for heavy soils, there is its twin sister, *C. brachycarpa*, which is almost identical in habit, but bears golden-yellow flowers in place of white.

The calochortus, or Mariposa lily is mostly native to the far west and none of the cultivated varieties that I know of are hardy in the north. There is one variety, however, that is native to the northern High Plains, viz. *Calochortus nuttallii*. It is found in sun-baked spots of hard clay and scoria on the brow of Bad Lands canyons where its satiny white flowers, one to three in number, wave charmingly in the breeze on the summits of their slender flower stalks. It is beautiful enough for any garden and should be absolutely hardy in any sunny spot in dry, heavy soil.

An annual variety of the argemone Mexican poppy, *A. mexicana*, is grown occasionally in northern gardens, yet how many know that there is an equally handsome, hardy, per-

ennial argemone growing in places on our northern High Plains? It is *A. platyceras*, or more properly, *Enomegra hispida*. I have encountered it as far north as the foothills of the Black Hills in South Dakota, where it grows in profusion about the mouth of Wind Cave. With its white, silky blossoms, it is equally as handsome as the annual variety; and growing as it does in that elevated region of severe winters, it should prove hardy under cultivation.

There are many varieties of annual gilies in cultivation, yet there is at least one notable perennial variety which has not yet been introduced. It is *Gilia aggregata*. I saw it growing wild on the brink of the Grand Canyon of the Colorado where the beauty of its tubular, reddish-scarlet blossoms rivalled that of the penstemons near by; and although that region is outside the scope of this article, I have been told that the winters are severe in that elevated region, and accordingly think that this fine perennial gilia would prove hardy in many northern gardens.

Crosby, N. D.

The Idealist in the Garden

If there is anything more exasperating in a gardener's life than to find that a neighbor's cat or dog has been wallowing in a promising seed bed you have just gotten into nice germination, it is to be uncertain of a plant's proper name. At least that is how I feel about it. One treasures a thing, resting sure of its identity, and just then when one is sitting back snug and comfortable, doubt creeps in. It may come through seeing the supposedly self-same variety in another garden; a friend may describe what he knows as such-and-such or (this is the worst) some writer whose authority you would never think of questioning may write of your pet by name but in such a

manner as to leave no doubt in your mind that either his plant or yours is wrong. And your peace of mind is destroyed until you find out positively what your plant really is. I like to know what my plants are, for no matter how beautiful they may be, I want to know their right names, to be on speaking terms with them, and this one can not be if one is calling them by a name not rightly theirs. That I think is the reason I have never liked common names which so often mean next to nothing as one name may cover several quite different plants, and as they are so often very silly.

During the past year there has been much bandying of words in "Horti-

culture" over the fact that the common cornflower, *Centaurea cyanus*, is called "French pinks" in some sections of the Northwest, all because it was grown by some early settlers along French Creek or Bay or something that had French in front of it. This seems a ridiculous reason to advance for wanting to keep such a name, after the right name is known. Now that I am diverted from what I started to say, I should like to cry out against the policy of some nurserymen who are going out of their way to invent common names for plants that are too new to have had any. *Kolkwitzia amabilis*, which is no more difficult to pronounce than Paderewski, is dubbed Beauty Bush, which could only be made worse by calling it Beauty Bunch, which might do as well. Buddleia, the whole genus, has become Summer Lilac, to no advantage of either buddleia or lilac. Worst of all is the term Palestine Iris, lately shoved on us for all the species of the *Oncocylus* and *Regelia* Irises and the hybrids derived from them, even including Zwannenburg that came no nearer the Jordan than the south of France and whose parents are strangers to Palestine. According to Dykes, not one species of the *Regelia* section comes from any part of the Holy Land, and of the *Oncocylus* species, *atrofusca* alone is native throughout with *Bismarkiana* occurring in the extreme northern parts. Still, we must have our common names!

As an example. Several years ago a neighbor asked me to identify some seeds she had gathered while on a trip to Boston. From her description of the blooming plant, I finally decided that it was *Laburnum vulgare*, but of course she wanted a common name. Several weeks later I was asked by another neighbor what "Queen's Necklace" might be and soon found that the first woman had improved on "Golden Chain" and had given it regal distinction. This was not the end of her imagining, however, for several months later her brother-in-

law came to visit her. One morning he called me over to see the plants, for the seed had now germinated, and said he, "Now tell me its name; Hattie says it is 'Queen's Golden Necklace,' but I'm sure she can't be right for no plant could have such a cumbersome name!" I told him what it was. He replied, "That's better. I don't want to know its nickname any more than I want the nicknames of the people I do business with. I don't know a thing in the world about flowers, but I do know they have right names, you know what I mean, and the plants I do know, I want to know correctly." He wrote down *Laburnum vulgare*, and from that day to this the plant carries the "right name" with him.

If you have followed me this far, you will very probably know that I am one of the kind who is very much annoyed when he finds that he has a plant masquerading or just plain naked or destitute of name. About the time when the January issue was in the hands of the printer, I lost all the mental calm I have, to discover in the "Unconventional Garden" by Sir Arthur Hort of iris fame, some remarks upon the noble family of artemisias. The thing that startled me was his statement that "*frigida* and *vallesiaca* are similar." With me they have been absolutely distinct plants, the former sprawling out over the rocks in ropes of soft watery green and silvery coolness, not more than a few inches high and covering an area of not more than thirty inches. It comes from the Rockies, both ours and the Canadian. I have it and now after much search am sure that it is correct. *Vallesiaca* which I have had only as a seedling but of which I now again have seeds, is a shaggy hemisphere some twelve or fourteen inches in height and of a dazzling whiteness both of stem and leaf and might well be described as a more refined and much, much whiter *Santolina chamaecyparissus*. It hails from the Valesian Alps. Having settled that, I felt much better and am able to look the plant in the face once

again. I wish I might say the same for some of the several aquilegias I have.

Once I was happy and satisfied with my *Aquilegia flabellata nana alba*, but no longer. The whole family are very dear friends of mine and especially this little Japanese of the so-white bland face. It was the result of a packet of seed, so-labelled but without the *alba*. The catalog description had said white but I thought it was a typographical error, for years ago, when a boy, I had had *A. flabellata nana* and it was lavender, a lovely even waxen blue-lavender, and as I remember it was not more than a foot tall at the best. But I was glad to have the white and then next year got more seed from a different place of both *A. flabellata* and *A. f. nana*, and no one had any *alba*. Both of these proved to be the same all-white one which I already had—three different names for the self-same plant. But I knew that the lavender one existed and kept on trying with always the same result:—fifteen inches high and pure waxen white. Last year I was given a plant labeled *A. flabellata* which had been raised from seed collected in Japan. It was a scant six inches high, age may increase its stature, and its bloom was the same as my plants, BUT the lower edge of the corolla was of that same blue-lavender which I remembered of years ago and the color slowly and softly faded into the white as it approached the center of the flower. What is it? and what are my plants? All through the summer I watched it and it has not grown as tall as the others, so I am hoping for the best. These little Japs are quite indifferent to full sunshine and their foliage is particularly fine in the rock garden both for its beauty and for the shade it gives to the smaller things that grow around them. It, my first one, the taller pure white one, forms a delightful background for *Narcissus minor* as it comes up through its cover of red thyme; the leaves of the columbine are just unfolding as the little daffodil is blooming and from another direction it makes

an equally good background for *Crocus speciosus* blooming above and through the *Alsine* (or *Arenaria* if you wish) *laricifolia*. Usually it is just beginning to flower as *Iris azurea* is passing out of bloom but I use them together, for when they do manage their flowering at the same time they are exquisite, and I have planted *Genista hispanica* near enough to come into the picture, but only this past summer, so I have not seen the result as yet. To the northeast of a rose arch where they get slight shade in the afternoon are the oldest plants among *Phlox divaricata* and violas that were once Primrose Dame and Yellow Gem and are now everything between those two and some dusky ones thrown in who get thrown out when they are too dark. I've tried Viola Apricot with this group and it is lovely while it lasts, but it is too delicate to stand our torrid summers and has never yet seemed to have made any effect upon the children violas who grow up around the parents' feet, though fresh seed has always come true. This group is enlarged by a clump of *Tulipa clusiana* near the edge of the phlox with yellow pumila iris nearby and also with a colony of *Narcissus Salmonetta* with *Muscari neglectus* in the foreground. It is to this combination that I added my new lavender tinged columbine, and hope some day to put the solid lavender one there too.

Sedum brevifolium is another plant which I now despair of ever having. Time after time plants have come marked so but the plant never is anything but *S. anglicum* var. *brevifolium* and foreign seed gives me the same result. Having seen the real thing in England and liking it immensely, I refuse to be comforted with any substitute, no matter how charming the substitute may be, and, to me at least, all the forms of *anglicum* are pleasing—as long as they are starved, but let them once have a decent meal and their shape is lost forever. I like it for a cover for *Hyacinthus azureus* and for *Muscari neglectus* but I can not

take the credit of the idea for it was one of Nature's not mine. The sedum occupied a stretch of ground between the two, and though I was able to restrain the sedum and keep it within its domain, both of the bulbous plants laughed at me and sent their seed over among the sedum, and before I knew it the sedum-territory was paying triple rent. When it comes to seeding there is only one other desirable plant that can beat the muscari tribe and that is the viola clan. I always like to let things seed as much as they like to for one can always get rid of the results if they are not liked. I have a little iris seedling which looks very much like a tiny *gracilipes* coming up in the hottest part of the rock-garden, which proves it is not that one at least; it probably will be a washed-out sort of color of mixed pumila blood acting like something else just to raise my hopes. But it always pays to leave strange things alone until you can see what they are really going to be.

A year ago this past autumn little tufts of lovely blue-grey leaves began to develop in a spot where some maiden-pinks had been torn out. At first I thought it was a kind of sedum, then grabbed at hope and remembered that I had thrown some left-over seed of *Linum salsoloides* there. There was nothing to do but to wait. In late May the stems began to lengthen and by mid-June it was in flower and was certainly not the flax. It was like nothing I had planted and must have come from Switzerland among the seeds of the flax. When it started to bloom the stem was not more than ten inches high, but by the end of the summer it had lengthened until it was twice that long, but as it arched over it was not that high. The basal leaves were glaucous, of almost as blue a cast as the foliage of *Sedum dasiphylum* and in shape rather like those of *Lilium flavum*, but as they mounted the stem they became bronzed and rusty as though sun scorched. The stem was hairy and especially so

near the flower-clusters and at the base of the calyx and was reddish brown. The flower-cluster itself was a narrow, loose panicle which continued to grow longer throughout the summer. The flowers themselves were a golden yellow of about the size of a quarter and in shape like an *Hypericum*; the one drawback was that they were so fugacious, every morning for months the plant was a mass of yellow, but regularly at eleven o'clock they folded themselves up and were no more, and this procedure was followed whether the sun shone or not. The plant was finally identified as *Hypericum hirsutum*, a native of Europe, but of which part I can not say.

I have taken this much space to describe it because I like it very much, and even though it is open only during the morning hours its long period of bloom gives it a value that many another and better plant does not have. The earliest blossoms had gone to seed by August and seedlings were beginning to make their appearance, so it may prove to be a weed, but as the foliage is so easily recognized they may be pulled up when they come where they are not wanted. Where I have it it covers and gives a slight shade to a clump of *Narcissus triandrus albus*, which may not have lived through this past summer's heat and dryness, and also bent over *Silene maritima*, now past its flowering, and reach out to where *Viola gracilis*, which never with me blooms on into August as it is supposed to do, had once been gay with purple.

Another plant that has given me much concern as to what I really have, if I do not have the right species which I am afraid I have not, is *Crocus ochroleucus*. It was got several years ago with several other varieties of autumn-flowering crocuses and never behaved as it should from the very first. The flowers answer the description all right by being "not quite white, being slightly tinged with cream," and having the prescribed narrow segments, but it is not free flowering and with

me certainly does not begin to flower in November. Not at all; even the first year I had it the blooms waited until late December before they began slowly and timidly to come through the soil. After that they were later and fewer until it reached the February stage and there it has stayed—when it does bloom, which is not every year. I had begun to hope that it might prove to be the rarer *C. fleischeri*, but have long since renounced that hope, as it is a larger flower and has no purple stripes on the outer segments. Thinking that I had it in a poor location I dug it up this past summer and replanted the score or so little corms that I was able to find in a sunnier, hotter place and planted them some six inches deep in the hope that they might prove the healthier for the deeper planting. So far (mid-January) they have not even made an appearance and may have given up the ghost entirely.

In that same lot of autumn crocus corms came *C. nudiflorus*, which duly flowered, won much praise from all who saw it and retired to reappear again the next autumn and then, alas, retire forever, at least in that full glory that was his for those first two seasons. The fault, however, is mine; for that was before E. A. Bowles' Handbook of *Crocus* and *Colchicum* had been printed, and in my ignorance I planted the corms too shallowly and in too small a space. This crocus multiplies by sending out underground stolons and so should have plenty of space in which to spread. Mine, hedged in as they were by the rocks that formed the pocket, probably sent out its stolons which were forced to the surface and weeded out as grass roots, for Bowles says they look like "some evil form of stoloniferous grass, or even the pupa of an insect," and so the ignorant gardener defeated nature. This summer when I dug the *ochroleucus* there was one corm unlike the others, and as *nudiflorus* had the next living quarters above I have hope that a stolon may have crept through into the lower

level and may be even now getting ready to send up its leaves; for *nudiflorus* flowers without foliage. When one considers that its blossoms are large and of a rich purple and follow after *speciosus* has passed over, one must realize the greatness of my loss. But, praise be to the floral gods, the quarantine has not yet cast its baleful glance upon the crocus tribe. In replanting this year I used white thyme (*Thymus serpyllum albus*) to cover both of these crocuses and their neighbor *Narcissus minimus*. This thyme is not so thickly matted as others of the family and grows with a more restrained elegance, and so better fitted to be placed among the choicer things than its equally charming relatives.

When it comes to *Crocus sativus*, the old Saffron Crocus, I should merely say that I have it and pass on, for its corms love me but its flowers do not. It didn't even bloom the first season after it was planted, nor the second, nor the third. Then I decided that I had not put it in as hot a place as it liked, and after careful grubbing got out a pint of corms of various sizes and after planting over fifty (of the largest, of course, being a selfish gardener), I made numerous gifts. None of the replanted corms have yet bloomed; but there were scores that had escaped me and among them are two corms that for the last two years have honored me with flowers. It wants sun and a rich porous soil, that much I know, and I think that it will appreciate lime in the soil. Bowles says that it "seems to require frequent lifting and division" and suggests that it be treated as a kitchen garden crop rather than a border plant. The variety *Cartwrightianus*, though smaller in flower, is a much better rock-garden plant—provided one can get it.

Crocus salzmanii is another one that loves me in numbers but hardly ever seems to want me to see it. The mass of leaves is fully a foot in diameter, but for the last three years it produces but a flower or two. When I first

got it I was under the impression that it wanted a damp and shady position and so planted in the best situation which I could give it and added to the insult by covering it with lemon thyme, and though the thyme has been removed I have never found the time to replant it where the sun could bake it into a better disposition. I noticed this past autumn, in several other gardens, some newly planted colonies of this crocus which were quite different from mine, of a deeper, richer purple and much smaller in size. Those in the Brooklyn Botanic Garden came from Van Tubergen and if not the smaller variety *erectophyllus*, I have not the slightest idea as to what they are; but *Salzmanni* they certainly are not. This, to quote Bowles again, has flowers that are "freely borne, but though large are of rather thin substance and a washy pale lilac in color"; also the leaves are about four inches high at flowering time, all of which describes what I have but not these others. In my opinion, if you get what is now passing for *Salzmanni* you are getting the better of the two. But what is it?

I have had *C. cancellatus lilacinus*, which Bowles says should be called *C. c. var. cilicicus lilacinus* and hope that a corm or two may still be struggling amid the *Sedum acre* under which I was foolish enough to bury it. I have not seen this variety advertised for a number of years, and am very sorry to have lost mine, if they are lost, for it was of a lovely rosy lilac with delicate deeper veining. If the fates are kind enough to let me find any of it still alive this spring I can vow that it will receive the better treatment it so certainly deserves.

Crocus zonatus thrives in several parts of the garden; it looks its best amid the fresh green leaves of *Campanula muralis* though it is not at all bad planted with *Sedum ewersi* and one clump that has increased in size until it will soon be swamped by some dwarf pinks, *Allwoodii alpinus* hybrids to be exact, looks very fine against the grey foliage of the dianthus. I think

that in the last number I spoke of it among the fronds of *Woodsia ilvensis* growing along the edge of a sunny path with *Veronica repens* making every effort to monopolize the whole territory.

Of *Crocus iridiflorus* I shall have nothing to say excepting that my intentions have been good. Three times have I ordered it and every time all I received were excuses. This last year I was so sure of finally getting it I prepared its home with humus and fine leaf mould and sand in the coolest and shadiest part of the garden where blue hepaticas, *Iris gracilipes*, *Dicentra cucullaria*, *Calochortus amabilis*, and *Polypodium vulgare* thrive under the shade of a pale pink Kurume azalea. And having prepared the whole and covered it with boards to await the arrival of the crocus, it became nothing but a slug trap where daily I gathered these demons into the salt can, for the crocus came not, and finally when hope had fled, it, the hole, was filled up with soil and the label left to mark the spot where hope had died.

If there is anything more lovely than *Crocus speciosus* I should like very much to see it. It was the first species crocus I knew and I have loved it ever since. Some of its varieties may be more beautiful but not in my eyes. Years ago when I first knew it I had it among yellow California poppies and the grey foliage and yellow flowers of the annual made a pretty combination with the blue of the crocus. In this garden it spears its way through red thyme (*Thymus serpyllum coccineus*) in one place, through *Asperula odorata* and through a small-leaf English ivy, which is not so small leafed now that it has gotten into good soil, as it was years ago when it first came. Then it was in a pot and so small that it couldn't bear anything else but tiny leaves, not much larger than those of *H. h. minima*, but on dainty wiry stems. I had high hopes until it got a taste of good soil and began to stretch itself. It still is quite nice but it has to be watched or it would throttle things.



Harry H. Haworth

Castilleia angustifolia

Some California Castilleias

By LESTER ROUNTREE

The genus *Castilleia* contains some of California's most brilliant flowers,—which is, botanically speaking, untrue, for it is the calyxes and petal-like bracts and not the corollas, which give the color effect.

The castilleias are distinctive in being partially parasitic, for upon their roots are little suckers which feed upon the root systems of other plants. They do not, however, seem to have a restricted diet, for when transplanted, or upon finding themselves growing in unexpected places, most species are adaptable enough to settle the food question without much ado.

Many California castilleias are montane species and therefore hardy. All except two attractive "paint-brushes" are perennials, all have red, yellow or red and yellow bracts, and most have lanceolate leaves. Some of the tiny alpine species are unexpectedly unattractive when compared with the larger species, for although they are beautiful of form and carry well-filled flower spikes, the color is dull and uninteresting.

C. parviflora is perhaps the most prevalent and the best known. The type and its varieties frequent the coastal mountains and wooded canyons

to an altitude of 7000 feet, and the brilliant red bracts flame forth from roadside, hill and chapparal, keeping to a height of one foot or so when growing alone, but forging upward to sun and air, through taller plants, when interfered with.

C. angustifolia is lower-growing and is found chiefly in the desert regions and east to the Great Basin, preferring arid slopes and gravelly soil up to 6000 feet. The leaves are light gray-green and are rather rough, with white hairs along the margins, while the flower-spikes contain shades of pink, salmon and rose, making with the foliage a harmonious color combination.

C. latifolia is a ten-inch coastal species with broad rounded bracts that are inclined to shades of yellow-red.

C. foliolosa has lovely white-woolly foliage and bright scarlet flower bracts. It is found on dry foot-hills and forms

a rather squat spreading plant about the height of *C. latifolia*.

C. miniata is a tall handsome species from the moist places in the mountains where the soil is rich and heavy. It sometimes grows to a height of over three feet and its tall branching flower-stems bear feathery spikes of long pink-scarlet flowers.

C. affinis is another montane species about ten inches tall, growing at the edges of woods or upon dry slopes and having flower-bracts of old-rose pink or crushed strawberry.

C. pinetorum is a low-growing species with sticky dark green leaves and dark red flower-bracts.

All the castilleias mentioned here are perennial, growing from a more or less woody, branched base. All but *C. miniata* require perfect drainage and plenty of humus, sand and crushed stone added to the soil.

Carmel, California.

The New Pink-Tone Daffodils

By EDNA FOOTE

So far as the writer knows, the first of the so-called "pink" daffodils is the Leedsii "Mrs. R. O. Backhouse," raised by and named for herself, for which she received an Award of Merit in 1906, given by the Royal Horticultural Society of London. When well grown, the perianth measures about 4 inches across and is of a rich cream color. The trumpet is $\frac{1}{2}$ inch long, not at all rolled back,—a deep cream with a flush of pink and with a nicely ruffled frill of a very deep rich pink shading.

In one American catalogue which professes to have the highest standard of excellence, I find it listed as a

Trumpet, and judging with the eye it might easily be so called, as the trumpet measures nearly as long as the perianth segment. The very slightly nodding flowers are borne on stiff, strong stems of good length. It is a charming bit of delicious coloring. I have found it listed in two American catalogues.

Twenty years later, in 1926, the father of the modern daffodil, Rev. George Engleheart, exhibited his bi-color trumpet "Rosary," for which he received the R. H. S. Award of Merit. This is a large flower of fine substance and quality. The perianth is pure white, with a big, well-expanded bell mouth of velvety texture and rich,



Malby

Narcissus, Mrs. R. O. Backhouse

warm cream color distinctly suffused throughout with an exquisite flush of faint, rosy pink. All growers say that this color is best when the flower is fully opened on the plant and will not develop if the flower is cut in the bud. It is a robust variety, fifteen inches high, with nice broad foliage and is quite early.

In 1923, the Irish hybridiser, Mr. Guy Wilson, introduced his dainty little Leedsii "Mystic," which is one of the most exquisite blossoms I have ever seen. It received the Award of Merit at the Midland Daffodil show in 1925 and at the R. H. S. show in 1928. Mr. Wilson says it is a cross between a late flowering Leedsii and a superb poeticus seedling of Rev. Engleheart's raising. An exquisite flower in which cool quiet and supremely delicate coloring have attained a superlative degree of refinement; large overlapping perianth of a clear quiet white,—the eye is quite flat, its ground color is white shading to a lovely soft cool apple green in the center and having a well defined narrow rim of dainty soft clear pinkish orange. It is a tall vigorous grower and rapid increaser and very late.

"Suda" is another outstanding Leedsii which was originated by The Brodie of Brodie Castle, Scotland, and given the R. H. S. Award of Merit in 1927. It has a pure white perianth and a smooth bell-mouth trumpet of a lovely pale clear pinkish amber rose color. It is quite a distinct, large flower of nearly Ajax proportions, vigorous and free blooming. It was bred from Lord Kitchener by Nevis.

Last year another Irish grower, J. L. Richardson, introduced his new Leedsii seedling "Fanny Currey," which he bred from Lord Kitchener X Bernardino. The broad, overlapping perianth is quite flat and of grand quality. The cup is large, widely expanded and beautifully frilled at the mouth. This frill is a delicate shade of shell pink, gradually shading to pale lemon at the base of the cup. I am quoting Mr. Richardson's own

description, as my bulb has not yet bloomed.

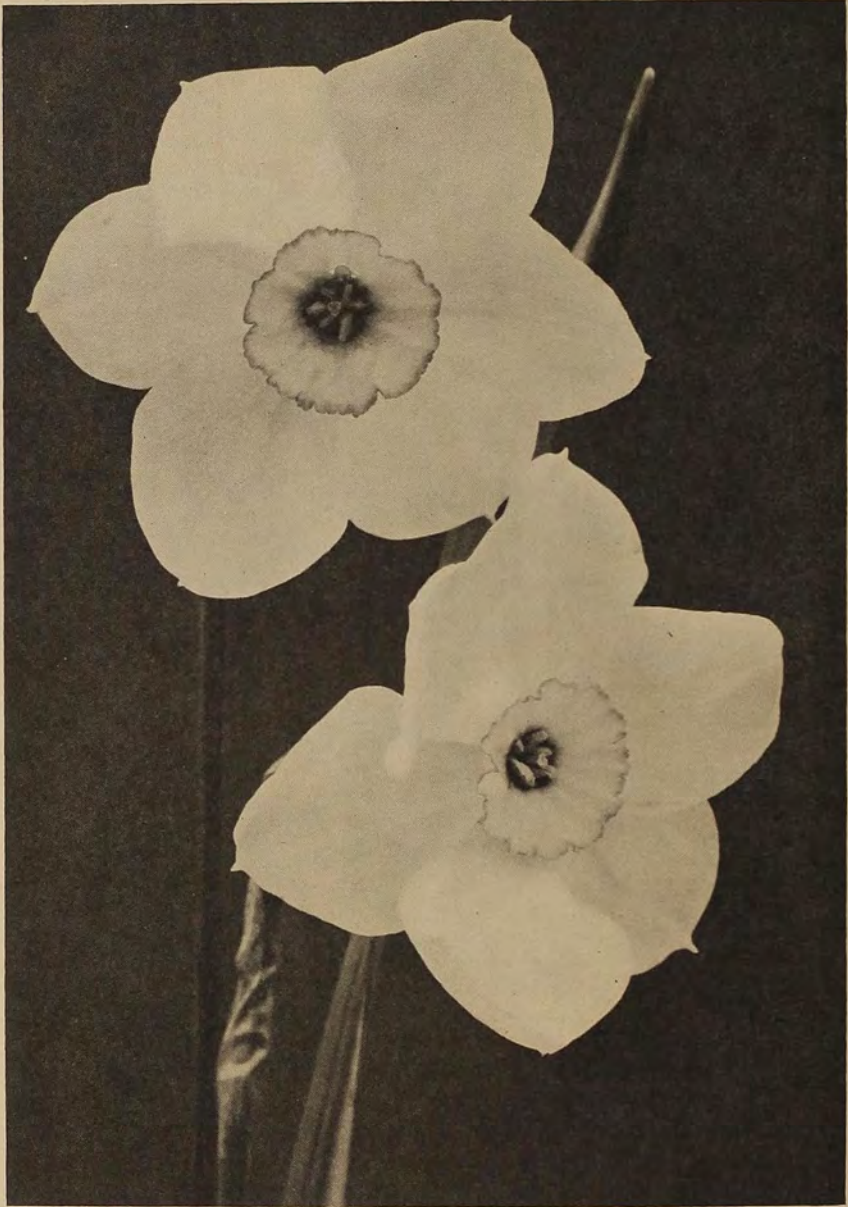
In making my first tour of the Royal Horticultural show last April, viewing the thousands of the finest daffodils in the world, my eye was caught by a new seedling shown for the first time. It was originated by The Brodie of Brodie, Brodie Castle, Scotland, and shown by A. F. Calvert of Cornwall, who owns the entire small stock. Every time I passed it, I thought it lovelier, and finally succeeded in getting one of the two bulbs offered.

It is called "Coverack Perfection" and is a bi-color *imcomparabilis* bred from Mitylene by Fortune. The perianth is a pale cream color with very broad overlapping petals of strong substance. The enormous wide-open cup is exactly like a morning-glory. It is of a delicious pale cream shading slightly to a cool green in the center and edged with a deep primrose suffused with rosy pink.

I also have the entire stock of six other pink seedlings originated by Rev. Engleheart which I selected from his gardens at Salisbury, England. Their entrancing beauty is suggested by such names as Engleheart's "Peep o'Dawn," Engleheart's "Youth," Engleheart's "Easter Morn" and "Evening Glow." These wonderful new seedlings will all be tested for hardiness in our cold Michigan climate before being offered to the public.

Whenever I speak of these lovely new things, some one exclaims—"Pink daffodils—do you *like* them?" I most certainly do. They are not like a pink rose or any other pink flower. They carry the pink tone, mellowed and enhanced and etherialized in beauty.

I can think of nothing lovelier in the garden than a planting of these combined with bleeding hearts, pale yellow and wedgwood blue single hyacinths, bluebells, muscari, and a carpet of forget-me-nots,—all growing under a tree of Japanese flowering cherry with a planting of lilacs and forsythia.

*Malby**Narcissus, Mystic*

Can you think of a lovelier picture in the Spring? The same combination for table decoration with pale yellow, mauve and rose Freesias and just a

few of the pale yellow daffodils added, would be a charming bit for the greenhouse to furnish.

Mr. Guy Wilson quotes a letter from



Malby

Narcissus, Coverack Perfection

Rev. Engleheart in which he refers to "many large forms of the breed with pinky - citrony-buffy-apricotty-tawny-topazy - inside - of - a - melony coloring

which give one a foretaste of the flowers we shall one day have in abundance."

Grand Rapids, Michigan.

Another American Achievement in Plant Breeding. White Delphiniums

By CHARLES E. F. GERSDORFF

Albino white delphiniums have been known in the past, and these invariably have been of weak constitution, shabbily clothed and truly unfit associates of the fine specimens known in the various shades and tints of blue and purple, and in combinations thereof.

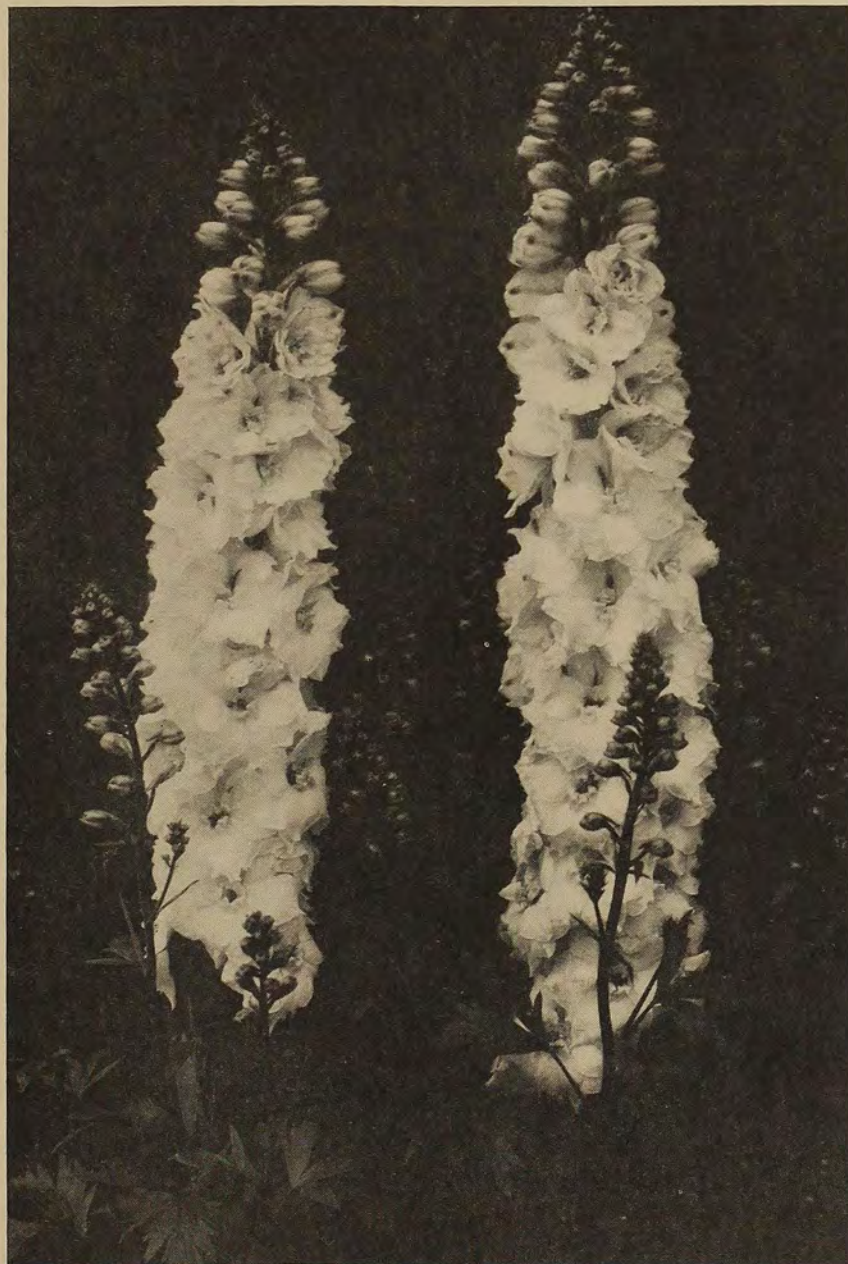
It remained for Chas. F. Barber, "Hoodacres," Troutdale, Oregon, to develop a strain of white delphiniums that breed and seed new white forms of even to 50 and 70 percent true to type, in contradistinction to *albinos* which could not be depended on for white seedlings. A further distinction to this new strain lies in the vigor of the plant and spike, the beauty and size of the individual blossom, comparable to the best in the colored ones.

This accomplishment was had with the fewest possible intermediate stages of development. In the Hoodacres' plantings, *Bridal Gown* was first developed, and when several years later a corresponding double form came, of quite plebeian parents, new efforts towards improvement were put forward. *Bridal Gown* was made the pollen parent of seedlings from a white centered double light blue plant that seemed to have an unusual constitution and from these crosses came a couple of double whites that were an improvement in size over previous ones. For lack of time and opportunity no hand pollenizing was done with the white plants that summer, but seeds that were developed on the older white double, in proximity to the other whites, unprotected against the work of bees, were saved and duly planted. It is at this point in the development of these new whites that the breeder states "the forces of the spirit world can do many things not

dreamed of in our philosophy, and these were consciously at work in the creation of Hoodacres' White Delphiniums." However, the foundation was laid by the careful work of the breeder.

There were many fine white ones from "these spirit world" seeds, one row containing 13 plants, eleven of which were clear white, with good plants and mostly double. All were of the same leafage and style of growth as found in the best hybrids—no shiny stunted leaves or weakly plants. Such a radical change, in so sweeping a manner and so permanently fixed, as succeeding seasons have proven them to be, is most remarkable. Two of these plants were so outstanding in every way that they received the names of Pearl Necklace and The Bride. The first is large flowered and pure white in every detail (see illustration), while the other—by contrast—displays a faint blush which is imperceptible at a casual glance. After these two other choice ones were developed, differing in form, doubleness, and in having tinted or colored centers, with one having fragrance of a kind that has been appearing in Hoodacres' Gardens during the past three seasons.

Other noteworthy ones are White Sister which is of medium height with clear white double flowers of good size and form. Angel's Breath has all the features that make up the beauty of Pearl Necklace with a center of fawn. Bridal Gown is a vigorous single white, though at times showing florets partly doubled. Bridesmaid is a double, tall pure white, with very long spikes. King Midas is large, tall, double white with an unusual sized coal black center. Bridal Veil is one



Delphinium, Pearl Necklace

which is as white as seafoam, with fringed or serrated edges, in large full spikes.

Not only have these named ones

bloomed 50 to 70 per cent true from seeds, but elaborations on them have followed steadily, and more to be named are of course to be anticipated.

The Sempervivums—Les Joubarbes

BY HENRI CORREVEON

(Translated and published by permission)

(Continued from page 40)

SEMPERVIVA HYBRIDS.

As I have said before, the *Semperviva* cross fertilize very readily. There follows a list of the principal hybrids observed and published:

S. ADENOTRICHUM Burnat, Fl. A.-M., Vol. IV, p. 49.

A hybrid of *TECTORUM* and *MON-TANUM*. Differs from *TECTORUM* in the unduly glandular leaves of the rosettes (not to be mistaken for those of *S. CALCAREUM*); its leaves differ from those of *MONTANUM* by their being sharply attenuate to a sort of spine, ciliate with glandular hairs not exceeding those of the surface; rosettes rather large with leaves having marginal hairs like those of *TECTORUM*, but shorter and weaker, mixed with glandular hairs; stem-leaves more or less glandular-tomentose on both faces, tipped with bunches of hairs; stalks 15-25 cm., sparingly glandular-pubescent, especially toward the top; inflorescence rather compact, with short branches; flowers bright rose; petals spreading, more or less pubescent.

Maritime Alps.

S. braunii Facc. See *S. THEOBALDI* Bruegg.

S. COMOLLII Rota, Fl. Berg. 100.

S. rhaeticum Rota, Selon Gremli, Fl. An. Suisse, p. 242.

This is a hybrid of *WULFENI* and *TECTORUM*. Rosettes widely opened (5-6 cm. in diameter); leaves oblong-obovate, abruptly acuminate to a sharp point, glabrous, glaucous, ciliate on the margins; stem-leaves violaceous, with a dark brown, elongate point, the

uppermost furnished with hairs; stalk violaceous, 10-15 cm.; flowers rosy-violet, borne on 4 or 5 branches carrying 9-10 flowers; petals narrow, ciliate on the margin, one and one-half times longer than the sepals.

Bergamasque Alps, Southern Tyrol, and Graian Alps. I have found it between the mouth of the Val Faene (Bernina) and the Valleys Camonica, Brembana, and Scalve (Bergamasque Alps). Received from Prague in 1891, from Van Houtte in 1895, from the Paris Museum (as seed) in 1895, and (as plants) in 1915.

S. COMOLLII VIRESCENS Hort.

A green form of the preceding type, that was sent us in 1891 from the Jardin de Belvédère, Vienna.

S. FONTANAE Bruegg., Cat. Hort. Turic. XII, 1864.

Probably a hybrid of *ARACHNOIDEUM* or *DOELLIANUM* and *TECTORUM*. It is intermediate in form between the parents. A beautiful plant resembling *METTENIANUM*, but with hairs connecting the tips of the leaves. In this regard it is like *FIMBRIATUM*; stalks 10-12 cm.; flowers 2 cm. in diameter with corollas washed with bright rose at the base and yellow at the tip; petals narrow-lanceolate; stamens bright rose.

Alps of Grisons and possibly elsewhere. Received from Kesselring in 1906 and 1911.

S. HEERIANUM Bruegg., Jahresb. Naturf. Ges. Graub. II, 1880, p. 97.

A hybrid of *ALPINUM* and *ARACHNOIDEUM*. Rosettes globular (2-3 cm.



Michael Carron

Contrasting rosette patterns

in diameter) with the appearance of a slender and small alpinum; leaves of the rosettes without glands and furnished with rigid hairs on the margin and at the tips a wisp of white hairs; stem-leaves small, furnished with several scattered reddish hairs; stalks 12-15 cm.; flowers 1.5 cm.; petals bright rose, larger than in *ARACHNOIDEUM*.

Upper Engadine, Bernina, Val Faene.

S. HUTERI Hsm., Dalla Torre & Sart. Fl. Tyr. VI 2, p. 435, Pl. col; Seeboth, Alp. Flora, pl. 90.

Hybrid of *MONTANUM* and *WULFENI*. Rosettes of medium size, spreading (5 cm. in diameter); stolons of 5 cm.; leaves yellow-green, covered with glandular tomentum having on the margin long hairs mixed with tomentum, those of the rosettes wide-spreading, thick, acuminate; stalks reddish toward the top; flowers widely spreading, with lacinate petals, yellow streaked with rose; stamens with red-purple filaments.

It grows particularly in the Tyrol with the types. Received from Kuffstein in 1899 and from Sundermann in 1890.

S. HYBRIDUM Bruegg., Jahresb. Naturf. Ges. Graub. 1880, p. 93.

A hybrid of *MONTANUM* and *DOELIANUM*, very closely related to the latter.

S. LAUTARETICUM Lamotte, Mém. Acad. Sc. Clermont, 1864, p. 296.

A hybrid of *MONTANUM* and *ARACHNOIDEUM*, very close to the latter.

Rocks of Col du Lauteret, Galibier.

S. macranthum Jeanb. & Timb. See *S. TIMBALLI* Rouy.

S. MORELIANUM Viviani-Morel, Lyon Hortie., 1905, p. 295, black and white illustration.

Rosettes 3-4 cm. in diameter, stiff to the touch, with leaves crowded together, oblong, attenuate at the

base, acuminate and mucronate at the tip, glaucous-green with a purple point at the end, ciliate on the margins and carrying at the extremities a tuft of whitish hairs; in summer the leaves grow red; stem-leaves ciliate on the margins and downy on both faces, oblong-acuminate, with a tight terminal tuft; stalks 10-15 cm., glandular-tomentose, reddish; panicles glandular-tomentose, in scorpioid racemes; petals lanceolate, acuminate, spreading like a star, twice as long as the sepals, dark rose at the base and clear rose at the tips, speckled with carmine in the center; stamens with purple filaments.

Collected by M. Francisque Morel of Lyons in the vicinity of Digne and given by the discoverer to our garden in 1907.

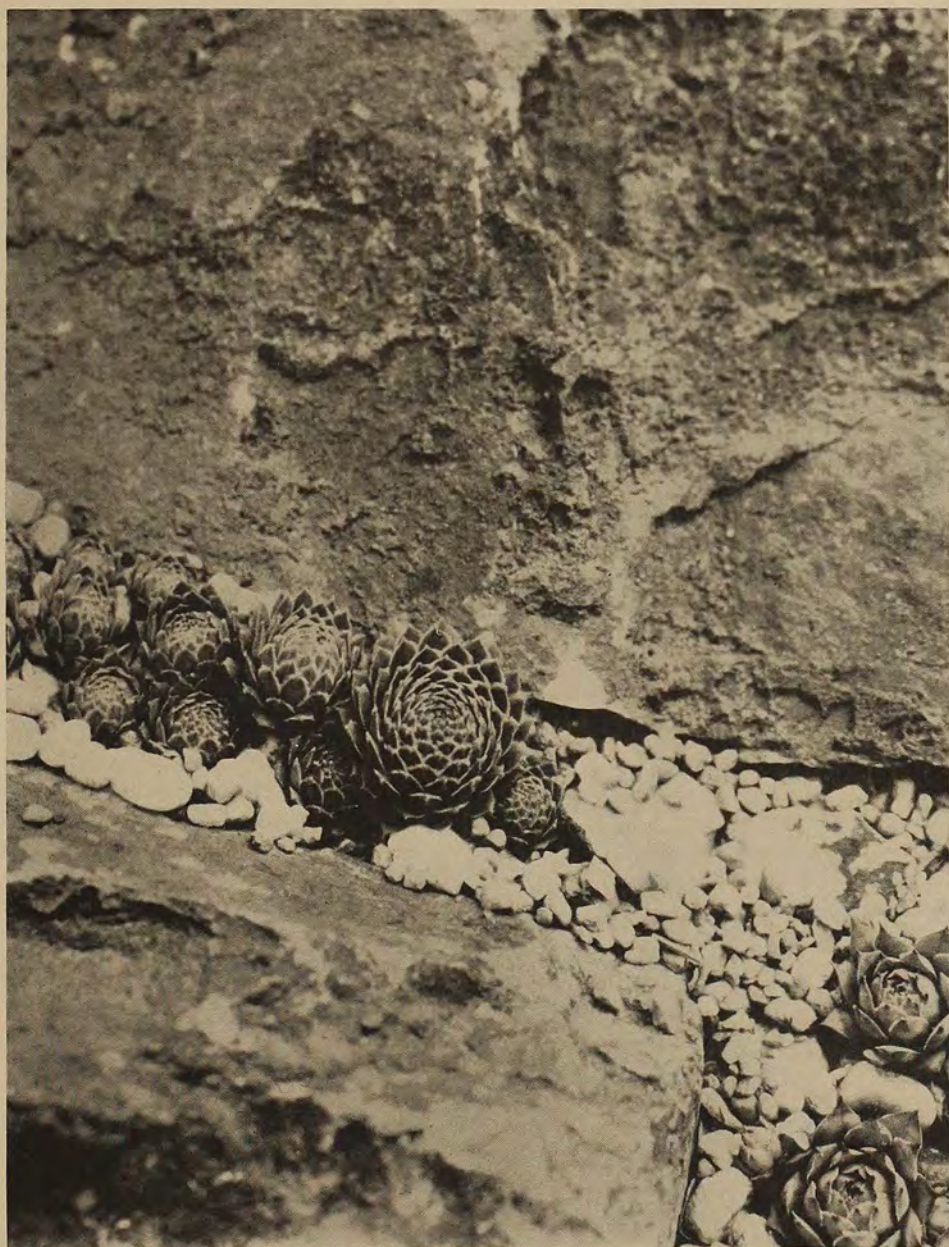
S. POMELLII Lamotte, Mém. Acad. Sc. Clermont, VI, 1864, p. 303; Jord. & Fourr., Icones, tab. 150.

A hybrid of *ARVERNENSE* and *ARACHNOIDEUM*. Rosettes of medium size; leaves oval-lanceolate, glabrous on both faces, with long marginal hairs, white and recurving to the summit where they form a white tuft; stalks 20-25 cm., with elongate leaves brownish on the backs; panicles with 3 to 5 branches, 1 to 12 flowers on each; flowers 3 cm. in diameter, of a very lovely bright rose, bronzed and darker toward the center; petals acuminate and ciliate; stamens with dark purple filaments.

This beautiful plant has been found in the mountains of Puy-de-dôme, of Cantal, of Herault and Aveyron. Received from Van Houtte in 1884, from Chaté in 1890, from the Botanic Garden of Bremen in 1890, from Tottenham (Holland) in 1895, from Prague in 1895, from the Botanic Garden of Laybach in 1911, from Kesselring in 1911, and from M. Pauli in 1921.

S. powelli of some gardens is *S. POMELLII* Lamotte.

Received in 1911 from Kesselring under this erroneous name.



Michael Carron

Sempervivum barbulatum

S. PSEUDO-ARACHNOIDEUM Lamotte, Mém. Acad. Sc. Clermont, VI, 1864, p. 294.

A hybrid of *ARACHNOIDEUM* and *FRIGIDUM* according to the author, who states in his description: This is the sempervivum which has the most brilliant and beautiful flower.

It differs from *ARACHNOIDEUM* in having stolons of two sorts, the one short and slender, devoid of leaves, the other elongate, robust, whitish, furnished with leaves for its whole length; stalks often reddish (20–30 cm.) covered with hairs; it differs further in its large flowers (2.5 to 3 cm. in diameter) pedunculate, the petals of a beautiful bright rose color, darker in the center (5–6 mm. broad and 1.3–1.4 cm. long).

Haute-Queyras, at the foot of Viso and in the neighborhood of the Village of Echalp, where I have collected it abundantly many times.

S. RHAETICUM Bruegg., Jahresb. Naturf. Ges. Graub., 1878–80, p. 95.

A hybrid of *MONTANUM* and *ALPINUM*. Plant caespitose, resembling *funcikii*; rosettes small (2–4 cm. in diameter), sending out stolons 4–5 cm. in length; leaves oblong-lanceolate 1–1.5 cm. in length, glandular-tomentose, ciliate on the margins with a tuft of white hairs at the tip; stem leaves larger than those of the rosettes, ending in a dark brown tip; stalks 12–15 cm.; flowers in 3-parted panicles, each part bearing 12–15 flowers; petals coppery-red, three times as long as the sepals, finely fringed, acuminate at the tip; stamens dark violet.

Grisons and Bergamasque Alps. Received from the Botanic Garden of Laybach in 1895

S. rhaeticum Rota. See *S. COMOLLII* Rota.

S. ROSEUM Hut., mentioned in Vaccari, Ann. Bot., Professor Pirotta, Vol. III, fasc. 2.

A hybrid of *WULFENI* and *ARACHNOIDEUM*; very close to *S. FIMBRIATUM*. Rosettes of 2.5–4 cm. in diameter; leaves oblong-spatulate, not short-acuminate, ending in a short, very acute point, glabrous, glaucescent on both faces, ciliate on the margins with white and short, very slender hairs, sometimes longer and more flexuous on the young rosettes, which often carry as well a slight white tuft on the tips of their leaves; stem-leaves glandular-tomentose on both faces; inflorescence as in *arachnoideum*, but much richer; flowers 18–20 mm. in diameter; petals of a beautiful rose color, broad-lanceolate with a bright carmine stripe in the center.

Southwest Tyrol; Valteline near Bormio and Monte Longa. We received seeds from M. Vaccari in 1911.

S. roseum Jeanb. & Timb. See *S. TIMBALLI* Rouy.

S. THEOBALDI Breugg., Jahresb. Naturf. Ges. Graub., 1880, p. 97.

S. braunii, Facc.

Hybrid of *WULFENI* and *MONTANUM*. About midway between its parents; flowers sometimes rose, more or less deep in hue, sometimes reddish-yellow; rosettes 2.5–4 cm. in diameter; petals narrow-lanceolate; stamens purple.

Professor Theobald discovered it in the Alps of the Upper Engadine and I collected it from the Valley of Faene, in the Bernina.

S. THOMAYERI Corr., Bull. Soc. Hort. Gen., described in 1891; Gard. Chron. 1892, I, p. 104.

A hybrid of *HIRTUM* and *ARACHNOIDEUM*. This plant stands midway between its parents, but is much more strong and better developed than either. Rosettes hemispherical, 9–10 cm. in diameter and 3–5 cm. in depth; leaves serrate and imbricate, thick, spatulate, oblong-cuneiform, glandular-

tomentose and ciliate on the margins, crowned at the tip with a long tuft of white hairs; flowers rose washed with white and with yellow on stalks, 10-12 cm. high.

Dedicated to M. Thomayer, Director of Parks in Prague, who found the plant in the parks of the city in 1890 and sent it to us for determination before it had flowered, which it rarely does.

S. THOMSONI Lindsay, Gard. Chron. 1900, July 14, p. 35.

A hybrid of *ARACHNOIDEUM* and *TECTORUM*, which Mr. L. Thomson sent to the Gardener's Chronicle and which resembles *ARACHNOIDEUM* more than *TECTORUM*.

Received from Kew and from Edinburgh in 1906.

S. TIMBALLI Rouy, Fl. Fr. Vol. VII, p. 146.

S. roseum Jeanb. & Timb.

S. macranthum Jeanb. & Timb., Massif. du Laurenti, p. 367.

A hybrid of *MONTANUM* and *ARACHNOIDEUM* which resembles the two parents and that I do not know. It comes from the mountains of Ariege and is related to *S. FRIGIDUM* from which it differs, it is said, in its larger proportions, its red petals, dark on the backs, and the filaments of the stamens, ciliate toward the base.

S. VACCARI Wilzc., Bull. Bot. It. 1903; Vaccari, II. Semp. Gaudini in Ann. di Bot. Pirotta, p. 39.

A hybrid of *GAUDINI* and *ARACHNOIDEUM*. Rosettes small (1.5-3 cm. in diameter); leaves obovate, short, rounded and slightly attenuate at the tip, strongly glandular (capites) hairs twice as long as in *GAUDINI* and tipped by a tuft of glandular hairs; stalk, stem-leaves, and entire plant covered with long glandular hairs; petals broader and shorter than in *GAUDINI* striped with rose on the back and sometimes self-colored rose; anthers oval (reniform in *GAUDINI*).

Chavanine Alps, Val d'Issime, etc. I have found it on the north slope of the Alps, above Liddes in Valais, near the station of *S. GAUDINI*.

S. VENTOSICOLUM Vilmorin (Hort. Verrière.)

Seems to be a form intermediate between *MONTANUM* and *TECTORUM*.

S. WOLFIANUM Chenev., Bull. Soc. Bot. Gen. 1898, p. 119.

Passes as a hybrid of *GAUDINI* and *FUNCKII* found in the Chavanine Alps (Cogne) in 1896, which seems surprising as *FUNCKII* is entirely absent in the Graian Alps. Leaves covered with glandular hairs mixed with simple hairs twice as long as the former, as is the case with *funckii*.

The First Decade

This issue is the Tenth Anniversary number of the NATIONAL HORTICULTURAL MAGAZINE. It is a milepost on the pathway taken up a decade ago. It marks the realization of some of the hopes and ideals expressed in its beginning and definite progress toward the others. To the bringing of plant and plant lover into an acquaintance even more complete, intimate and chummy, our next decade is dedicated.

In Praise of Annuals

By SHERMAN R. DUFFY

Possibly there is a connection between the vogue of antiques inside the house and the reviving popularity of annuals so often referred to as old fashioned, although for no very good reason. It may be to some extent a desire to establish unity between indoor and outdoor furnishings much as the woman of current garden legend who instructed her landscape architect to design a garden to match her blue interior. Whatever may be the reason, there seems to be a distinct revival of interest in annuals as marked by the "old fashioned" gardens which gain local note along various well-traveled automobile routes.

When inspected, these are found to be gardens of annuals which astonish with their wealth of bloom, for a lavish display of bloom is the most valuable characteristic of annuals, a display which too often is lacking in gardens of more pretentious and obvious design.

Those of us who have made gardening our favorite sport since a childhood of some distance back well recall that our gardening start was with annuals. They were the mainstay of gardens for many years. We did not have the generous variety of perennials, bulbs and shrubs even 25 years ago that are so easily available to-day, but somehow those old gardens of memory seemed to have much more bloom than modern gardens. In all likelihood they did because they were composed almost wholly of annuals.

Garden history is a record of cults, fads and propaganda all of which had some truth in them but none of which had all the truth of gardening. The decline of the annual dates to a great extent from one of these movements, the so-called naturalistic revolt of William Robinson who argued for perennials and hardy plants and against annuals and carpet bedding.

Annuals lost caste with carpet bedding in favor of a more liberal use of perennials. The longer-lived garden materials idea was carried to such an extreme that annuals were driven out of many gardens as banal.

Various garden movements and enthusiasms for certain genera of plants which result in special societies for their promotion result as a rule in bringing the plant or idea in question into its proper garden perspective after overdoing the original idea or plant.

Annuals are easily grown for the most part. They are none the less beautiful and desirable because of this fact. They are quite as necessary in the garden as perennials, the one supplementing the other, for the annuals give a midsummer display when the great flush of bloom of the perennials in May, June and early July has waned and before the fall composites resume the perennial reign. The true value of the annual in the garden is now thoroughly realized and appreciated. The old types have been so developed and improved under modern scientific plant breeding that the old timers are unrecognizable and in this respect the "old-fashioned gardens" on annual display are really quite new fangled.

An interesting fact of an annual culture is the manner in which common garden annuals of a score or more years ago have taken possession of greenhouses, the sweet pea, calendula, and snapdragon being cases in point. The schizanthus or butterfly flower has practically ceased to be as a garden annual and has become an exhibition greenhouse product.

For a full enjoyment of annuals it will be necessary to discard the color schemes of Miss Jekyll and Mrs. King, forget landscape design which has no place in a small garden anyhow, plant

annuals lavishly, recklessly all over the place and let them bloom. Bloom is more to be valued than an axis in the garden. Many interesting gardens have no discoverable axes but are merely masses of interesting and colorful plants and the paths merely serve to make access to the beds easy, and that is the primary function of a garden path.

These remarks are a preface to the fact that many annuals are obtainable only in mixed colors or when seed is offered to color and variety it does not come absolutely true. Were we to banish those we could not bend to some arbitrary and altogether artificial color scheme or imaginary color harmony, the annual field would be very limited. The untouched prairies which bloom so lavishly from May till freezing, although altogether inartistically from the color standpoint of the modern school might well be taken as models for a thoroughly enjoyable blooming garden. We are coming to a point where we have gardens to show design and color pattern rather than plants and with the former this writer has no concern. It will be remembered that the late and much lamented Rev. Joseph Jacob saw this tendency and declared for a garden for plants rather than plants for a garden.

The most omnipresent annual probably is the petunia. This annual has many harsh and undesirable colors, it is true, but it also has some unusually fine ones. It all depends on the strain or variety used. Favorites of the writer are the small and numerous flowered types and the two selections here are Rosy Morn and Heavenly Blue. They can be depended upon, rain or shine, drought or flood, to perform excellently.

Zinnias, marigolds, verbenas, nasturtiums, stocks, mourning brides, pinks, and asters make up the garden standbys that succeed anywhere and that we need in the garden with others, largely matters of individual choice.

Of the new introductions in annuals,

the most interesting seem to be the South African composites, the advance guard being the *arctotis* and *dimorphotheca* which are well known. The most gorgeous of these is *Venidium fastuosum*, but it is not an annual for everybody and there were probably more failures than successes with it, the failures starting with the seeds which did not germinate. It seems to require early starting with controlled conditions of moisture without wetness. Once gotten into growth it does not offer difficulties if given an exposed and well drained situation.

Akin to the *venidium* is the *ursinia* now offered, and said to be of easier culture and of much the same coloring, orange with a dark zone. This is favorably reported by a number of gardeners.

Another daisy, the Kingfisher daisy or *Felicia bergeriana*, gives a fine tone of blue. Although not a personal acquaintance, the writer has reports of very successful trials with this newcomer. New types of *arctotis* and *dimorphotheca* are not difficult.

New snapdragons from Germany, others from England, are added to the attractive list of beautiful varieties of this charming annual which is really a perennial. The wax paper cloches, known in the trade as hotkaps, brought *antirrhinums* through the winter successfully for the writer in northern Illinois, which has all kinds of climate both summer and winter.

The old-fashioned lady-slipper touch-me-not, or balsam, has a new form first shown by the Men's Garden club of Chicago last fall. The flowers appear in clusters at the ends of the branches instead of nestling among the leaves along the stem. It is a fine annual and makes excellent bedding material.

English bedding dahlias of the Coltness types and early flowering chrysanthemums which function in October from May-sown seed are also now in American catalogues. The Coltness dahlias in the writer's experience are more brilliant bedding

plants than zinnias and much more refined in character. The red tones are particularly fine and velvety.

California sends us new annual larkspurs. These are valuable more even for cutting than for garden decoration.

Newer and clearer colors in scabiosas are fine additions to a valuable cut flower list.

The Ball calendulas, the English Radio—not as fine as the Balls—and Sensation make the old fashioned pot marigold a modern gem for the garden.

The violas are now offered in a great variety of seed. Apricot is one of the finest and every garden should have a liberal supply of these fine plants. Blooming the first year as annuals,

they are perennial with a little care and fine types are readily propagated from cuttings in sand.

More and more the custom of growing annuals in rows in the vegetable garden or in a separate cutting garden prevails. It is an excellent, practical idea, particularly with annuals of short season bloom whose place in the garden would be difficult to fill after the annual had done its duty. The cutting garden also saves despoiling the garden planting which can not be cut freely and still give color in the garden.

It is now time to get the annuals started. Plant lavishly to be sure of generous summer bloom. The annuals are the sure-fire supply for this purpose.

A Note on Peony Species

By EARL B. WHITE

The Genus *Paeonia* embraces some thirty-odd species. Of these, there are only two or three which are ever seen in gardens in this country. This article is an attempt to bring to the attention of the gardening public the neglected members of this group, the cultivation of which will prove a source of satisfaction and pleasure.

The peonies commonly met with are either varieties of *P. sinensis*, *P. officinalis* or, more rarely, an old plant of the beautiful shrubby species, *P. moutan*. The Chinese peonies are popular because of their large size and ease of cultivation, factors which appeal to the back-yard gardener, but as is so often the case in horticulture, we must be willing to expend a greater amount of care for a more pleasing result.

It is true that some of the less common species require special attention, but the requirements are definite, and, if complied with, success is assured. While perfectly hardy, even in the latitude of Boston, Massachusetts,

the most common cause of failure is the damage caused by late spring frosts, as almost all of these plants begin growth very early, and are thus prone to have their flower buds injured. If they are planted so that they are shaded from the morning sun this danger is lessened, and if mulching is resorted to, so that early growth is retarded, there is an excellent chance for satisfactory bloom. Tree peonies are particularly susceptible to this damage and should always be handled in this way.

In other respects, culture is simple. Any good garden soil is to their liking so long as it is rich in plant food. Manure may be used, provided that it is kept away from the fleshy roots, but bone meal and a complete commercial fertilizer will serve as well, and are not nearly so dangerous to use. If they are planted in the fall, with the eyes two inches under the surface of the soil, and are mulched over the first winter, they require no further attention, except an occasional cultivation

to discourage weeds, and such routine feeding as is given to all plants. Specifically, this consists of a handful of commercial fertilizer in the spring and the same amount of bone meal in the fall, scattered over the ground about three inches from the stems, and worked into the soil. If the soil becomes acid under this treatment ground limestone is safe to use as a corrective measure.

So few cultivated plants are really happy in shady locations that it is always with a feeling of satisfaction that a new recruit is discovered. These plants usually have matured their crop of blooms before the trees are in full leaf, and their beautiful foliage, of varying shades and forms, from fine narrow light green, to broad, dark green, and in some cases coppery bronze, is a source of pleasure throughout the remainder of the growing season. So well suited are they to these conditions, that they are used extensively in England in woodland gardens. Then, too, due to their comparatively short stature, and to the fact that many of them are found in their wild state, in mountainous countries, they are at home, and may be used harmoniously in rock gardens.

The field is so broad that no attempt will be made to go into detail regarding most of the species. The shrubby ones, however, *P. moutan*, *P. lutea*, and *P. delavayi*, are of sufficient interest to warrant more extensive treatment.

At one time, varieties of *P. moutan* were comparatively well distributed in the northeastern States, but due to the fact that they are difficult to propagate, and perhaps due to neglect, their culture was abandoned until recent years. They are again coming into favor and with better knowledge of propagation, will eventually assume their rightful place in horticulture. They grow into a somewhat unsymmetrical bush about five feet high and the same in diameter. Their ungainly growth is forgotten, however, when the blooms appear. The colors range from white to red with some of

the varieties showing unusual and pleasingly clear shades of salmon and scarlet, and with an array of forms from single to full double. The texture of the petals is so fine that it appears too fragile to last, but the blooms stand up well. The crinkled, crepey forms of the petals lend a charm not met with in other peonies.

The other two members of this group are very much alike in habit, bloom form and color. *P. lutea* is considered by many to be merely a variety of *P. delavayi*, from which it differs chiefly in being clear yellow, while *P. delavayi* is blotched with red at the base of the petals and even, in some cases, entirely red. Both are singles of excellent texture and about four inches in diameter. They have extremely sweet and lasting fragrance, a characteristic which *P. lutea* has transmitted to hybrids between it and varieties of *P. moutan*. This is a race of plants which is in its infancy and from which great things may be expected in the future if the beauty of its present members is taken as a criterion.

Yellow is a color of no small interest to the peony lover. In Chinese peonies entirely yellow flowers have never been produced. Two of the other herbaceous species have yellow flowers, Both are singles. *P. wittmanniana*, a pale yellow, has been crossed with Chinese peonies by Lemoine and others, to produce a race of early blooming plants of distinct garden value, but of no improvement in color over the parent. *P. mlokosewitschi*, a comparatively recent discovery, is a deep clear buttercup yellow, to which hybridists are looking as the possible parent of a race of true yellow herbaceous peonies. It is still quite scarce but is worth the trouble to secure, as its foliage is distinct from all other peonies and is beautiful during the entire season.

Many of the species have flowers of that bluish pink which is such a trial to the eye of the artist. Catalogue descriptions have a way of differing

sadly from actual blooms. This shade will be left severely alone, and only those plants will be described which are distinct and outstanding.

The majority of the varieties of *P. officinalis* are worth cultivating. The double crimson is the one most often grown. This group contains several real gems, with distinct, glowing, clear colors not seen in other peonies. *P. lobata* gives to its varieties Otto Froebel and Sunbeam, its bright, clear, almost cerise pink shade. These three are worth a place in any garden and will blend without clashing in color harmonies. Ceres and Charmer, though not varieties of *P. lobata*, also exhibit this clarity of color. Fire King and *anemoneflora aurea ligulata* are reds of clear color while the recent Dutch variety, Lize Van Veen, is said to be pure salmon pink.

Of the other species, *P. macrophylla*, a pale yellow single fading to white on opening, is characterized by broad handsome dark green foliage which makes a lovely picture in the border during the entire growing season. It is an extremely early bloomer, often opening before *P. tenuifolia*, which

usually leads the procession. Last year the height of the peony season in my garden fell on June 6th and *P. macrophylla* bloomed on April 27th.

P. tenuifolia, the species, is a dwarf red single, with finely cut, delicate light green foliage, which sometimes dies down after blooming, to appear no more until the following spring. There are five varieties in this group, differing in foliage, color, and bloom form and all are distinct and worthy of cultivation. The double crimson variety, *P. tenuifolia flore-pleno*, has received a rating of 8.5 out of a possible 10 in the symposium of the American Peony Society.

These plants should be of particular interest to gardeners in the South where it is impossible to extend the peony blooming season on the late end because of the extremely hot weather. The use of some of the species mentioned will lengthen it at least a month on the early end. This factor, in addition to the beauty and adaptability of the subjects should secure for them a place in your garden.

Kensington, Md.

The Influence of Fire on Western American Flora

By CARL PURDY

In reviewing the various causes for diversity and location of the trees, shrubs, and plants of the Pacific Coast, Professor Jepson, our leading botanical writer, puts fires as among the most potent. The same thing may be said of most of the flora west of the Mississippi. I do not know whether fire had much to do with the flora of the Atlantic region, but doubt it, for rains were more frequent and fires less common or widespread. It is said, however, that the Indians set fires to open up land for their crops.

In California the deep student can see the effects of fire everywhere. That does not mean that he sees blackened areas and dead stumps all around or even often, but the effects of fires are far more deep seated. For a very long time preceding the white occupation of the country the Indians burned grass and brush at rather short intervals. We do not know just how short but it is probable that they waited no longer than for a growth of brush that would burn well. This practice made it easier to hunt and because fire stimulated the

growth of bulbs and plants which they used for food, and in heavily timbered areas it opened the trails over which they made trips to lakes for fish or to the seashore for seaweed used for salt.

Before there were Indians, it is certain that fires were frequent. In one electric storm in northwest California, the forest authorities reported over thirty fires set by lightning. While not so easy to trace and prove, it is very likely that rolling stones might strike sparks which falling in dry matter would make a blaze. When it is considered that in California there is little or no rain for the period from June to October, or even later, and that everything gets tinder-dry, we can easily surmise that once started, fires burned until inflammable material was exhausted.

We do not have to look far for proofs that fires have been periodic for many ages. One and perhaps the oddest is in the life history of the knob cone pine. This pine is found in some of the driest portions of northern and central California and has a cone so dense in the structure and so pitchy that it never opens of itself by sun heat. It will rot first on the tree to which it sticks. When a fire burns a grove of these pines, the cones open by the heat slowly so that the seeds are dropped in the cooling ashes and a new grove is seeded. As this pine is not long-lived, it is plain that without fires it would have died out. In the northwest, *Pinus contorta* has the same life history.

The most perfect and indelible of proofs of recurrent fires through very long periods lies in some of the trees. In those brushy or thickly timbered areas of California called chaparral, all trees and shrubs belong to two classes. In the first are those which sprout freely from the burned stumps and thus perpetuate themselves. In the other, very hard, bony seeds are produced and these seeds can lie dormant for many years and would be uninjured in most fires. When fire occurs they come up in great numbers. A tree like the Douglas spruce, the

young specimens of which have thin bark which a fire easily kills and whose seeds are inflammable and do not possess much vitality after a year, could not exist in a region of frequent fires. On the other hand, take the Californian Laurel (*Umbellularia*). It sprouts freely after a burn and is hard to kill if you wish to do so. Ages ago, we will say, one was burned while young. Sprouts came along the outside, and in time they again were burned, the new sprouts being borne on the outside. This would be the case both because there would be a gathering of inflammable material at the center and because in time the older wood would decay and be burned out. Burning after burning at varying intervals occur through the hundreds of years and finally you have a tree like one in my garden in which beautiful trees make a circle about twenty-five feet across with the wood in some sections disconnected, while in others a rim of wood may connect several groups. How old, I may ask, would such a tree be? And I would answer that a guess of several thousands of years would not be amiss. In the redwood forest the so-called "goose nests" were formed in the same way. They are much larger and usually have a rim of wood connecting all of the tree sprouts. In the chaparral regions of California many species of trees show this formation and all alike tell of long repeated fires.

Not only the trees and shrubs but the flowers of such regions show adaptation to fire. In a brushy area one may see very few flowering plants and apparently none of some species, while after a burn the area will be a solid mass of bloom of many sorts and amongst them some of which not a single plant could have been found before the fire.

I do know that certain flower seeds can remain dormant a long time. Just how long I do not know, but the following is an instance. For some years my work took me into a certain region of Lake County, California, at the flower-

ing season and during these years I saw a single plant of Argemone. The Argemone is of the poppy family, very prickly and with a large white flower like tissue paper, a flower that one could hardly fail to observe. This one example was in a gravel bed near a road and I thought that the seeds had been brought in by travelers, man or animal. One year, when five miles away, I came in sight of this mountain. It looked like there had been a slight fall of snow. They were all Argemones. The seed had lain dormant at least twenty years.

When Americans came to California large areas were open and grassy, and there are some still so, but a very large area, then grassy, is now in timber or heavy brush. One might have attributed the openness to poor soil or lack of moisture but that theory would be contradicted by the actual fact that the grassy lands were richer and the other fact that since that time trees have grown in them. In those days when there were few domestic animals the growth of grass was very great. When in midsummer it caught fire, the heat was sufficient to kill even the top growth of trees, so trees could not spread by seeding because the intervals between fires were too short for them to reach the flowering age. The distribution of the flora again was largely governed by fires in many places. The flowers characteristic of open spaces would seed into the vales and interspaces of wooded areas and would not be choked out before another fire restored growing conditions.

Fire, too, has determined the shape of a vast number of trees over eighty years of age. An oak might naturally go up rather straight but when burned would send up several sprouts above the ground and now is a cluster of trees making a round-headed group rather than a tall tree. By far the larger part of oaks, laurels, and madrones of to-day illustrate this result.

The prairies from the Missouri River west were almost treeless, but while moisture was not so plentiful, the real

reason, as in California, was the fact that grass fires kept trees from either growing or reaching the seeding age.

I have said that the Douglas spruce did not exist in the chaparral area where fires were periodic, but I must qualify that statement by saying that single trees or little groups of large old trees did continue to live on very rocky knolls or very steep slopes where enough tinder could not accumulate to make a hot fire. When fires became less frequent these isolated groves seeded out along the hillsides so that considerable tracts are heavily covered with them where none were before. Strangely enough, some of the isolated groups of Douglas spruces, whose situation had protected them through ages of frequent fires, have been killed by fire of late years. When fires were frequent in the steep country in which they lived, the heat was never enough to kill them, but when a fire burned the accumulated mass of leaves and dead brush of twenty to forty years, they were destroyed. On my own land there was a superb grove of very large black oaks, many hundreds of years old. They were killed by a fire about ten years ago. For this reason, enough rubbish had accumulated so the resultant heat killed a tree a hundred feet high.

Some bulbous plants like Erythroniums thrive best in light shade and the same may be said of some of our lilies. In the older days when fires crept through the large timber with little heat because there was so little accumulation of tinder, they left the woods park-like with large interspaces and practically no young trees. In many such places lilies, like *Lilium humboldtii* in California, or *Lilium washingtonianum* farther north, were plentiful. During the last thirty years the woods that have been cut over have reseeded so densely that no lily can survive and the uncut woods have inter-seeded as densely. The year following a fire which crept through the low brush or open timber, the stronger lilies in more open places

seeded heavily, while by the second year the almost shaded out bulbs recovered their vitality and flowered freely. Seedlings came up in abundance. As the brush grew up these gradually shaded out until only in the more open spaces did any survive.

With *Erythroniums* the cycle varied somewhat, for in even heavy shade they would make leaves with few flowers, but after a fire those in less shaded places would flower wonderfully, and the second year those in the very shaded places would flower and seed and again the cycle would be repeated. The plants characteristic of woodlands often produce an abundance of seeds, but where there is an accu-

mulation of either leaf mold or leaves it is seldom that seeds germinate.

Some of the *Cypripediums* produce an incredible number of seeds, yet groups of *C. montanum* which I have known for forty years are no more numerous now than then. An extreme instance of this is *Sarcodes sanguinea*, the brilliant snow plant of the Sierras. It is a saprophyte, a plant whose roots are not like those of other plants and require a certain leaf mold. The seeds are very fine and very numerous. I doubt if one in a hundred thousand germinate, or if they do, germinate where living conditions do not permit the seedlings to survive.

Ukiah, California.

Charming Native Iris for the Alpine Garden and Other Desirable Dwarf Sorts

By EDITH H. BANGHART

Recently I spent several days on the California Coast in the vicinity of Point Reys. The rolling hills, vivid in their new spring coat of green made a decidedly picturesque setting, with the whiteness of the sand dunes covered with brilliant sand-loving creepers, orange, magenta, and blue, and the clear deep blue of the sea as far as one could see. It was a heavenly picture. But to get to the seashore, one had to wade through the even more lovely yellows and blues and purples of myriads of wild iris, the beauty of which is just impossible to describe.

There are so many charming and delightful little types of dwarf iris. Lovely ones are native of our own country, and those little natives from other shores seem to make themselves happy amongst us, too.

We find little wee types growing in jagged rocks far out on the coast; they are not to be found anywhere short of the Arctic Circle, some authorities tell us, but there they are; and

not the least mystifying is the fact that they seem to be growing right in the rocks with little or no soil.

Again, as the season advances, we will find beautifully colored varieties growing all along the river's edge, and in the mountains under some gnarled and storm-tossed conifer. And, too, we will discover them at the edge of some silent forest bidding us to enter the woodland and seek further treasures. And so we find that in almost every environment and every clime there are dainty little types to give us cheery satisfaction in our alpine gardens.

For those who desire the collection of dwarf iris as a pastime, I append a few of the most interesting varieties. It is rather difficult to make a comprehensive selection in a small space. Personally, I believe that the following are amongst the most choice, many of which are obtainable in America. A few dislike being disturbed, but many of them can be grown from seed, which in

itself is a delightful and refreshing hobby.

The West Coast has many beautiful iris. Most of them are dwarf, and nearly all of them particularly suitable for the rock or wild flower garden. The yellow-flowered types are very desirable. These include *I. bracteata*, golden yellow; *I. chrysophylla*, another dear little yellow type, both of these from Oregon; and *I. gormani* and *I. purdyi*, pale cream, from northern California, and southern Oregon.

Then the taller growing sorts, but still in the dwarf class, are the beautiful California hybrids, which are lovely to naturalize in a wild garden or beside the stream; and then there are *I. douglassiana*, *I. longipetala*, *I. missouriensis*, *I. macrosiphon*, *I. tenax*, and *I. tenuis*, all of which are charming and interesting, and from Washington.

But for the real satisfaction of possession, I would suggest the dainty and minute *I. arenaria*, simple in its little petticoat of yellow with brown markings, loving, as its name implies, a sandy and sunny location; and along with it in the same class, would come the dainty little *I. lacustris*, almost identical, but in a dainty shade of blue. But while one hails from Austria-

Hungary, the other comes from about the same habitat along the shores of Lake Michigan.

Then, in the same class of satisfying types, I would say that *I. persica*, *I. minima*, *I. verna*, and *I. cristata* both blue and white, would be delightful for the more dwarf sorts. *Iris reticulata* and *I. bucharica* are choice bulbous sorts. Very many of the subgenus apogon are delightful types for the rock garden. Those that I am familiar with are the lovely *I. ensata* from Russia and Kashmir, *I. aphylla* and *I. alata* from Algiers and Spain, frequenting the sunny sand dunes. When planted in our own gardens these must have excellent drainage, and the protection of a large rock or a rock wall, and plenty of leafmold and sand.

And last but not least, the lovely Oriental types: *I. gracilipes*, the dainty little crested iris of Japan, the blue and white *I. tectorum*, the dainty *I. forresti* from Yunnan, and the taller growing *I. wilsoni* with its colorful combination of purple and gold. And, of course, we must not forget the winter-blooming *Iris stylosa*, both the blue and the white. And there are many, many more, but if you have these, consider that you have a good start.

Medina, Washington.

Amateur Garden Propagation

By KATHERINE FORDING FELLOWS

Those of us who collect plants for the rock garden, on getting a plant that pleases, often wish to increase the stock. In order to do this without expense, I have experimented in propagating them by division and cuttings and am wondering if there might be some members of the A. H. S. who have not ventured along this pleasant and profitable way.

I helped myself to this happiness, getting the inspiration from observing people root roses under glass jars; the thought occurring—if roses, why not

other plants with woody stems? With this in mind we tried a couple of cuttings from evergreens—*Retinosporas*, var. *plumosa* and *pisifera*. They responded in a way—to me—marvelous. I was about as surprised as the Witch of Endor when she got what she asked for. Since then my enthusiasm has caused me to venture more and more, usually with good results.

No doubt the professionals have better ways, but those of us who garden on a small scale do not have their equipment and if we can grow plants

under glass without a greenhouse—why not? The requirements as I have found them being, soil prepared with sand, shade from the hot sun, a glass covering which should be pressed into the earth, and occasional watering without lifting the glass. As to time, I find best the early part of the season and again about the first of September, avoiding starting them in the hot dry season. There are certain plants plucky enough to grow without glass, but they seem to hasten along faster with it. So for this purpose I utilize fruit jars, jelly tumblers and, the past season, glass globes from discarded light fixtures with the glass tops of a certain type of fruit jar for covers. This was convenient, as when I wished to make observations—off came the cover!

A place that has proved favorable is among a peony planting, the foliage giving shade. In late fall when peony tops are cut off we fill in with leaves. As to how long to leave the glass on—it will vary, as some plants need more time than others and sometimes weather conditions are more favorable. So we will say till the plants have good roots.

Some of the plants that I have grown in this way are: aethionemas, androsaces, armerias, *Asperula cynanchica*, *Artemisia frigida*, achilleas, campanulas, dianthus, drabas, erodiums, geraniums, iberis, pentstemons, *Phlox bifida* and *P. divaricata*, polyanthus roses, veronicas and dwarf evergreens. Primulas, in the easier growing varieties, can be lifted just after blooming, separated, and if given some shade and

moisture should grow without glass. Heucheras also can be started by breaking off the stalks near the ground and planting as one would house geranium slips.

As to the evergreens, each year I plan to buy one or more dwarfs and from these I make my cuttings. Evergreens are rather slow in developing, and, as Mr. Cox has reminded us, we Americans are inclined to be impatient of waiting, instead of finding pleasure in the individual plant and watching its development. As soon as the prostrate evergreens are rooted and can be placed in the rock garden, they are a bit of green loveliness which reaches out little by little; and, for myself, I feel about it as Jacob did when he served seven years for Rachel—"He loved her so the time seemed short."

Besides the retinsporas I have been successful with three varieties of Yews (*Taxus cuspidata*, *T. canadensis* and *T. brevifolia*). Of junipers: Sargent, Japanese, Tamarisifolia, Savin, Horizontal, and three varieties of *Juniperus communis*. In the fall of 1929 I made sixteen cuttings of a dwarf thuya, putting them under jelly tumblers. All of them rooted and are now in place, forming an edging which I plan to keep clipped and low.

After becoming enthused one will discover many things for himself. When you fail, charge it to neglect, either through allowing the cuttings to dry out or be burnt by the sun. Even after your plant has roots, give it loving attention in dry times.

Belvidere, Illinois.

From Our Affiliated Clubs

GALESBURG HORTICULTURE AND IMPROVEMENT SOCIETY

The Galesburg Society is one of the oldest parts of the present American Horticultural Society, for it came over

to us from the National Horticultural Society and has shared in our plans for the growth of the entire organization, under the devoted leadership of Mr. C. Z. Nelson, the president of that group.

Mr. Nelson writes that the great feature of the year for them was the Annual Flower Show, which was held this year in Galesburg in conjunction with the show of the Illinois Gladiolus Society, with the result that they had the biggest and best show in the history of the organization. In spite of the heat and drought, gladiolus came in from all over the State and in addition there were the displays of other flowers not only from Galesburg but from Monmouth, Abingdon and elsewhere. Mr. Nelson writes in part, "The annual flower shows sponsored by our local have become recognized as probably the largest and the most complete in detail in America. Exhibitors are divided into professionals, semi-professional and amateurs and exhibitors are not excluded on account of non-residence. Judges are selected experts, one florist, one nurseryman and, if possible, one botanist. The rules and standards required in judging and awarding are prescribed by the society. * * * Our ambition is to develop into the most prominent organization of its kind in the country. We have already offered to aid Peoria and Bloomington, * * *"

One feels certain that with such a fine spirit, there will be no limits to which this active and growing organization may not attain.

THE GARDEN CLUB OF ALEXANDRIA, VIRGINIA.

Restoration of the Courtyard at Gadsby's Tavern is the outstanding accomplishment of the Garden Club of Alexandria, for 1930.

This old Tavern, once known as the City Tavern, is one of the most important landmarks in the early history of our country. It has been recorded, since the days when the British flag flew from a staff in the Courtyard, and brilliant birthnight balls were given in honor of the King and Queen, that the life of George Washington and the epoch-making history of the City Tavern are inseparable.

Gadsby's, being on the Kings High-

way, was a link in the chain of taverns that ran from Williamsburg to Boston, and was frequented by most of the famous men of Colonial days. It is not difficult to imagine the many and thrilling scenes that took place when the tired horses and mud-covered stages rumbled into Gadsby's Courtyard. Here, on one occasion, when John Paul Jones—founder of our American Navy—was a guest, he met the Marquis de Lafayette and Baron de Kalb, who had arrived from France to help the Colonies in their struggle for liberty, and a friendship was formed that lasted all their lives.

Many interesting stories have come to us of meetings in the old Tavern Courtyard, all of which are fraught with the dangers, hardships, and even romances, in the making of a new country.

The age-worn material used in the restoration of the Courtyard is replete with interest of Alexandria's early days. Soft-hued brick brought from the ruins of "Abingdon"—birthplace of Nellie Custis—form a high wall mounted with caps from the Aquia Creek Quarries, once owned and operated by George Washington. What remains of the Courtyard, is paved with cobbles, taken from the old streets of Alexandria, said to have been laid by Hessian soldiers of the Revolutionary War, and crossed by herringbone walks of mellowed brick edged by timeworn sandstone curbing. The flagging that forms a terrace in the rear of the Tavern was once in the crosswalks of the old city streets and now, worn thin and smooth by passing footsteps of nearly two centuries seems to embody the charm of the old town and bring back varied scenes of stage coach and tavern days.

Planting has been deferred until spring, but as soon as the weather permits, the Courtyard will be framed with old-fashioned evergreen trees and shrubs, some of which have been donated from old homes in this vicinity.

MARY LINDSEY.

GARDEN CLUB OF FAIRFAX, VIRGINIA.

The Garden Club of Fairfax, which has been established for five years, sponsored a program last year that is probably the outstanding feature of their five years work.

Members of the Club visited the Fairfax School at several Friday Morning Assemblies and talked to the children about gardens and garden making. Seventy-five of the children, including scholars from the first to the seventh grades, agreed to plant gardens.

The gardens were limited to 16 square feet of planting space and uniform seeds for planting were donated by the president of the club. Each child planned his own garden and some of the plans were most original.

A committee from the Garden Club visited the gardens during the growing seasons to offer suggestions and encouragement and a second committee was appointed to judge the gardens at the close of the season.

In spite of the worst drought that Virginia has ever known, 40 of the 75 gardens planted in April were cared for during the entire season. A silver cup and two cash prizes were awarded to the three best gardens, and honorable mention and small cash prizes were given to 25 more gardens. It is worthy of note that the 3 first prizes went to children in the 2d and 4th grades.

Special classes for flowers grown in the "School Gardens" were arranged at the County Fair and the flowers in these classes were in many instances superior to those grown by experienced gardeners.

A number of these gardens were planted at small homes in out-of-the-way places where the front yard would be full of weeds, the back yard bare to the kitchen door. The only bright spot and frequently the only clean spot on the place would be the children's garden.

The children and their parents were so enthusiastic about the "School

Gardens" that the club expects to make them a permanent feature of their work and eventually to organize a junior garden club in the school. If we are able through this work to bring to people who have not had the opportunity to acquire a love for flowers and an appreciation of what growing flowers can do for every person and every home the Fairfax Garden Club will not have lived in vain.

MRS. E. H. CHILCOTT.

TUCKAHOE GARDEN CLUB.

The most important piece of work accomplished by the Tuckahoe Garden Club of Westhampton, at Richmond, Virginia, in 1930 was the passage of a bill by the Virginia Legislature providing for a landscape planting engineer to work as a member of the State Highway Commission. The introduction, the lobbying and the passage of the bill occupied three weeks. In spite of some strong opposition, we were able, with the support of Mr. Henry G. Shirley, Chairman of the Virginia State Highway Commission, Mr. William E. Carson, Chairman of the State Conservation Commission, a number of the newspapers throughout the State and most of the Garden Clubs, to see the bill through. We feel very proud of our legislators who had the vision to pass such a wise and constructive law.

After careful examination of a great many applicants, Mr. Shirley appointed Mr. H. J. Neale as Landscape Planting Engineer, and he went into office six months after the passage of the bill. Mr. Neale has already gone to work on a splendid program. Its development must of necessity be somewhat slow, but with the help of the Garden Clubs and the public at large, we hope to have, before very long, highways that are beautiful with as many of the old trees as can be saved and with naturalistic planting of our native flowers and shrubs. We wish Mr. Neale all success in his work.

(Signed) Executive Committee
of the Tuckahoe Garden Club.

THE FEDERATED GARDEN CLUBS OF
CINCINNATI AND VICINITY.

The Federated Garden Clubs of Cincinnati and Vicinity extend felicitations on this anniversary of the American Horticultural Society, and express their appreciation of its efforts to promote a spirit of cooperation among horticultural enthusiasts.

Individually and as a group we hope to lend our influence in some small way to secure members for the society, for we feel there is needed in these United States the inspiration only a great Horticultural Society can give, such as the people of England are receiving from the Royal Horticultural Society.

Our clubs are making steady progress, not alone in the growing of better flowers but are working constructively on the thought that inasmuch as the citizens of to-morrow will depend upon what we make of our children of to-day, we are forming Junior Clubs and Garden Guilds, as a means of awakening in our school children the knowledge and love of growing things, a greater civic pride, and in the National Flower and Garden Show in March, 65 schools made creditable exhibits.

MRS. SILAS B. WATERS.

THE LAKE WASHINGTON GARDEN
CLUB, SEATTLE.

Nine years ago last fall, twenty-five women organized themselves into what they named The Lake Washington Garden Club. They met on the second Wednesday of each month at the homes of the members.

As time went on, other women applied for membership and a chance to share our pleasant and profitable meetings. However, it was agreed that twenty-five were as many as could meet in the intimate and informal way we enjoyed and so a second group of twenty-five was formed and later, as need arose, still other

groups were organized. At present there are five of these units, all working under the same constitution and by-laws, and all meeting on the same day, but with different officers and different hostesses and different programs.

Each spring and fall there is a joint meeting of all the units for a lecture or show or plant sale, so that the members can meet and become acquainted.

To take care of the club business and hold the different groups together, there is a governing board composed of the president and an elected member from each of the units. This board also passes upon all new names proposed for membership in the club and supervises the waiting list from which old units fill their quota and from which new units are formed.

One unique feature which is common to the meetings of all the units is our way of responding to roll-call. When her name is read by the secretary, each member is expected to have some item of interest to read or tell to the club and also she has an opportunity at that time to ask advice about any garden problem which is puzzling her. With the small group of each unit, this is very simple for the most timid speaker.

In fact we feel we have kept the advantage of a small club although we are growing into quite a large organization with the ability to undertake projects which are possible for a larger body.

ELLEN WOLCOTT CHENEY.

GARDEN CLUB OF OHIO DAY

"Come into the garden, Maude,
I am here at the gate alone"

would seem to be the message of the white and green flag of the Garden Club of Ohio, standing in front of the gates of hundreds of members of this organization on Garden Club of Ohio "Day," usually the fourth Wednesday in every month from May to October, inclusive. All garden enthusiasts love to gather together to visit nurseries, public and private gardens that they

may receive direct impressions, tell their successes and failures to one another, beg a slip or exchange seeds and ideas, and look with admiration and perhaps envy upon a new or exceptional plant. We want every garden and nature lover to come into our garden, but, if always open to the public, what privacy would our families have and wouldn't the children soon learn to dislike mother's or father's hobby? The conception of one common "At Home," once a month last summer, proved most successful.

If one is not feeling especially hospitable, if your garden is not up to the mark, or if for any cause your garden is not on exhibition, then the flag is not placed at the entrance and no matter how disappointed we may be, we do not enter where there is no flag to invite us.

All of the clubs in one town may visit among themselves or may migrate individually or in a body to another town, starting early in the morning (gardens open after 10 a. m.), and visit gardens where the flag stands at the gate. At noon, while waiting for luncheon, waiting on the cool, shady porch of club house or inn, then be instructed on subjects all are interested in or wish to know more about, such as paper mulching, cold frames, flower arrangements, points of judging, etc.

This year there are plans to have lectures and make provision for entertainment in the five different zones. Some of the presidents of the older and larger clubs will be "At Home" at four o'clock to serve tea or punch to all who enter the gates; in fact last summer we saw in many gardens inviting looking bowls of cold lemonade or iced punch, reposing under shady tree, in a tea house or comfortable porch, and accepted with alacrity the invitation to partake of this refreshing nectar. Each member will receive a miniature replica of the gate flag bearing her name to pin on, as his or her membership card. Members may bring a guest at a charge of twenty-five cents a day. These guests will be supplied with a different colored flag each time. The application for a gate flag is made to the Locater Chairman, at this office, by sending thirty-five cents (actual cost) together with name, address and type of garden. These names are listed in the Locater, each club to have such. The flags are sent in cartons, and are to be rolled, replaced in cartons, and kept from month to month and year to year. They are to be hung from a green wire plant stake that the gardener furnishes.

MRS. KERMODE GILL,
Cleveland, Ohio.

A Book or Two

Johnny Appleseed and Paul Bunyan, by Henry Bailey Stevens. Walter H. Baker Company, Boston. Three Acts with Prologue. 75 cents.

With ten thousand unemployed apple seeds and a shovel Johnny Appleseed (alias John Chapman, late of Philadelphia) goes out to make a flower garden of the wilderness and to vanquish the Indian. That he does the

latter by friendship the play purports to prove. How successfully he did the former might be ascertained by listening in at a closed session of the Farm Board when the subject under discussion was the control of production or the pegging of prices for the apple crop.

The main character of the piece, we learn in the prologue, is an apple tree of some fifty summers. By some

mysterious reversal of time or process of idealization, however, during the year and a half the action of the drama covers, the Tree loses some of its venerable years. At the end Johnny pleads for the life of the tree, once revered as "all of fifty years," but now worshipped as a beloved object in a vaguely arrested period of existence of "over twenty years."

The tragic drama unfolds in its mysterious way from the moment John Chapman makes his ecstatic discovery of the Tree. This veritable vision of beauty, an apple tree in bloom in the wilderness west of the Alleghanies, causes a metamorphosis of the hunter into Johnny Applesseed, the knight of the genus *malus*, species *sylvestris*. He is spurred on by his inspiration, the immortal Dryad of the Tree. His noble efforts, however, meet resistance in the machinations of more mundane persons.

Chief among the villainous element in the cast is Jean Baptiste Bounyon, anglicized into Paul Bunyan. But this character is not of the heroic proportions of the Paul Bunyan of extravagant and forgivable imagination, whose magnificent exploits gave rise to the sagas of the lumber camps. Here an illiterate lover of an ungracious scrap of femininity, he is an egotistical author of grandiose lies whom Black Turtle, Chief of the Indians friendly to Johnny Applesseed, aptly calls "big Buzz-Saw Man."

Paul, too, is motivated by tender passion. The object of his attention is Gertrude Woolery, harsh-tongued daughter of the shrewd settler Israel. Gert, temporarily uplifted to unwonted heights of attractiveness by coquettishly entering into Johnny's fancy for a moment, is mistaken by that idealistic young man for his true love. Later, when the vixen Gertrude discovers that Johnnie's real love is for the Tree, or the spirit of it, she is piqued to retaliation. She turns to Paul, makes him the instrument of her wrath against the Tree. Nothing loathe, for to him this Tree is but

another tree to be cut down for exercise before supper, Paul wields his fatal axe.

Revenge threatens; reprisals become imminent. Indians, stirred by the feel of tomahawks and the beat of tomtoms, encircle Paul, do a war dance about him. His very hair is in the scalping fingers of the Chief. But for the timely return of Johnny Applesseed the west might never have known Paul Bunyan. John tempers justice with mercy, persuades the Indians to let Paul go. In place of death, Bunyan faces only exile to the west, with the shrewish Gertrude as his companion—a fate quite out of keeping with the legends of Bunyan.

In John's hands the shovel becomes the symbol of peace and progress. With it he will bury axe and tomahawk; with it and a bag of applesseeds, he says, he can change the face of the world. Carrying his magic sack, going hand in hand with his Dryad, John enters Arcady to plant the seeds of beauty. The spirit of the Tree triumphs.

In the early days of the drama such a theme could have grown into an acceptable morality play; but to-day the specifications even for moralities call for stream-line models. As a drama for contemporary production the play doth protest too much. All the axes it has to grind minimize the effect of dramatized folklore the play advertises itself to be; the symbolism of legend is nullified by propagandic preachings.

FLORENCE LUMSDEN.

American Alpines in the Garden, by Anderson McCully. The Macmillan Company, New York, 1931. 251 pages. Illustrated.

Mrs. McCully has made us all her debtor by bringing together in one convenient volume so generous a survey of our American plants so little appreciated as yet through our whole country.

The book is well organized. Part I

is a brief and clear discussion of structural matters; Part II, a discussion of areas where the western natives grow; Part III, an alphabetical section of brief descriptions; and Part IV, lists and more lists. The really important part of the book is the third, if treated as a reference section. The numerous illustrations are clear and most interesting, particularly those showing plants in native habitat. The frontispiece and the figure opposite page 14 are the poorest as the plant masses and stone masses are almost equal in size and distribution, giving a most monotonous appearance. The reviewer also objects to a rock garden as a foreground to a house and even more to the climbing roses in the second illustration mentioned. The plants in each instance may be excellently grown but it is to be hoped that no one will copy the compositions or locations.

Azaleas - Camellias, by H. Harold Hume. The Macmillan Company, New York, 1930. 90 pages. Illustrated. \$1.50.

Any book from Mr. Hume is worthy of serious attention and this rather brief handbook should be useful to beginners who need clear and competent advice for growing either of these plants.

Although the text betrays very clearly the fact that the book is written from a southern point of view, there is no lack of interest or value for the more northern gardener, whose only regret may lie in the fact that all of the materials are not available to him for out-of-door planting. There are good descriptive lists of somewhat catalogish character, detailed cultural instructions, and a complete index. One regrets the repetition of Mr. F. H. Wilson's names invented to replace the Japanese names of Kurume azaleas. They are not translations. Such practices are pernicious and are always condemned when operating in the opposite direction. Japanese words are both pleasant and easy to the

tongue and should be learned, and American gardeners are too intelligent to be given such stupidities.

The illustrations are few but clear and good except for the crudely colored frontispiece. Plate III is open to some question since *Azalea vaseyi* is usually well out of bloom before *A. viscosa* shows a bud. The latter also flowers with its leaves. One suspects that if there is any *A. viscosa* in the picture, it is represented by the tall plants not yet in bloom in the upper right.

Garden Pools, by L. W. Ramsey and C. H. Lawrence. The Macmillan Company, New York, 1931. 102 pages. Illustrated. \$2.50.

This is a good, straightforward account of the data an amateur should have if he wishes to own a pool, either of his own building or built under his supervision. There is no particular beauty of writing or thought and little to engage the interest beyond practical matters. The diagrams are of the same character and the illustrations, for the most part very charming, are open to various criticisms as, for example, the desirability of using so large a statue in so small a pool as that illustrated opposite Figure 2; the suitability of a pool like the one shown in the illustration opposite page 18, which is so close to the tiny shelter as to suggest a foot bath; and the very bad stonework on the margin of the naturalistic pool opposite page 31.

Jahrbuch der Arbeitsgemeinschaft für Deutsche Gartenkultur. Published by the Society, under the editorship of Dr. Camillo Schneider, Berlin, 1931.

This yearbook, the first published by the newly organized group, is of particular interest to American readers because of the general discussion of the aims and purposes of the society. No one who has observed the operations

of horticultural groups can fail to be interested in what Dr. Schneider has to say in his article, "Was will der Arbeitsgemeinschaft." To the reviewer, the most significant passages lie in the section where it is maintained that "There can be a garden culture, only when the garden life of the people is deeply intertwined with their social culture." In any translation of the passage, it is almost impossible to bring over into English the warm significance of the three words, Gartenkulture, Gartenleben and Lebenskulture. But it is a wonderful situation to discover a group, that while sensitive to the need for various matters of investigation and historical and contemporary research, has the temerity to put the chief emphasis upon the cultural value of a garden life upon the citizen. In our country, we talk much of cultural values but are somewhat inclined to believe their pursuit should be given over to some one else when the matter is pressed home.

Of the articles contained in this

issue, the opening essay, "Garden Thoughts," by Ida Freudenberg, sets the tone, followed by "The Woman and the Garden" by Ilse Dieckman and "New Aims in Garden Planning" by Peter Behrens, also in literary forms. "The Mixed Perennial Border" by Leila von Meister brings one to more practical matters. This is followed by other somewhat technical discussions. Dr. Schneider then outlines the aims and programs of the newly formed group and reports on his "Trials of Red Pompon Dahlias." The book continues with a brief report on all the existing societies of the world and their publications, with short paragraphs designed to tell the German reader what the societies do and what their publications amount to. Throughout the whole one senses the same excellent spirit that has made "Gartenschonheit" an outstanding publication among the garden papers of our time. It will be interesting to see if the founders can and will maintain their present viewpoint.

The Gardener's Pocketbook

Notes on Primulas.

Many amateur gardeners are denying themselves the thrills of growing and owning some of the *Primula* family, under the mistaken impression that all its members are as difficult as a few are known to be.

Given conditions congenial to their growth after passing the seedling stage, any one with patience may have primulas. Not all primulas, to be sure, nor even any primulas; but enough to make life very exciting for a month or two at least.

Earliest and loveliest of the tribe in my northern New Jersey garden is *P. denticulata*. This variety is usually listed as *P. cashmeriana*; wrongly so, according to Reginald Farrar. Be the name what it may, the flower leaves

nothing to be desired! My best plants are in rock borders shaded for more than half the day by the low hanging boughs of hundred-year-old apple trees. The borders are free from tree roots, however, and the soil, between deeply set rocks, is almost pure compost for three feet down. In this location, *Primula denticulata* makes plants eighteen inches across, with fifteen to twenty flower stems on a plant, and each truss of blossoms three inches or more across. This variety has an endearing habit of blooming again in the fall. Last summer's trying conditions of extreme heat and drought left these particular plants quite unmoved, while others in sunnier spots in the garden required shading and watering and looked less well in the fall.



P. J. van Melle

[See page 152]

Kirengeshoma palmata

The Vernales section will stand full sun better than the other types in my garden. *P. japonica* simply melts and disappears in hot sun even with ample moisture at the roots. *P. auricula* does best if carried over in frames or seed beds until it is two or three years old, before setting it out into the borders.

It is now possible to obtain good plants of varieties of easy culture from nurseries in this country, but it is wise to try out a few plants each of the less temperamental sorts—*P. polyantha*, *P. denticulata*, *P. japonica*, *P. bulleyana* or their named hybrids, before going into their culture too deeply. They are an expensive family, although well worth any trouble or expense. When you have found varieties suited to your garden conditions buy the freshest, best seed you can, and prepare to enjoy yourself! The seed may be sown at any time; but the fresher the seed, the quicker and better will be its germination. Damping off of the seedlings may be almost entirely controlled by watering the flats before seed sowing with boiling water in which has been dissolved the proper amount of Semesan.

MRS. WALTER HIME.

Short Hills, N. J.

February Note.

The larger snowdrop, *Galanthus elwesii*, is now in full bloom (February 19), and its stems almost full height under the trees and at the north front of my country home, some thirty miles west of Philadelphia. The smaller, more commonly grown snowdrop, *Galanthus nivalis*, is just showing the tips of its leaves above the ground. Later they will look like drifts of light snow as they bloom in large tufts up and down the peony walk, and in great clumps at the edges of the rhododendron beds, where the deep covering of leaves makes their stems longer. But *Galanthus elwesii* is by far the more beautiful and bringing back

to the city a few of its glistening bells to open the next day, with some sprays of the tiny naked jasmine, gives a foretaste of spring before the March snows.

FRANCES EDGE MCILVAINE.

Downington, Pa.

Prunus serrulata Lindl. Variety Ichiyo. Oriental cherry. (See page 145.)

Lacking the decided deep-pink hues of the flowers of Kwanzan and the dark brown-tinged young foliage of Fugenzo, the subject of this note makes its appeal through the fresh greenness of the young leaves and the wealth of delicate white, pink-tinged flowers.

Ichiyo develops into a wide-spreading tree about 18 feet in height, with a rounded flattened crown. The bark is dark gray, the young twigs light brown. Two or three days earlier than Fugenzo the pink ovoid buds open into large double flowers an inch and a half across, pale pink at first but soon changing to white except on the under sides of the petals, with an occasional tinge of pink at the margins. Pendulous because of the length and slenderness of the peduncles and pedicels, in small clusters of two or three, the flowers are borne so profusely that one scarcely sees the young leaves, which are slightly brownish only when first appearing, soon becoming green. Viewed from beneath the tree the dazzling whiteness of the flowers is broken by the single leaflike green pistil extending from the center of each flower, and by an occasional faint touch of pale pink. It is to this leaflike pistil that the tree owes its Japanese name, Ichiyo, or "One leaf." Here and there a flower may have two foliaceous pistils, and in a few the pistils are normal. While resembling Fugenzo in certain respects the flowers of Ichiyo are whiter and are not smudgy brown on the back, and the young foliage is greener. A German botanist, E. Koehne, remarked that in



E. C. Crandall

Oriental Cherry, Ichūyo

[See page 144

Ichiyo the anthers were characteristically mucronate. This so-called mucronate appearance of the anthers is likely to be seen in any double cherry, and merely represents the first stage in the transformation of anthers into petals.

Ichiyo is offered by only two nurseries in the United States at present, so far as can be learned, and Japanese nurseries do not appear to list it. There has been more or less confusion regarding this varietal name. Both Koidzumi and Miyoshi, eminent Japanese botanists working with this group of cherries, describe Ichiyo as a double cherry with white or almost white flowers, and green young foliage. The late E. H. Wilson, however, in his *Cherries of Japan* (p. 39), includes this variety under Hizakura ("red cherry" in Japanese), and states that Koidzumi erroneously described its flowers as white instead of "pale pink." Hizakura, it may be said, is a name which has been commonly applied to Kwanzan in England, but does not appear in the works of either Koidzumi or Miyoshi. It is possible, of course, that Ichiyo is being offered under another name in this country, but I do not know of any actual instances.

Cultural and landscaping suggestions given previously for other double-flowered Oriental cherries apply equally well to this variety.

PAUL RUSSELL.

Washington, D. C.

Allium pulchellum. (See page 147.)

If the reader will turn back to page 51 of the January number of the quarterly, he will see that this species is very much like our last illustrated sort in general habit and form. The beautiful sheathing bracts of that sort are less developed here and are less showy even in the earlier stages of growth. Like that species, this is also evergreen, pushing up into new and vigorous growth in the early spring. Its leaves, however, are not covered with the glaucous bloom that makes that sort

so charming and its flowers are much later to appear.

This last season, they came up through drought and heat to flower in mid-July. The foot-high stalks rise with graceful curves through the slender tufts of leaves. Indeed the whole plant is so delicate that one needs a considerable clump in order to get an effect or else one should plant them in small groups among some lowly perennial of earlier or later blooming, through whose leaves and stems the onions might rise.

In color the flowers are a tender pinkish lavender, made remarkable by the fact that the little stalks of the individual flowers are almost white tinted with almost pure pink. This tendency to have almost colorless flower-stalks appears in other allium species, even in the cultivated leek, and gives a very unique effect when there are well developed flower heads, as if the whole were illuminated from within.

The plant has been too short a time in the garden to betray its habits of increase, but so far there is nothing to indicate either that it will produce bulbils on the heads, or subterranean runners, either of which are most objectionable in the small border.

Washington, D. C.

Three Worthy Strangers.

Among a lot of plants received from Texas in 1928, two have proven decided additions to the midsummer garden.

Indigofera leptosepala has long trailing stems with gray-green pinnate foliage and bunches of bright geranium-pink pea blossoms in the axils of the leaves. The latter, though tough and harsh to the touch, are delicate in appearance. The stems scramble over other plants in a light, graceful way, never forming a close mat as does *Coronilla cappadocica*. Last summer it began to bloom June 25, and kept on blooming until August 10, in spite of a hot wave that broke the records for, I think, twenty years, and a total



Lilian A. Guernsey

Allium pulchellum

[See page 146]

rainfall, by government measurement, of only .19 of an inch between June 16 and August 13.

This plant is growing here in an open border where it gets the morning sun, but very little afternoon. The soil is ordinary garden loam with sand and old plaster added to supply grit and gravel dug in under the plants to insure drainage. When a fertilizer seems needed, I add leaf mold. This indigofera has survived two winters with me, coming up rather late in the spring, through a mat of *Dianthus deltoides*.

Cassia roemeria grows about a foot tall, its somewhat lax stems having terminal clusters of fragrant yellow blossoms for a long period; in 1928, from July 15 until September 16. It seems to revel in the hot weather, and I fancy would enjoy a sunnier position than I was able to give it. My original plant did not survive the winter of 1929-30, and the little plants I raised from seed are now experiencing their first winter, so their hardiness is not yet determined.

A little vine from Arkansas, *Clematis versicolor*, though it has never seemed entirely satisfied with its lot here, is lovely enough to repay any effort to meet its requirements. It is much in the way of *C. coccinea*, but the foliage is more delicate and of a paler green, while the leathery urn-like blossoms are a beautiful shade of lavender.

LAURA J. PAXTON.

Princeton, Ind.

Hoodia gordonii (Mass.) Sweet.

A rarity in which both experts and amateurs are interested. It comes from Namaqua Land, southwest Africa, and is related to the stapelias, for its flowers and shoots are similar to theirs. It is a succulent of the Milkweed Family, which grows poorly on its own roots and must therefore be grafted. *Stapelia grandiflora* Mass. is the best stock discovered so far. The best time for grafting is spring, just before growth starts. Well grown plants flower almost all summer. The



Hoodia gordonii

blossoms are yellowish or brownish flesh color, almost circular in shape with five inconspicuous lobes.

The plant must be cultivated under glass in a frame, in full sunlight with little ventilation and should be watered freely on sunny days. In autumn and winter it must be managed carefully and watered with discretion, giving too little rather than too much water. It must have glass house temperature in winter about 12 degrees Celsius (55° Fahrenheit). Increase by using side shoots as scions on stapelia stocks. Seeds have not yet been received or obtained. A trial of this plant will reward one and give much pleasure.

K. JOSEFSKY.

Berlin, Germany.

Kalanchoe marmorata Baker. The mottled kalanchoe.

Synonym: *K. grandiflora* A. Rich, not Wight.

A very pretty succulent of the Family Crassulaceae. The plant is loved not only by cactus collectors but



Kalenchoe marmorata

by every flower lover, because it is particularly beautiful in the form of its leaves and in its splendid flowers. It is native in Abyssinia, and forms a plant about 50 centimeters high, with many shoots from the base. Its broad dentate leaves are green, covered with a gray bloom and flecked with bronzy, violet red. It flowers from January to June, as the large white flowers do not come many at a time, but follow one another. It is a cold-house plant that can be kept out of doors in summer and can be treated like other crassulaceous plants, crassulas, echeverias, cotyledons, etc.

K. JOSEFSKY.

Berlin, Germany.

The Season's novelties—of 1713.

Even back in 1713 there must have been felt the need of advertising one's garden wares with an appeal to the artistic! Rather too realistic, though, is the description which an "eminent town gardener" and nurseryman has given in his "catalogue of greens" sent to an eminent author of the day,

Alexander Pope, who quoted him in the *Guardian* for his selection of "recent garden novelties." He represents that, "for the advancement of a politer sort of ornament in the villas and gardens adjacent to this great city (London), and in order to distinguish those places from the more barbarous countries of gross nature, the world stands much in need of a virtuoso gardener who has a turn to sculpture, and is thereby capable of improving upon the ancients of his profession in the imagery of ever-greens."

This gardener further states that he has arrived at such perfection and that he "cuts family pieces of men, women and children." How could the "female gardeners" of that day have resisted him when he appealed with these lines: "Any ladies that please may have their own effigies in myrtle, or their husbands in hornbeam."

That fellow was a Puritan wag, and never failed, when he showed his garden to visitors, to repeat that passage in the Psalms: "Thye wife shall be as the fruitful vine, and thye children as olive branches round thy table," for, as you may guess, his gardens were well filled with the efforts of his artistry and pruning shears.

And here is what he offers as his Novelties of the season!

"Adam and Eve in yew; Adam a little shattered by the fall of the tree of knowledge in the great storm; Eve and the serpent very flourishing."

"The Tower of Babel—not yet finished."

"St. George in box; his arms scarce long enough, but will be in condition to stick the dragon by next April."

"A green dragon of the same, with a tail of ground-ivy for the present."

("N. B. These two not to be sold separately.")

"Edward the Black in cypress."

"A laurustine bear in blossom, with a juniper hunter in berries."

"A pair of giants, *stunted*—to be sold cheap." [!]

"Queen Elizabeth in phylyraea,—

a little inclining to green-sickness, but full of growth."

"Another Queen Elizabeth in myrtle, which was very forward, but miscarried by being too near a savine."

"An old maid of honor in wormwood."

"A topping Ben Johnson in laurel."

"Divers eminent modern poets in bays, somewhat blighted, to be disposed of—a pennyworth." Alas—even in those days, the moderns were undervalued.

"A quickset hog, shot up in a porcupine, by its being forgot for a week in rainy weather."

"A lavender pig with sage growing in his belly."

"Noah's Ark in holly, standing on the Mount; the ribs a little damaged for want of water."

To be assured of the excellence of his work, he would refer you to one of his clients, "an eminent cook, who beautified his country-seat with a coronation dinner in greens, where you see the champion flourishing on horseback at one end of the table, and the queen in perpetual youth at the other."

M. C. L.

A Correction.

In the article "Plant Emigrants," in the January issue, the author wishes to correct two misstatements. On page 10, near the foot of the righthand column, *Tradescantia virginica* and *Fragaria virginiana* should not be included among the plants of Cornut's "Canadensium Plantarum aliarumque non editarum Historia" (1635). They are not found in Cornut's work, and the first-named is not a Canadian plant. On page 12, *Tradescantia virginica* is again to be omitted, and the including sentence should read:

"Thus *Fragaria virginiana* and our familiarly called 'Virginia creeper' (*Ampelopsis hederacea* DC), are among Canadian plants, while the 'Vitis canadensis' of Cornut (*Rhus toxicodendron*), as well as *Asarum canadense*, *Sanguinaria canadensis* and *Aquilegia*

canadensis are widely distributed throughout the 'Virginia' of the 17th century and abundant in our modern commonwealth of that name."

M. F. WARNER.

Philadelphus, Argentine. (See page 151.)

Although the philadelphus is not exclusively an American species, there are enough of them native to our continent to give us a special interest in their development. We have not done very much about it, however, and have left it to M. Lemoine to make the necessary experiments and selections that have resulted in a race of plants as distinguished as those other races that have come from him.

Among the endless selections and variations that he now offers us, one of the most unique is Argentine. Unlike the familiar *Philadelphus coronarius*, whose fragrance is part of our garden heritage or the immense but scentless *P. grandiflorus*, Argentine makes a rather small, even a weak-growing bush with slender shoots and a somewhat diffident attitude about growing. Nevertheless, each spring, from the wealth of short lateral shoots, are produced the astonishing flowers. These are almost completely double and have a precision of arrangement that suggests some of the camellias of the south. Indeed if there were a wealth of golden stamens in the center instead of the few almost colorless stigmas it would take no great flight of fancy to imagine them tiny, glistening white camellias.

Although it has not been tried, one suspects that some of the weaker philadelphus, like this one, might well be planted in the perennial border to produce early in the spring the high elements that we have to get as best we may from true perennials and to bring a recurring note of green into midsummer. One recalls Miss Jekyll's advocacy of an occasional golden-leaved philadelphus for the same



J. Marion Shull

Philadelphus, Argentine

[See page 150]

purpose, an idea of great practical value, after one forgets his old rule of thumb aversion for golden leaves.

Washington, D. C.

Kirengeshoma palmata Yatabe. (See page 143.)

Among the many countless treasures in the garden of the late Mr. Clarence Lown at Poughkeepsie, N. Y., this rare Japanese plant flowered freely again this last fall, about September 15.

The plant is grown in heavy shade, in a dampish soil, rich in humus. It sends up erect stems about three feet high, bearing large rough leaves and topped with numerous, drooping bell-shaped flowers, thick-petalled and of a clear, rich yellow color. In flower, it is a most beautiful plant.

P. J. VAN MELLE.

Poughkeepsie, N. Y.

Jasminum stephanense Hort.

There has been such a widespread interest in *Jasminum stephanense*, of which I recently published a picture and description in *HORTICULTURE*, that our editor has suggested that I send a note for this quarterly as well.

The plant is a most beautiful, hardy, fragrant and evergreen climbing plant, and there are lamentably few such for our climate. The attractive combination of crimson buds and pale pink flowers, wins the admiration of every one. *Jasminum stephanense*, whose parents are *J. beesianum* and *J. officinalis*, has been growing in various positions for me for about ten years. This plant is very easily rooted from cuttings and when rooted is not at all particular as to soil. When a cutting is ready, I usually find it most convenient to keep it in a pot for a year or two and then when it is planted out, it goes right ahead and makes tremendous growth.

For those living in the far north, it can easily be grown in a large pot or tub and wintered in a shed or barn, with a covering of straw if needed.

After the first few years much of the old wood must be cut away, also many yards of new growth each year. This is really necessary as it is quite difficult to keep this jasmine within any allotted space when once it gets a start.

When planting it in this latitude, it is essential to bear in mind that it does best with the shelter of a wall and full exposure to sun, for thus planted it will reward you with its beauty and fragrance for many, many years.

MRS. J. NORMAN HENRY.

Gladwynne, Pa.

Iris cristata. (See page 153.)

Even the average gardener who has "no time" for species of anything will know this delightful American species from the Eastern States. With a wide range in the mountains and extending in its several forms to the Great Lakes and to the Ozarks, this is a most charming small plant. Truly a dwarf, its spreading rhizomes that creep along on the very surface of the soil make a great network that in time will cover yards of ground. In the spring the leaves push up to form a coarse sod through the whole area and then in May the almost stemless flowers show through the entire mass.

There are endless variations in size of bloom, in petal shapes, in amount of tinting and marking. In general effect the color is a warm, tender pinkish violet, deeper about the signal patches on the falls. The latter are usually white, reticulated with deep yellow and marked with orange. The little crests are shown both inside and along the edges of this area. There is a most lovely white form in which there is no color of any kind save a bit of yellow on the signal.

Woodland plants as they are, a little extra leaf soil in the garden bed will do no harm. And an occasional mulching in spring with a well decayed leaf compost may delay the dividing and resetting that is needed from time



Michael Carron

Iris cristata

See page 152]



Lilian A. Guernsey

Brodiaea capitata

[See page 156]



Lilian A. Guernsey

Lilium ochraceum

[See page 156]

to time as the colonies grow away from their starting points. Here it is usually best to do transplanting in the spring, just as the leaf shoots are pushing up, as later transplanting seems to shock the roots into inactivity that lasts all summer. Autumn transplanting is also successful if the plants have time to establish some new roots before freezing time. In any case, be sure to plant enough or to plan to propagate until you can boast a yard or two of this delightful native iris.

Washington, D. C.

Brodiaea capitata Benth. (See page 154.)

Of the three brodiaeas tried in 1929, this species flowered second following Henderson's brodiaea illustrated last quarter by at least two weeks, coming into bloom in early May.

Like many other brodiaeas, its bulbs look more or less like crocus corms with rather shaggy coats that slip off easily and show the more tidy newer coats within. Planted about six inches deep in a bit of deeply dug soil to which had been added about one third in bulk of very gritty sand, they came through the winters well and pushed early into growth. Indeed, if any claims can be urged against the California bulbs it is that they come too early, deceived by our first promises of spring. The result is that the leaves are often nipped seriously and look rather shabby before they die off. On the other hand, the leaves die away early so one does not have to worry about tidying the border. The flower stalks are tall, fully eighteen inches, firm, yet rather sinuous with nodding heads that straighten as the flowers mature. The sheathing bracts are ruddy purple and the buds as they break through are deep lilac, that fades out to a clear lilac as the flowers unfold. As there are many flowers in a head, the plant lasts well in bloom, for the older flowers have a sort of everlasting quality that permits them to become thin and papery rather than

to wizen up or fall off. This behavior is just as good when the flowers are cut, for the three stalks that show in the picture remained in good condition until every flower had opened.

Washington, D. C.

Lilium ochraceum Franch. (See page 155.)

Again we must ask you to refer to our last issue, reviewing the notes on page 54 and looking again at the illustration on page 61. From these you will see both how *Lilium nepalense* and our present lily came to be confused and how they may be distinguished. In our special lily issue that is projected for the fall, we hope to have still other photographs of our present subject to show it in all its stages of unfolding and to demonstrate that never at any stage of its life does it resemble the Nepal lily.

Our illustration shows a fully opened flower, of the Martagon type bloom, of variable color and marking when one has a great number of bulbs. The ground color, generally speaking, is a greenish yellow, that may vary toward white or deepen almost to a dull pumpkin yellow. The central markings usually are of a heavy plum purple or brown, but these too may vary even as much as to appear a rusty brown. Their extent is also variable, with heavy markings in some cases and almost none in others. Because of the curious rather than beautiful coloring, the lily can not be counted as showy. Indeed its most conspicuous characteristic is its scent which, as was pointed out last time, is much like that of the sweet bay magnolia.

A tender plant, it must be grown in pots that can be plunged out of doors to develop the flower stalks in season or forced slowly inside. The plant seems to make rather fair bulbs in pots for the following season, so the amateur may grow a pot or two without feeling that the project is too improvident.

Washington, D. C.



Fragrant hybrid gladiolus

Dr. Forman T. McLean, Supervisor of Public Instruction, New York Botanical Garden, has succeeded in obtaining several strains of fragrant hybrid Gladiolus, his accomplishment

being realized somewhat ahead of that of Richard Diener about whose work I wrote in an earlier paper, and through a lack of knowledge of this work is appearing only now.

He approached the work from a somewhat different angle than Mr. Diener who received his inspiration from Dr. McLean, who thus was somewhat instrumental in influencing the other in similar endeavors. His first work was with the species *Tristis* and he flowered his first hybrids in 1926; ninety-four per cent of these hybridized with the garden varieties were scentless, six per cent had perceptible fragrance. All were small, slender plants, one to four feet tall, with blossoms one and one half to three inches across; all with small corms and cormels. The principal difference between his and Mr. Diener's is that while the latter reports crossing with two large flowered varieties and are winter growers, he used more than twenty different *Gladiolus* in the work with *Tristis*, some of the resultant hybrids being good summer growers, and some others produced in the winter. Two of these races, from particular crosses, show a high proportion of sweet-scented first generation hybrids. One of these is of summer growing habits with dark colored autumn tinted flowers with mild fragrance which characterizes in general the scent imparted to hybrids by *Tristis*.

His best strain of sweet-scented hybrids bloomed for him first in the spring of 1928. They resulted from a cross between *Tristis* and an undetermined species which came to this country as only two bulbs, described by the collector as an unusual type, even in South Africa. All of the hybrids between these two parents, numbering now over a hundred, are strongly sweet-scented in the day time, with a scent unlike that of *Tristis*, and like that of the other parent, which is the sweetest scented species he has ever grown. They are winter or early spring growers; can be flowered at any time during the winter or early spring, and are sufficiently hardy to winter outdoors under a moderate mulch. This race of hybrids has all of the desirable qualities of the best

racess of *Tristis*, with a dependable and daylight withstanding perfume. One of the first of these was taken to Mr. Wm. Edwin Clark, Sharon, Mass., in March, 1928, and he will vouch for its fragrance and appearance.

This new race he has designated *Gladiolus fragrans*, and has termed them his "Sweet Glads." These sweet Glads have very slender growth, with rush-like foliage, with delicate light colored flowers about two inches across, in spikes of four to six flowers. They are thus intermediate in size between the *Freezia* and the *Gladiolus*, with a perfume about equal to the *Freezia*. The fragrance is as strong by day as at night. They have small corms and cormels, similar to *Tristis*, and are good propagators. He has been using these in additional experiments, and has carefully studied their habits before thus publicly announcing them. Their colors are generally light cream or creamy yellow, tinted with bronze, purple or lavender and one is light violet.

With these two exceptions, the hybrids of *Tristis*, and of *Grandis*, are disappointing. The unsuccessful ones are in general rather poor growers, small, few of them have scent and the odor is usually too weak to make them of commercial value. Also, all of the hybrids between *Tristis* and garden varieties, with only one doubtful exception, and he has flowered hundreds of them, are sterile and incapable of setting any seed. This has been not only his own experience, but also that of his predecessors. Colville's hybrid, *Colvillei Red*, introduced in 1832, is a sterile form, as is also its white variant *The Bride*. Van Tubergen's *Tubergeni* race of *Tristis* hybrids are also sterile.

He has also tried crossing *Gladiolus* with *Freesia*, *Acidanthera* and *Babiana*—all fragrant flowers closely related to *Gladiolus*. He has secured seed in some cases, but none of the seedlings has shown the slightest trace of hybrid characteristics, being in each case similar to the seed parent.

The other more or less sweet scented

species besides the unnamed parent of *Gladiolus fragrans*, which is still represented by but one bulb, has given hybrids that are all faulty, either in being weak growers or in failing to transmit fragrance to its offspring. So he has had distinct success in one case, some success in another, and if the one truly fragrant hybrid race of "Sweet Glads" is approved by horticulturists, then he will feel his work has been well worth while.

He is carrying on with this work and hopes to have more to report in the near future.

CHAS. E. F. GERSDORFF.

Washington, D. C.

Garden Notes from 1930.

Always looking for low growing, broad-leaved evergreens to use in foundation planting either under low windows or in front of taller shrubs, I was interested several years ago in the descriptions I read in the various catalogues of the new evergreen bush honeysuckle, *Lonicera pileata*. I wrote one nursery to ask what success they had had in growing this shrub, and they replied that in their opinion it was the "measliest" shrub they had ever grown. As they were situated in the foot hills of western North Carolina, I thought perhaps *Lonicera pileata* liked a little bit warmer climate, so I thought I'd try it for myself, and ordered four plants. I planted them on the south side of my house in front of an eleagnus bush where the ground had been filled in from the cellar excavation. While the soil is mostly red clay, it has been fertilized well and some sand and leaf mould added. Still it is a very dry situation. The plants have been there for two years and they have certainly lived up to the reputation that the nurseryman gave them. It probably was not a fair test, though other shrubs are living near them—nandinas, butcher's broom, ligustrum, *Viburnum tinus* (laurustinus), *Michelia fuscata* (banana

shrub) and *Osmanthus fortunei*. Two of them have finally entirely died and the other two are barely alive; one of those has only one live branch that has put out roots of its own near the surface of the ground. I have dug them all up and am going to try the remnants in some other situation. Perhaps I'll have better luck to report later.

For some years I have been trying to locate a cotoneaster that would be really evergreen in this climate. *C. horizontalis* is always listed in catalogues as evergreen, but it is no more so than *Spiraea vanhouttei*, and is not nearly so much so as *S. thunbergi*. I have tried several other varieties but with no success. I believe, however, that I have at last found one that is going to prove absolutely satisfactory. I have been watching a plant in a friend's garden for several years that seems to be not only perfectly hardy but also perfectly able to stand the heat and drought of our summers and that holds its leaves the year round. This is *C. salicifolia floccosa* and is a very lovely shrub. It is flat-headed with long arching branches, clothed with leaves that remind me very much of the leaflets of nandina, except they are thick and leathery. I have not seen it bloom or in fruit. There are a number of forms of *C. salicifolia* and I do not doubt that they would all be evergreen here and well suited to our climate. I am hoping to try several of them this year and to be able to report on them later.

Speaking of hot, dry summers, I read with much interest what Mr. Duffy had to say in the January issue of this magazine. Last summer was terrible, but not the worst that I have ever seen. I think this particular spot of the universe, where I live, must be especially favored by the gods—we never seem to have weather quite as hot or quite as cold as our neighbors. Never did the temperature in Raleigh reach 100 degrees last summer, though it came perilously near it several times, and the hot spells lasted longer than

they usually do. I always laugh at my friends in the North when they speak of the heat and tell them they don't know what hot weather is, but I believe last summer taught them. Of course I know that it was the hottest, driest summer that the country, as a whole, has ever felt, but we have had summers here that seemed to me much worse. You gardeners in other parts of the country who have never felt anything like it before, can appreciate what we have to struggle against year after year and you can readily see why it is that we find it difficult to raise delphinium, *Primula japonica*, *Daphne cneorum* and any plants that like moisture. It is a waste of time to try to grow such plants here. Much better to put our energies on things that "belong" and will do well.

I was surprised last summer to see how well the phlox did and how poorly zinnias behaved. The zinnias dried up, while my phlox, which got not a drop of artificial watering, did better than usual and the phlox in a friend's garden, which was watered regularly, was the most beautiful I have ever

seen. I figured it out this way. The dry weather here started way back in the spring, so the perennials had time to send their roots deep down in the earth seeking for moisture, while the annuals, like zinnias, not being planted until May or June found the soil already dry and had no chance to get rooted deeply before hot weather. It was this fact, that we had some dry spells early in the season and some rain all along, that kept our garden going. In other summers, when we have suffered most, it has been because we have had so much rain in the first part of the summer that all the roots of the plants have stayed on the surface of the ground and then when the inevitable dry days of August and September have come, these shallow-rooted plants have simply dried up. Friends and fellow-gardeners in the cooler parts of the country, we of this section know now that we will have your sympathy when the hot days of August roll around each year as they always do.

ISABEL B. BUSBEE.

Raleigh, N. C.

Correspondence

SIR: I have read with great interest the article "The Idealist in the Garden" in your magazine for January, 1931. I live in Kenya Colony and I have endless trouble with ants in my rock garden and in retaining walls and carbon bi-sulphide is the only thing that has been in the least helpful to get rid of them, but as the writer of the article mentions, "it is not pleasant to handle and it also does a great deal of damage to the plants."

If any of your readers know of anything equally effective and less damaging I hope very much they will give the rest of us the benefit of their knowledge. In Africa the ants not only undermine the plants but they help to spread various kinds of scale, one of the worst pests in Africa.

I find your magazine most helpful and very interesting.

Yours faithfully,

(MRS. FRANK) M. E. JOYCE.

SIR: Has any one grown *Sidalcea*, Rose Queen, to become enamoured of its bloom and to discover its cutting value, etc.? These are extolled in the English catalogues, but though bought from the reliable Thompson and Morgan, the plants I have raised do not seem to me to be anything but a rather muddy magenta in color and a scraggly growing perennial in habit, too tall for the low border and too, short for the back. A *sidalcea* in white, sent me from Mount Desert, where it grows wild, has proved a much more

lovely thing. I have never bought any other seed than the above named and should be interested to know if any one has a pure rose form.

F. E. MCILVAINE,

Downington, Pa.

SIR: In connection with the faults and errors found in the Alphabetical Check List of the American Iris Society mentioned in a review of the book in the October issue of this magazine, which the editor and compiler, Mrs. E. A. S. Peckham, endeavored to explain in the issue of last January, it is perhaps proper to call attention to other faults and errors not previously mentioned. As the book is not a private or personal enterprise but a publication of the American Iris Society, members of that organization are naturally interested in having it up to the standard of their other publications and making it the accurate and trustworthy reference work it purports to be. This can be done only by discovering faults and errors that will creep into books, despite the best intentioned of editors, and eliminating them in revisions and subsequent editions, a routine practice of experienced editors.

Mrs. Peckham, of course, was by no means expected to turn out a perfect work. The gratifying surprise is that she did so well and she is again to be congratulated on bringing the arduous task to a successful completion.

One notable shortcoming of the book is the inconsistency in the breeding records of which the editor doubtless was in ignorance. In some instances the seed parent is given first and in others the pollen parent. There is no indication in the text of which form is used in any case. While there has been a theory that reciprocal crosses produce the same results, this has not been found true by iris breeders and the identity of the parentage is a matter of great interest to the vast army of seedling raisers.

While scientists differ as to the form of registration, some preferring pollen

parent x seed parent and others seed parent x pollen parent, the latter the more common form, it is immaterial which is used or whether both are used provided the text indicates which it is. A uniform style suggests itself as most desirable.

There are occasional mistakes in listing tall bearded irises as intermediates and vice versa, aside from those which occupy questionable territory and might be either. One of these noted is Dr. Berry's Taffy. This is a late blooming tall bearded iris, not an intermediate as listed.

There has been considerable criticism as to the accuracy of the color classifications. Although the writer has had no occasion to give this phase of the book as thorough and careful study as he has other features, no substantial error in this regard has yet been encountered, and he is not only content but glad to accept the book "as is" in this respect. It has proved an invaluable adjunct to the work of judging iris shows, settling debates over the placing of irises in color classes definitely and without long argument.

A large part of the criticism brought to the writer's attention is concerning whether an iris is a red or a blue violet. Only the confidence of ignorance would attempt to needle point the line where blue violet ends and red violet starts. The term violet covers a multitude of opinions. Even with a copy of Ridgway before one it is a difficult problem. The Check List offers a practical basis of settlement and I am glad to accept it as such if for no other reason, and confident that is not far wrong in any case.

It would be little short of miraculous if there were not some mistakes in the color listings and quite miraculous if everybody agreed with them.

Taken by and large, as stated in the review in the October issue, the book, even with its imperfections, is a fine piece of work and reflects great credit upon the industry and perseverance of Mrs. Peckham.

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