

# *The* NATIONAL HORTICULTURAL MAGAZINE



OCTOBER

- - -

1929

# The American Horticultural Society

*A Union of The National Horticultural Society and The American Horticultural Society, at Washington, D. C. Devoted to the popularizing of all phases of Horticulture: Ornamental Gardening, including Landscape Gardening and Amateur Flower Gardening; Professional Flower Gardening and Floriculture; Vegetable Gardening; Fruit Growing and all activities allied with Horticulture.*

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Michael Carron

*Dryopteris novaboracensis*

[See page 176]



# The National Horticultural Magazine

B. Y. MORRISON, *Editor*

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*Contributing Editors*

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For most of us has come the subtle turn in the season that, in spite of warm and sunny days, gives the unmistakable warning of impending frosts. Even the insects mark the change and the lazy crickets and katydids crawl slowly out into the midday sunlight to warm themselves from the too chill shelters of the night before. In spite of the regrets that rise in the active gardener's mind, this is a jolly time of year with its moment of pause, of precarious delay at the door of winter. And if, as this year, for many of us, the season has come to its close with drought, so that all the woody things have ripened well, we need have no fear of winter killing. Berries may be smaller but they are redder, leaves less luxuriant but turning more gaily. The fall-flowering bulbs peer through a little more slowly and last a little longer; the spring-flowering bulbs to be planted go in with less delay because the ground is still mellow and fairly warm. And meantime, everywhere the pressing forces of life go on, preparing for another flowering.

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## Iris for the Garden Pageant

By THURA TRUAX HIRES

There have been so many new irises introduced during the past few years it is impossible for any one person to be familiar with them all even though the greater part of the iris season is spent in visiting the gardens of breeders and introducers. At best all we can do is to see all we can and then trust to the information we have from other enthusiasts for the rest. Most naturally each season finds some new introductions of such outstanding merit that the news of their beauty and grace travels very rapidly from coast to coast and soon, in the discussion that arises regarding their merit, sight is lost of many others among the new introductions that will prove of equal garden value and possibly have greater charm in the garden picture when grown in the mass. For example, Miss Sturtevant's *Cameo*, although introduced five years ago is still not generally grown though it is one of the most lovely garden irises. When planted with the soft blues or pale yellows, its tones of pink and cream blending into soft apricot give a picture long to be remembered. I have found it very lovely with Mr. Mead's *Iriscrest*, the latter a nice blue having just a touch of pink in its falls. *Day Dream*, a pink blended bicolor, is another of Miss Sturtevant's very fine varieties too little known. Tall growing, with blooms uncrowded, it is a very stately iris and gives lovely garden effects when combined with other irises or with some of the pastel colored *aquilegias*.

Another pink-toned blend, introduced last year, is *Midgard*. This seedling was raised by Mr. H. P. Sass and is one of his best introductions. When I saw it first among the unnamed seedlings in his garden at Omaha it seemed to have the wonderful coloring of some of the western sunsets but having just

seen *Souv. de Mme. Gaudichau* so different in color from what it is in Eastern gardens I feared this seedling might be unkind and not give me the loveliness it was showing in the West. But happily it has retained the same coloring in my garden and has been one of the most admired varieties during the past two years. Several visitors to Ithaca at the time of the annual meeting of the American Iris Society have since written that it was one of the outstanding novelties in Col. Nichols' garden.

The blends seem to be an acquired taste. Few beginners in iris growing care for them, preferring the clear tones of the selfs. But the blends are among the most useful garden material bringing otherwise clashing varieties into a subtle harmony for a desired effect. *Mme. Durrande*, *Quaker Lady*, *Steepway*, *Ochracea*, and *Afterglow* have long been favorites in our gardens and now Mr. Williamson is giving us a series of blends of beautiful coloring and wonderful texture. *Dolly Madison*, the first to be introduced, is already quite famous. It is an exquisitely beautiful iris of lilac, yellow and mauve tones, well branched and with the substance of a magnolia bloom. If for nothing but this substance, this race of blends would be famous, as many of the older ones did not hold so well in the hot sun. *Sonata*, introduced this year, and *Opaline*, to join the ranks of 1930 debutantes, are others of this line, both light-toned blends of rare charm. *Opaline* is somewhat after the coloring of *Allure*, Mr. Murrell's lovely introduction, but was taller as I have seen them and with the heavier substance. I, for one, want both. I have planted *Sonata* and *Rhea*, another Williamson blend a little darker than *Isoline*, with a very pale blue seedling from the same gar-



den, hoping that when they bloom they will prove as enchanting as when we combined them in the garden at Bluffton. This blue is of very soft color with tints of green and I think is the one that Mr. Williamson has named Azurine. With Opaline, I am using Miss Sturtevant's pale yellow, Yellow Moon, and Mr. H. P. Sass' Trostringer, a lovely pink-toned white.

Ophelia, introduced several years ago by M. Cayeux, is another light blend all gardeners want. It has blooms of bronze and mauve on a cream ground with a golden orange beard that gives a wonderful glow and seems to intensify the subtle coloring in a soft light. Quite similar were some of the Sass gold blends, but Old Gold, the only one of these so far introduced, is much more golden yellow. This, together with Mr. Mitchell's Valencia, Mr. Williamson's Tuscany Gold and Vesper Gold, and Mr. Andrew's Amerind, have given us lovely dull gold blends. Amerind is at its best on a dull day, too bright a sun dimming its color. Mr. Andrew's Candlelight is a paler blend of Caterina form and is very lovely when planted with pale yellows and light lavenders. Mother of Pearl is too well known to warrant description, but do try it in partial shade. By chance I planted it near a young plum tree, where it is away from the direct light of the sun and in this subdued light it seems to have added new beauty to its iridescence. Of the dark blends Alcazar and Ambassadeur remain unsurpassed for garden effect. Miss Sturtevant's Glowing Embers, Mr. Shull's Copper-smith and Morning Splendor, and Mrs. Valerie West, Grace Sturtevant and Romola, Mr. Bliss' latest addition to the Dominions are all rich, darker blends that add great beauty to the garden planting. But use these rather as small groups for accent and not as a mass planting as one is likely to do with the lighter colored varieties. M. Cayeux has given us a very lovely variety in the new Labor of an entirely different coloring. Of purple and red

violet with a copper sheen, it reminds one of those rich Lyons silks that glow from the woven metallic gold threads, and planted with Corrida and Yellow Moon, gave a splendid effect.

Within the past two or three years there have been many additions to the white irises, but for mass planting White Knight, White Queen and La Neige still hold their places among the lower-growing varieties. Mrs. Emig-holz's Zada is one of the best all round whites for garden effect as it is a reliable bloomer, fast increaser, and holds well through sun or rain. Col. Nichols has given us very pure whites in White and Gold and White Star. Both are taller than those mentioned, White and Gold having rather open standards while those of White Star are domed. Mr. Morrison's Sophronia is a gem and when more widely distributed will rank among the favorites. It is quite similar to Kashmir White though a better grower in many sections and with blooms of very heavy substance. Miss Sturtevant's Snow White is one of the best for mass planting, being quite tall with rather slender stalks that give a most graceful effect in the garden. Among the earlier blooming whites Mr. H. P. Sass' Autumn Queen and *albicans* are always reliable. A well grown plant of *albicans* is very lovely, especially in combination with some of the tulips and early phlox.

Micheline Charraire is one of the tallest whites, but, alas, it is quite "miffy" in certain climates and is not for the gardener who likes to stick a rhizome in the ground and leave the rest to the kind ministrations of the gods of little irises.

From some sections comes the rumor that Mr. Mitchell's lovely Purissima also requires special attention, but if this be true do by all means learn what its needs may be as it is the finest white we have. Indeed, an English friend whose opinion I value highly, writes me it is the finest iris he has seen. So far it has grown well in my garden with no special care, but I intend taking no chances for lack of



attention. On the other hand Shasta, of different parentage, is reported as quite hardy wherever it has been tried. It is very tall, of a pure white with large flowers having drooping falls. It is truly a magnificent iris, one stalk given me bloomed for nearly three weeks. Though it blooms late in California, here it is among the earliest of the tall bearded iris. Possibly that was owing to our unusual season and another year may find it later. Micheline Charraire was in bloom at the same time and it was quite interesting to compare them. The latter has rather narrow falls held horizontally while Shasta's are of better form, being wider but drooping. Both were of the same height, and I finally decided that I must keep the French variety though preferring Shasta. Mrs. Robert Emmet and Mrs. Perry are other valuable whites for the garden picture though personally I do not care so much for the blue-toned white, the color not carrying so well but giving a dingy appearance. Mrs. Emmet is widely branched and has blooms of good substance. Cygnet is one of the best garden whites, being tall with cream white blooms. Perfectly hardy and a reliable bloomer, it is always in demand. All the iris world surely owes Miss Stutevant a vote of thanks for the wealth of fine garden iris she has produced.

From the consideration of the whites it is but a step to the plicatas, many of them from a distance giving the appearance of pure whites. Though there is not such a wealth of names in this section as we find in the lavenders, we have just as fine material for our garden pictures. Miss Sturtevant has given us two beauties in True Charm and Delight, the former having its petals delicately marked with soft lavender, while the latter owes its charm to the soft rose coloring of the style branches, the petals being a pure white. Together with the older Fairy, having blue-toned style branches, they form a trio that are indispensable in tying together pinks and yellows and blues.

And now we are looking to Mr. Morrison for plicatas having yellow style branches and white petals. Already he has several fine seedlings and it is possible some will be introduced within the next year or two.

Mr. Jacob Sass has given us most unusual plicatas of indescribable beauty in King Karl, Lona, Jubilee, Aksarben, and Midwest. These are well known to all iris growers, but last season he added other color combinations to this race in the new Matilda, a blue plicata, Nehawka, of dark blue markings, Si-rene (named to be changed), a delicately etched pink on clear white petals and Mrs. A. S. Hoyt, a variety receiving an Honorable Mention two years ago at the Omaha show. Loudoun, Mr. Fendall's lovely white and amber plicata, is one of the taller ones and is very lovely when planted with some of the lighter toned blends. Several years ago Mr. Mitchell gave us Los Angeles and San Francisco, very distinct advances in this section. Both are tall with nicely branched stalks, the blooms of fine substance, form and carriage. I prefer Los Angeles, which is not so heavily marked, being like a glorified Fairy and from a distance giving the effect of a clear white. This year Sacramento has been added to this series, differing from San Francisco in that its petals are etched with red-purple where the other is of clear lavender.

Entirely different is Mr. Essig's Stipples, a plicata of airy grace and distinct marking. The blooms are of long rather than rounded form, the falls flaring nicely, both standards and falls being evenly marked blue lavender. A well established clump here has given stalks nearly forty inches tall, while reports from California give it not over thirty inches. The stalks are slender but hold well the nicely placed blooms. It is one of those irises that would be easily recognized in a large planting and is one of the first to catch the eager eye of every garden visitor.

All Irisdom is looking for the perfect yellow which still seems as elusive as the pot of gold at the end of the rain-



bow. Two years ago W. R. Dykes was hailed as the last word in the yellows, but it has proven quite disappointing in the gardens on this side of the water. It is large with drooping falls and well domed standards. Of a medium yellow coloring, it would doubtless be the best of this color were it not for the fact that the falls are streaked. Then, too, it is proving to be one of the "miffy" growers, not only in this country but in its homeland. Last year M. Cayeux introduced *Pluie D'Or* and this is now being hailed as a decided advance in yellows. This year we have Miss Sturtevant's *Sunlight*, an iris of the type of *Caterina* but not of the desired depth of yellow, and Mr. Mitchell has given us *Mirasol*, of bright yellow coloring. Both will undoubtedly be favorites when better known. And now we are to have *Desert Gold*, raised by Chancellor Kirkland. This iris, I am told, is comparable to *Princess Beatrice* in form and carriage, the coloring being that of *Shekinah*. It is a strong grower and will undoubtedly be of great value to the breeders as well as a lovely addition to our gardens. In my own garden this year the two outstanding yellows were from Mr. Morrison. One, *Cockatoo*, was larger than *Amber* and taller than that variety or *Gold Imperial*. It is of the depth of color of the latter, the standards being nicely waved, the falls wide and flaring. It is of excellent substance, holding through wind, rain and hot suns. As all of Mr. Morrison's seedlings are strong growers, seemingly immune to rot, I am expecting much of this variety. The other seedling, as yet unnamed, was of fine form and color. In fact both were so good I could not choose between them. He has also a very lovely yellow and white bicolor, the first decided bicolor I have seen in this coloring. It will be valuable for garden pictures when available. Mr. H. P. Sass gave us *Prairie Gold* two years ago, deeper in color than the Sturtevant yellows when grown in the Midwest but not so different in the East. It is very fine for garden effect,

the blooms being well carried on nice stems. *Yellow Moon*, *Primrose*, *Chalice*, *Gold Imperial*, *Inner Glow*, *Flutterby*, *Carcenet* and *Flambeau*, largesse from Miss Sturtevant, give us a complete range from creamy yellow to deep chrome. And how these yellows are needed to bring out the colorings in the lavenders and pinks. In so many of the gardens visited in recent years there seemed to be such a lack of this color, though white was used generally. *Nymph*, Mr. H. P. Sass' new yellow intermediate, is probably the most valuable addition of recent introduction, as it blooms over a long season at a time when we have no really good yellows among the irises. Coming as it does with the intermediates, it continues in bloom well past the height of the tall bearded iris season and as it is of a clear pure yellow with stalks as tall as *Chalice* and *Gold Imperial*, it is decidedly the finest of its group, surpassing *Soledad*, *Madria Mia* and *Primavera*, all varieties that are needed for early bloom.

Of the lavenders there is such a host it is increasingly difficult to find new ones of such outstanding merit as to warrant the discarding of those of yesteryear. Of the newer introductions I have found *Elsa* and *Horizon*, both lovely selfs, grown by Mr. Morrison, among the most valuable in the iris garden. Could I have but two blues I would choose these. Both are tall, with blooms of excellent substance and fine form. Seemingly immune to rot and of rapid increase, they should prove invaluable to those gardeners who do not have the time to coddle exacting beauties. *Wedgwood*, lower growing and of deeper coloring, is another favorite here but it is quite prone to rot in wet weather and does require much attention. It is worth all the care one can give it, however, and is quite a general favorite. *Realm*, another new variety produced by Mr. Baker, of England, is a very late bloomer and so quite valuable. Tall growing, it gives a wealth of light blue blossoms on sturdy stalks, but will



require watching as it is very subject to rot. However, it increases rapidly, so where garden space is limited probably this is a good failing. *Souv. de Letitia Michaud* is one of the very finest for warm sections but will require special care in the cold sections of the country. *Santa Barbara*, one of the Mohr varieties, has proven to be a strong grower here but it is reported to be hard to grow in some sections. It has lovely horizontal falls and is quite tall and well worth the care needed to bring it to perfection. In *Sensation M. Cayeux* has given us an iris of perfect form. It is of the most glorious blue with well domed standards and horizontal falls, the blooms well placed on nicely branched stalks. It is an outstanding iris. In the darker blues *Mr. Mead's Ion* will supersede *Swazi* as it is an easy doer, which the latter decidedly is not, and is of exceptionally fine form, the blooms well poised on the stalk, the heavy substance giving the impression of great strength. When seen last season after two days of beating rain it stood in beauty seemingly little affected by the deluge. *Purple Haze*, one of Mr. H. P. Sass' more recent introductions, is of that lovely coloring seen on the western hills at twilight and is very lovely combined with the soft yellows and pink-toned plicatas. *Mary Barnett* is proving a great favorite as it becomes more widely distributed. In form quite similar to *Princess Beatrice*; it is also of about the same coloring, but this is enhanced by the golden yellow beard that spreads a glow throughout the bloom. It was far lovelier here this year than in the previous seasons, possibly because while it was in bloom the weather was cooler. There were flecks of gold on the falls near the beard and an iridescence not shown in other years and impossible to describe. *Duke of York*, *Ann Page*, *Lady Charles Allom* and *Jacqueline Guillot* are other blue lavenders that stand out as fine garden irises among myriad lavenders.

We have no clear, true pinks, the

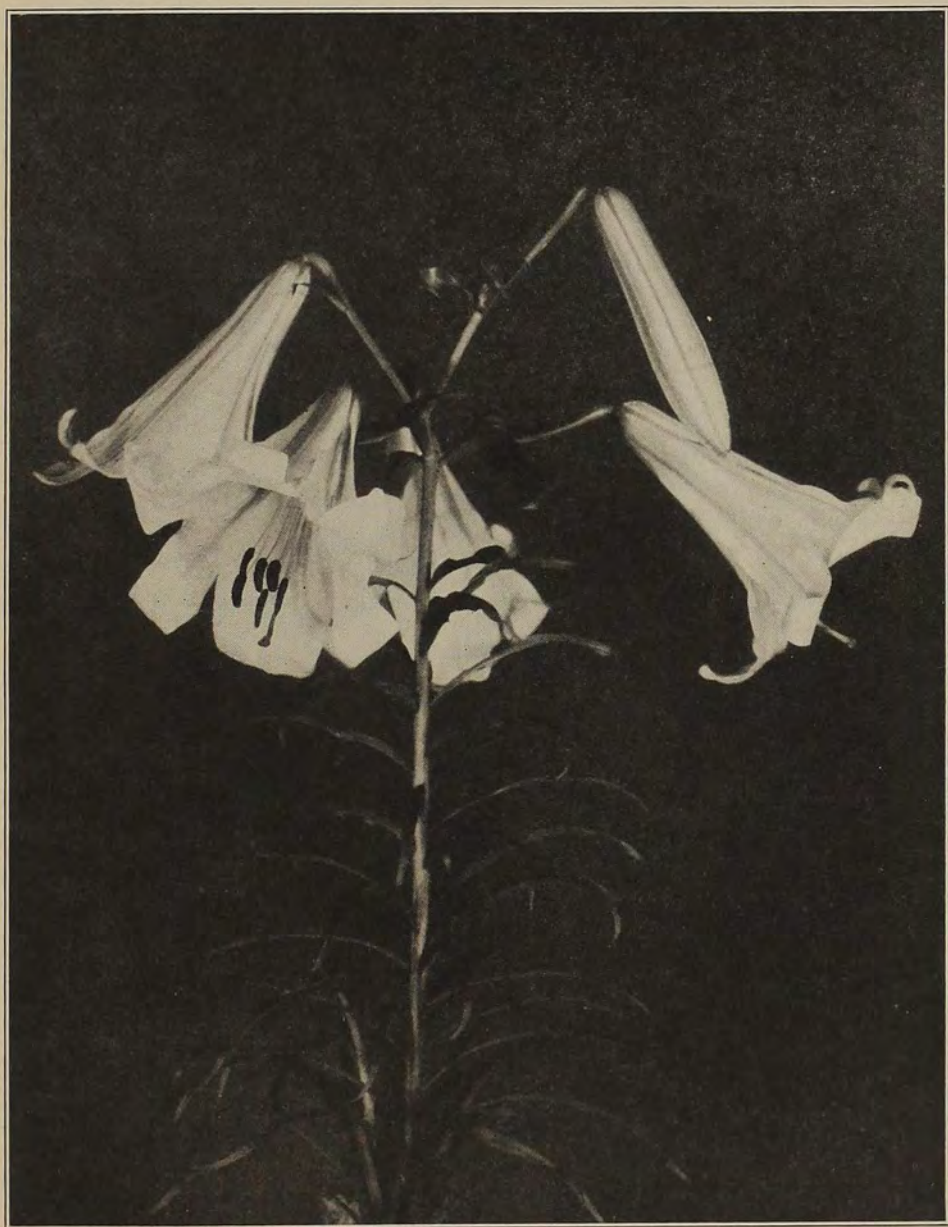
nearest approach possibly being the Sass varieties, *Caroline E. Stringer* and *Tro-stringer*, both whites suffused with pink lavender. From a distance *Marquissette*, the new shrimp pink variety from the garden of M. Cayeux, seems to have a brighter effect. *Miss Sturtevant's Dream* and *Susan Bliss* from Mr. Bliss are the best all round varieties for garden effect. In deepening tones, *Aphrodite* is still one of the most popular, though the newer *Fascination* seems to be running a close second. *Freida Mohr* is a very beautiful bicolor of large size and is one of the finest irises we have. In England *Thais* is considered one of the finest pinks produced in France, but little is heard of it in this country. *Mme. Cecile Bouscant* is another French variety that should be more universally grown, as when it is good it is very good indeed but sometimes proves quite temperamental. Give it a light soil in full sun and if necessary protect it from the winter rains and it will well repay such care with glorious blooms. On the red side we have *Indian Chief* from Dr. Ayres and Mr. Connell's *Dauntless*. The latter has been hailed for several years as the nearest approach to true red among iris and is now being quite widely distributed. *Indian Chief* is being introduced this year and is not so widely known but it is a rare beauty as seen in the seed beds during two years' bloom.

These rambling notes but skim the edges of the wealth of iris now being offered for our pleasure. Hardly any two lists would contain the same varieties and if possible it is far better to visit the gardens of iris growers during the blooming season and there select such varieties as one feels will prove useful in the home garden, for the home gardener wants varieties that are strong growing, free from disease, with good straight stalks on which the blooms are well placed along the stalk. It is not always possible to judge all this from the catalogue descriptions nor is it possible to keep from choosing too many varieties of much the same



coloring that flower at the same time; this, in the small garden, is a serious occurrence. It can be avoided by the actual visit to the gardens where one

can make a proper selection and get a color range that will give the greatest variety of hues over the longest possible season.



*Lilian A. Guernsey*

*Lilium centifolium*

[See page 180]



## Words

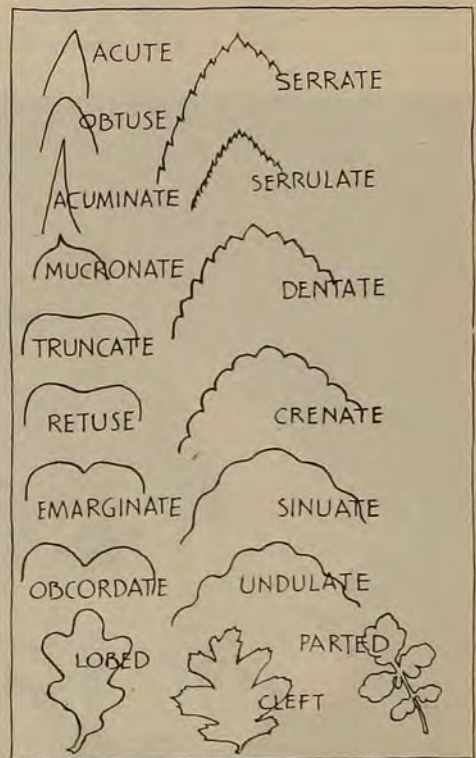
If a leaf has a smooth margin throughout we say that it is *entire*, but if the leaf margin shows any sort of variations we have various special words that are useful in making leaf descriptions.

Should it happen that the only variation from a smooth edge that shows appears either at the end of the leaf away from the stem or at the base, we have the first series of words.

For leaves with pointed tips we have two groups, the words that indicate narrowing to a point and those which suggest a sudden narrowing to a point. In the first set we have *acute*, which merely indicates a sharply pointed tip and its opposite, *obtuse*, which indicates a bluntly pointed tip. In the second set we have *mucronate*, which refers to a margin that suddenly narrows to a small short tip, and *cuspidate*, which suggests a short and rigid tip. If the leaf either gradually or suddenly narrows to a very narrow longish point, it is spoken of as *acuminate*.

If instead of ending in a point the leaf is bluntly cut off, the descriptive term is *truncate*, but if the truncate end is somewhat drawn in (usually) opposite the midrib, the shape is described as *retuse*, or as *emarginate*, if the incision is more deeply drawn in, and finally as *obcordate* if it is so deep as to suggest the lobes of a heart.

For the distinctive patterns in the leaf margin the general term is *dentation*. If the leaf margin is cut into small teeth directed toward the tip or forward as in a saw, the word *serrate* is used. The diminutive of this is *serrulate*, implying smaller teeth. *Dentate* is used to denote coarser teeth which do not point forward saw-fashion. *Crenate* is like the last but the teeth are rounded, not pointed, making a sort of scalloped margin. If the margin shows merely a wavy



line with rounded dentations it is described as *sinuate*, and if these are more vague, approximating a straighter edge, the margin is noted as *undulate* or *repand*.

If, however, the margin is sharply cut by more or less deep, irregular slashes, it is spoken of as *incised*. This is the term that makes the transition toward all the terms for lobes and segments that lead in turn to the already discussed compound leaf.

If the division is not more than half-way from the margin to the midrib of the leaf and the lobes are rounded on the ends, the leaf is *lobed*; in a technical sense if the lobes are narrow or acute, the leaf is *cleft*; if the divisions reach almost to the midrib or base, the leaf is *parted*, and if they do reach to the midrib or base the leaf is *compound*.





Michael Carron

*Sternbergia lutea*

[See page 179]



## A Shopper's Guide

Never have I been so completely convinced of the intemperance that one may reach in the presence of a good seed list that when recently I was led into a small greenhouse filled with flats of seedlings for the most part crying out for immediate transplanting! Having sinned repeatedly by buying more than any one pair of human hands could reasonably hope to manage, I forebore to show the grim smile that rose unbidden to my lips for I knew quite well that I should undoubtedly transgress again as soon as possible.

Before offering you, therefore, the special seeds that should tempt you if you are susceptible to any temptation, for I have come to believe either that no one reads this section or that they are of sterner stuff than most, let me remind you that though annuals, you should certainly remember to include in your lists for 1930 seeds of two pimpernels, the scarlet-flowered *Anagallis monelli parksi*, which is no small scarlet pimpernel, but one with fine inch-wide flower faces that open to the sun, and its sister, *A. monelli phillipsii*, with equally wide flowers of a nice deep but rather dull blue. Unlike other weedier anagallis I have known, these make neat little branching bushlets that spread until they cover the earth with their flat-topped branches and give fine flowering through the hot days of August. Another annual that should be looked into is *Viscaria*, a member of the pink family with small tufts of rather pink-like foliage from which rise the jointed stems that bear wide-eyed circular blossoms of various hues of rose and bluish creams. They never seem to exceed six inches and have a look as if they might like to be moved into their permanent flowering positions as soon as can be managed unless you can groom them on in flower pots.

Departing from annuals, at least for the time, what do you say to *Poly-*

*gonum affine*, more often catalogued *P. brunonis*, which hails from Kashmir and is said to bear all through August and September six-inch stems ending in little pink heads of small flowers that belie its relation to the huger and coarser knotweeds. This you may have from an English list, but you must go to Switzerland if you would like *P. Emodi*, which is said to be like it but more sparse in its carpeting and of more dubious hardiness. Of even finer charms is *P. vacciniifolium*, but for this as yet the shopper's guide has found no source.

What do you know about *Alyssum idaeum*? If you are familiar only with the huge gray green tufts of *Alyssum saxatile* that disappear each spring beneath a cloud of rather brassy yellow, you have no basis of comparison, for this is a delicate trailer with all the usual ear-marks of its family to be sure, but with a more delicate grace and demanding a position where it can run down between stones or even over their faces. Another small species is *A. montanum*, this too with gray green foliage and yellow flowers but of slightly more robust charms. *Repens* might serve to close this little teaser in the yellow cresses, another creeper with even larger individual flowers than any of the preceding. All the cresses have the advantage of flowering the second season from seed and giving a rather decent show, a trait that is not shared by all rock garden inhabitants.

Every one knows *Saponaria ocy-moides* with its tumbling cascades of thin-branched stems and thinner leaves, covered in season with myriads of rosy-tinted flowers, but has curiosity ever taken you further afield to discover the other members of this family nearly related to the pinks? If you have a deep soil with plenty of limestone chips in it you might try *caespitosa* with its rosettes of basal leaves and six-inch stalks crowned



with brilliant pink flowers, of that hue which is almost in the perilous country that garden club ladies may not enter; but if you have no limestone or lime in any form you had better test your powers of persuasion with *Silene pumilio* which wants the best sort of a rhododendron soil mixture with sand and leaf soil but a site in full sun with fine drainage and deep water supply, and I dare say a preference for a Bar Harbor climate.

Any one who has spent hours of weeding the omnipresent chickweeds of this region which appear blithely in the autumn and grow robustly through November to be ready to cast their million seeds to the four winds of heaven through the earliest days of March and April, looks with well justified suspicion on all of the race, even upon the familiar *Cerastium tomentosum* which has its moment of beauty in the early spring and then needs repeated bobbings to keep the rest of the season in shape. One should remember, however, the even snowier *C. biebersteini* which has white leaves and whiter flowers and lets its hoary masses lighten the early border, and then if one is really game, try as well the difficult *glaciale* which need a so-called moraine, with a deep stony root run and underground water for its happiness.

Returning to the plants that prefer it hot and dry, but of course not too dry, do not forget for the autumn the old and familiar *Cerastostigma plumbaginoides* that wants a warm site, with good drainage, but not too perfect, to give you dense mats of foliage and then in September, and on until frost, small heads of flowers with reddish sepals and fine blue, delphinium blue, even cart-wheel blue, flowers which are a constant pleasure. Don't bother it after it commences to grow and seem happy; buy new plants if you must have them. A new relative from India, which should not appear here as it is not available, is *C. Willmottianum* that is much slower to start flowering, but makes a taller bush

covered in late September and even October with myriad heads of lighter but still truly blue flowers. It winter-kills badly in heavy soil and is now being tried for this climate in deep sandy soil that was prepared with some echinocereus in mind. In time it may even have to be moved into a cleft between rocks.

Speaking of echinocereus, the tiny plants that formed the basis for a note in April are now jolly little globes an inch or more in diameter with a bristling coat of white spiny hairs at all the points. A second crop of little seedlings have germinated since then and are following along in rapid succession. Planted on a flat table in the rock garden in a soil filled with gritty sand they scarcely show their move from the seed flat. These are from Colorado.

*Manfreda virginica*, the so-called hardy agave, came through the winter happily and sent up its six-foot stalk crowned with funny dull yellow flowers of a strange hepatic hue. Do not give it a choice place, but if you need a few broad leaves, as is so often the case, this might do as a variation from funkias.

*Yucca coloma* sat still for almost a year before it decided to grow, neither diminishing or increasing one whit, but this August, when all the world was weariest with heat and drought, its slender blue green leaves began their increase and have continued to multiply until it bids fair to make a truly presentable yucca of small dimensions. This midsummer growing seems to be the rule in this family, for, looking about, it was soon obvious that all the other yuccas of the neighborhood were doing just the same thing except the few stalks of *gloriosa* that were running to flower, gorgeous things in mixed plantings of broad-leaved evergreens. Some enterprising Southern nursery should take this in hand and work up a stock for it seems to be fairly hardy, even if it flowers too late to ripen seed. Don't forget the stamped envelopes, please.



## A Book or Two

*The Book of the Tulip*, by Sir A. Daniel Hall, K. C. B., F. R. S., London. Martin Hopkinson, Ltd., 1929. 21 s. net.

With the passing of the Rev. Joseph Jacob, readers of gardening literature lost for a time the voice of the tulip in the garden to which they had pleasantly listened for many years. They mourned a kindly and intimate spirit that seemed almost a personal presence as his lines passed before the eye. Strangely enough, with the years of admiration in which the tulip has been held and its universal cultivation as a garden plant, until this year, so far as this writer can learn there had been only one book in English devoted solely to the tulip. That was a little volume by the Rev. Jacob, greatly treasured by those of us fortunate enough to possess it, and long out of print. It was published some 25 years ago. Many valuable articles treating of the tulip both from the scientific and gardening standpoint are printed each year in horticultural publications, but the collecting of all this information in a single volume was left to Sir A. Daniel Hall, whose recent work entitled "The Book of the Tulip" gives us an authoritative standard for this popular garden bulb that is likely to endure for many years.

It is not, strictly speaking, a monograph on the genus, a term at which the rank and file of gardeners are likely to shy as indicating a ponderous volume couched in technical terms which they can not understand. It fills, however, the need for such a work to a large extent and is likely to be revised in succeeding years as the relationship of the various species is unraveled from its present tangled and uncertain state. With the technical information is a great amount of solid garden and cultural lore.

The untimely death of William

Rickatson Dykes deprived the world of a tulip monograph, as it is known that Dykes had such a work in preparation and had collected tulip species much as he collected iris species and was conducting experiments to determine the family affairs of the genus. With him was associated W. C. F. Newton of the John Innes Horticultural Institution, to which Mr. Dykes had moved his collection of tulip species. Mr. Newton's death not long after that of Mr. Dykes interrupted the work which Sir Daniel has taken up and given us so far as it had progressed.

Garden tulips are hybrids of uncertain origin being, so to speak, "made plants" when they were introduced to European gardens and thence to the world from Turkey in 1554 by the Austrian ambassador Busbequius. Sir Daniel has not endeavored to give an enumeration of known species in his book but has confined himself to those known to be readily amenable to garden cultivation. One wishes that he had gone more thoroughly into this subject.

One of the most interesting features of the book is a proposed new classification of tulips along lines of color and form. This classification was originally devised by Newton, we are told, and Newton took as a starting point the old classification of *Eriostemon*es and *Leiostemon*es, distinguished by the presence of hairs at the base of the stamens or the lack of them. He was of the opinion that some of the species are no more than clonal varieties. Sir Daniel believes that the present-day races of tulips found their origin in the *Gesneriana* and *Neo-Tulips*, the origin of which is unknown.

The historical chapters take us over fairly well known territory. The chief interest to the writer was in the chapter on breaking, in the new classifi-



cation proposed, and the forecast of the future development of the genus. As to breaking, the John Innes Horticultural Institute has conducted experiments for a number of years but has arrived at no conclusion that can be called proved. Sir Daniel returns a Scotch verdict concerning the theory that breaking is caused by a virus disease communicated probably by aphides. This infection is commonly known as the mosaic disease.

The experiments of inoculating unbroken bulbs by contact with the substance of broken bulbs and their subsequent breaking indicates that the peculiar behavior of the bulb in this respect is due to a virus infection. In his book Sir Daniel says that breaking is confined to the garden hybrids and does not occur in the species, but as the book was on the press he announced in later magazine articles that experiments by grafting broken bulbs on normal bulbs of some of the species had produced breaking, the species used in the experiment being *T. greigi* and *T. eichleri*. He also reported that some species under observation at the Institute had broken without the grafting of broken bulbs upon them. He also found that yellow tulips which have been included as among those which do not break under a microscope showed stripings of different shades of yellow.

His conclusion based on this information, which is not included in his book, is that breaking is common to the whole genus. However, his prediction is that with the knowledge which is being gained of the cause of breaking it may be controlled in the future.

Due to the intercrossing of various classes such as the new Mendel and Triumph tulips, crosses respectively of the little, very early Due von Thols and the single early class with the Darwins and other crosses in the future with species, Sir Daniel believes that the old classifications will break down and that the classifica-

tion outlined in the book according to color and form will supplant it.

He apparently admires the formal beauty of the English florists' tulips which have never made their way in this country, seeming unimportant compared with the Dutch tulips to growers who have tried them. He also thinks little of the Rembrandt class,—broken Darwins,—which are admired by many American tulip enthusiasts.

The most entertaining bit in the book is a terse section consisting of two words. This is on the late double tulips which the author dismisses with the quote "Better dead." This writer heartily agrees.

Concerning the Mendel and Triumph classes, Sir Daniel advises tulip growers to wait and see what varieties of the flood of named varieties will win their way and survive, as many of them he does not consider of much account. His suggestions as to new races to be attained through the use of *T. Kaufmanniana* and other species opens an interesting field of speculation, but as tulips require about six years to bloom from seed it is not likely these results will be seen by the present generation of gardeners. The description by colors of the present garden tulips with typical examples will arouse no quarrel, as the varieties named are admirable.

The discussion of technical factors in the heredity of the tulip which leads us into chromosomes and zygotes is not for the reader without technical training although the author defines his terms well, so that they are comprehensible if one cares to delve into the subject.

Sir Daniel writes from the standpoint of a man who has been an enthusiastic grower and student of tulips for thirty years.

He has given us a vast amount of information assembled between the covers of his book, which is one that every lover of tulips with an interest in the family relationships of the plant will want in his library, for it is difficult to imagine any one with a



true interest in plants who does not want to know something about their families, just as one has a certain interest and curiosity concerning the family of a friend.

The publishers of the book might have done better by the author and the artist who painted the tulips used as color plates. Much more might have been made of these paintings by way of reproduction, the small figures looking rather lonely in the midst of a fair page of excellent calendered paper which could so easily carry much more effective illustrations.

"The Book of the Tulip" is neither strictly a garden book nor a monograph. It is in nature reminiscent of Mr. Dykes' "Handbook of Garden Iris." Perhaps it might best be styled a handbook. However one wishes to characterize it, this volume is a highly valuable contribution to horticultural literature. In fact, it is the only available authoritative work on the tulip in English.

*The Gardener's Bed-Book*, by Richardson Wright. J. B. Lippincott Company, Philadelphia, Pa., 1929. 341 pages.

To those of us who have eagerly laid back the many pounds weight of superior advertising and well illustrated but often inconsequential continued-on-page-blank articles of our esteemed contemporary, in order to find the pungent single page or the piquant items on the Billboard from the hand of the author-editor, this book is a peculiar delight. In it there is no necessity for that insidious compromise that must often be made for good business reasons. There is, on the contrary, much of elegant derision for human weaknesses and hypocrisies, both personal and horticultural, a neat and biting wit and a tender and poetic sympathy. Do not be deceived, it is no book of moralizing nor yet of horticultural formulae, but one hopes that all the dear souls who are gardening because it is being

done, will be aware of delicate jeers and that those who are provoked to mirth will not miss the excellence of the garden wisdom.

*Lily, Iris and Orchid from Southern California*, by Francis Marion Fultz. Spanish American Press, Gardena, California, 1928. 135 pages, illustrated.

In the preface the author plainly states that his book "is not a technical treatise but the botanical statements which it contains are intended to be accurate and true to fact. The field is as completely covered as seems wise and expedient. Space is not given to some minor species and varieties, in order that the reader may not be wearied with unnecessary detail."

The book is written for a local public in a vivid and interesting style reflecting a fine fund of both botanical and horticultural knowledge, and limits itself not to the three plants noted in the title but gives passing attention to various other monocots of the region, particularly *brodiaea*, *fritillaria*, *zygadenus*, *allium* and *yucca*. The illustrations are clear and intriguing.

*Daffodil Growing for Pleasure and Profit*, by Albert F. Calvert. Dulau & Co. Ltd., 32 Old Bond St., London, England, 1929. 412 pages, illustrated. One guinea.

In the popular mind the daffodil has always been identified with Great Britain. The present volume carries on the tradition. The author, although relatively a newcomer among daffodil growers, obviously has set about his undertaking with great enthusiasm and great success.

It is extremely difficult to say in a word or two what kind of book the present volume may be called. One resents the use of the hackneyed expression, compendium of useful information, but after all that is perhaps the best in this instance. One



finds the expected chapters on History and Development, Classification of the Daffodil, and then reaches a considerable part of the book which is given to cultural matters. These chapters are written essentially for the British grower and include directions of interest not only to the market man, who is concerned in the production of cut flowers both in the field and under glass, but to the grower who is engaged in the production of bulbs. One has the feeling in reading through these pages that the author has spared no pains to search out all the available printed matter that has been published in the past and to investigate bulb growing wherever he might find it, and then finally to compare the recorded instructions with the actual practice. For the American these chapters can be used only by comparing them again with our own conditions and methods. We are not, as yet, much accustomed to the production of cut flowers in the open field, and perhaps do more work under glass. Our experience in the production of bulbs is still in its earlier stages.

There follow four chapters which are concerned chiefly with matters relating to daffodil breeding. They are contributed by the Rev. G. H. Engleheart, the Brodie of Brodie, Guy L. Wilson, and F. Herbert Chapman. These names in themselves are sufficient to guarantee the excellence and value of the pages. One only regrets that they have contributed so small a part in this large book.

The next section, contributed by W. E. H. Hodson and A. Beaumont, discusses the pests and diseases of the narcissus with the usual treatment of the narcissus eelworm, the greater and lesser bulb flies, the bulb mite and various rots caused by fungi.

The remaining chapters are even more difficult of brief classification. They were written by A. M. Wilson, H. W. Addiss, the Rev. G. H. Engleheart, Peter R. Barr, Herbert G. Longford, and George Monro. Several of the papers have appeared elsewhere

and are reprinted in the present volume. An interesting chapter giving a list of awards from the Royal Horticultural Society from 1911 to 1928 precedes the large section of illustrations.

The engravings, to the American reader, are of the greatest interest, as in this way we see for the first time representations of the newer sorts. Some of the illustrations have appeared in the reports of the Midland Daffodil Society, some in trade papers and others in various catalogs. One suspects in most cases the expert hand of the late Mr. Reginald Malby and his co-workers. The most interesting thing of all is the comparison in general appearance of flowers photographed in England with flowers photographed in this country. For example, the illustrations of Cleopatra, of Goldbeater, and even of Emperor seem extraordinarily different from the appearance of those varieties in this country. There are several others, notably Everest, Quartz, and Tapin, which seem to be a little more precise in form than the same varieties in the reviewer's garden.

While the illustrations are not exclusively of exhibition types of flowers, there are many of this sort included which should be of peculiar interest to the American who thinks of the daffodil particularly as a flower for garden use and is inclined to be somewhat unobserving of the beauties that are to be found in daffodils of the newest types. The reviewer, who has grown many of the newer sorts for several years, can testify that they are as robust and as useful as the older sorts of which he has many more. When the day comes that we have these new varieties easily available, many new beauties will be found for our gardens in the spring months.

All lovers of the daffodil owe Mr. Calvert a debt of gratitude for bringing together this mass of material and filling the long gap since the last publications of daffodil books.

*[Continued on page 184.]*



## The Gardener's Pocketbook

### PRIMROSES

Wintering plants, usually the subject of greatest concern, is comparatively unimportant with one genus, the primroses, and particularly the candelabra section. This is so called because its members bear their blooms in tier above tier on stems sometimes as tall as three feet. Summering these primroses, particularly in sections of the country where hot, dry Augusts may be expected normally and when often a hot dry spell begins in late July, is the critical task in their culture. This is the danger period in the writer's experience. They curl up and die very easily under hot dry conditions and unless constant watch is kept over them in hot dry spells, considerable losses are likely.

These primroses are Asiatics which in their native localities have a continuously cool, moist root medium, some of them rejoicing in bog conditions. In this country they seem to be as hardy as any perennial we have so far as winter cold is concerned, but despite bog conditions in their habitat they don't seem to want them here. But they do want moist soil.

While I have grown them in soil in which it is not good sense to try to grow them—a light sandy soil—it was only by dint of constant attention to watering and with the assistance of paper mulch as an experiment which proved efficient in equalizing conditions that they were pulled through the summer. The bloom, while pleasing under these conditions, did not attain the size or the height of which it is capable and it can not be expected to do so.

But under heavy soil conditions, where there is less danger of drying out, even in periods of drought, they flourish luxuriantly, make fine healthy foliage, and in June glorify shady corners and borders with their rich and brilliant bloom ranging from yellow to

deep purple through the scarlet, vermillion, terra cotta and similar hues. Young plants are most sensitive to hot dry weather. Established clumps can hold their own. They have done wonderfully well in clay soil. Shade, however, seems to be a requirement for their best development, and afternoon shade preferably.

Limestone chips dug into heavy and clay soils make a good root medium. A mulch of limestone chips, grass clippings, peat moss or buckwheat hulls, where available, is also useful. The limestone chip mulch is the most efficient, it seems to me, as rain trickles through it freely. Peat moss is in its dry state a waterproof cover and buckwheat does not let moisture penetrate as easily as the stone chips. Use of paper mulch requires that the plants be set in straight lines for its convenient application, but it is effective. It need not be put down until after the blooming period and can be removed in the fall when it is no longer needed.

These primroses are increasing in popularity here in the Middle West, as one needs only to see a group of the brilliant Japanese primrose, Etna, the glowing hybrid Red Hugh or the softer colored Asthore and Aileen Aroon to be captivated. Then come the deep velvety crimsons and purples, the oranges, yellows, salmons, pinks and roses to complete the display. Seed sown in February or early March in flats and coldframes and subjected to some freezing and thawing seems to bring the best germination. All are slow to start, sometimes waiting a year or two, but ordinarily they start in from four to six weeks and good germination results. Maintaining uniformly moist conditions during the germination period seems essential to good germination, and the lack of these uniform conditions is the reason why so many outdoor plantings of these seeds prove absolute failures.

They seem to like rich fare and are



not particular as to whether the soil is sweet or acid.

For many years *Primula japonica* was the only candelabra form of hardy primrose we had, and this was not often seen because of its slowness of germination and because it often showed rather dingy forms. It lost popularity when *P. pulverulenta* of richer coloring and larger size was introduced, and then came *bulleyana* with rich yellow spikes, *beesiana*, another fine purple, and *cockburniana* in brilliant orange scarlet. These primroses have formed the basis of a series of gorgeous hybrids in a wide color range that make magnificent shady garden material.

Recently two larger flowered types have been introduced. These are *P. anisidora* and *burmanica*, the former a larger *japonica* and the latter a bigger *beesiana*.

While these hybrids such as Aileen Aroon, Asthore, and Red Hugh show some variation from seed, the coloring is close to the named type. The first is a scarlet, the second a coppery red, and the last a fiery scarlet. Etna, of the *japonicas*, is a glowing red with considerable yellow in it. Lissadell hybrid is vermillion and the Ipswich hybrids give a series of varying shades in this series. The orange and scarlet tones are said to come from the intermingling of *cockburniana* blood. *Japonica* has some very fine rich crimson as well as rose and a pure white.

Some of the finest of the pink and rose hues in the candelabra primroses are found in the Bartley strain of *P. pulverulenta*. These are exquisite things.

While the genus *Primula* only a decade ago was of comparatively small proportions, plant exploration in Asia has added species until it now runs into the hundreds and the candelabra class has a fair proportion of the newcomers. It is quite impossible to try to keep up with the primrose procession, some of which are of more botanical than gardening interest.

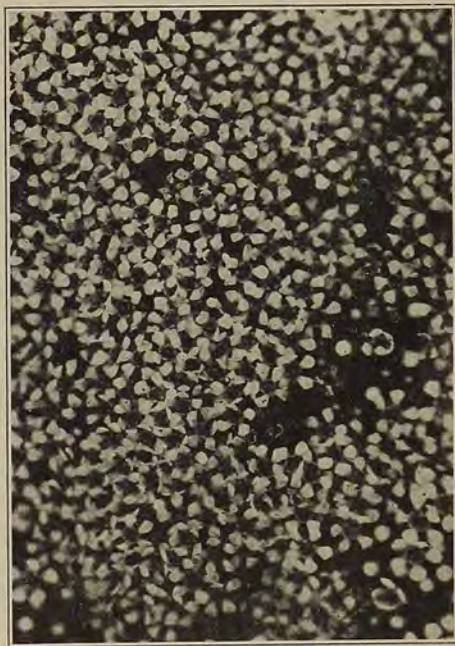
The one member of the candelabra section that has been attempted in

the Chicago district with no success is *helodoxa*. It has proved of low germinating quality and the plants that did appear failed to flourish.

The giant *P. florindae* seems quite at home. It is really too big to be "primrosy" with its tall umbels of yellow bells and heavy foliage very accurately described as resembling that of a March marigold. It is a big edition of *P. sikkimensis*, which is more delicately beautiful. Another delicate beauty in yellow, a comparative newcomer, is *P. microdonta alpicola*. All three seem to do well under rock garden conditions. The candelabras for the most part are too robust for the rock garden and seem more effective massed in the border, where the hose can be used copiously when needed without danger of drowning more delicate neighbors such as would be found in a rock garden.

S. R. D.

Chicago, Ill.



A NEW PYXIE FLOWER  
*Pyxidantha brevifolia* Wells

The new pyxie which is known only from the one station near Spout



Springs, North Carolina, where it was found by the writer, is of interest in that it grows in a much drier soil than does the other species *P. barbulate*. The new form unquestionably represents a xeric adaptation to the high excessively drained sandhill where it was found. In its station the plant is very common in an area not over five acres in extent. It apparently is reproducing here only by stolons, for if the plant could multiply freely by seed its range would unquestionably be vastly larger. The summer and winter aspect is that of a thick-leaved moss. So moss-like does the plant appear that any botanist on superficial view would be apt to classify it as belonging to the lower group. Its slender shallowly buried woody stems, of course, show it at once to be a seed plant. The short erect branches are so thickly disposed as to give the plants a mat-like aspect. In the early spring when each little branch bears its flower these mats are most attractive masses of white as can be judged from the illustration.

B. W. WELLS.

Raleigh, N. C.

#### NEGLECTED NATIVES: 2. FIELD ROSEGENTIAN.

*Sabatia angularis* (L.) Pursh. (See page 169.)

During the hottest days of mid-summer there comes into bloom in abandoned fields and grassy meadows in many parts of the eastern United States a plant with flowers of such a striking rose-pink hue that it seems worthy of a place in our gardens. Following the general plan of Standardized Plant Names (in which this species is not included, since not in the trade) the name Field Rosegentian may be suggested for it, although the country folk know it as Centaury. This usage has evidently been handed down from their ancestors, who, coming from England, were familiar with the plants so-called there, and were naturally unable to appreciate the

technical differences on which botanists separate the two genera, *Centaureium* and *Sabatia*.

This lovely Rosegentian can not be successfully transplanted when fully grown, as is often attempted, because it is strictly biennial, and dies as soon as its seeds are ripe. Instead, seeds must be collected in the Fall, sown as promptly as practicable (they lose their vitality when allowed to dry out) and then left alone for a year. The first season nothing develops but a flat-lying group of four roundish, shining leaves, the whole but an inch or two in diameter. Protected from the cold by a thin covering of litter and by the snow, these rosettes survive the following winter without essential change, being hardy well up into the Great Lake region. Then in the Spring they begin to grow, and send up a stem to a height of a foot or more, crowned with numerous showy flowers in July and August. Once the plant is established it will self-sow and reappear in subsequent years, if conditions are to its liking. Care must be taken, however, that its rosettes are not weeded out by mistake, and that the bed where it grows is not limed nor heavily fertilized, for it requires a somewhat acid and sterile soil.

Washington, D. C. E. T. WHERRY.

#### THE SHOWY LILY

The Japanese lily, *speciosum rubrum*, which reaches a height of 7 feet in my garden is preferably grown in moist but well drained soil in a semi-shaded position. They grow equally well in full sun, but I prefer some shade because the flowers mature less rapidly, thus prolonging their season of bloom. *Speciosum* should be planted deeply, as the lilies are stem-rooting. Drainage is furnished by cinders and gravel. The bulbs are placed in fine loamy soil to which composted leaves and sharp sand have been added.

In autumn the bed is prepared for the winter rest by a heavy covering of leaves and well rotted manure. Bran-





E. T. Wherry

*Sabatia angularis*

[See page 168]





ches spread lightly over the top afford additional protection but should be raked off in spring before the bulbs begin breaking through the moist soil in early April. The *top dressing* permitted to remain will serve as summer mulch and later, worked into the soil, adds humus to the lily bed.

Ashland, Va. MRS. C. B. JONES.

#### *Narcissus Notes, 1929.*

Among the good things blooming, this season, were Rosary, a noble specimen bloom four and one-half inches across, poised on a stiff stem, with a snow white perianth, even and absolutely flat, and a beautifully proportioned trumpet of solid rosy buff. Striking, a really red-eyed poet with a rather small but quite perfect flower; Zillah, a cream white incomparabilis with a crown over a half inch across widely margined orange scarlet, as brilliant as Brightling; Mystic, the ultra-refined; Mary Copeland, a double that I like, the aptly named Yukon and the three Barrii varieties planted last year. Of these, Kilter opens whiter than Firetail and has a larger and more brilliant crown. The Admiral opens

pure snow white; it is very good. Seraglio is very large for a Barrii, the big evenly frilled crown has a clear cut margin of orange red, the pale yellow perianth is round and quite flat.

Two surprises were furnished by Pax and Hera. The latter's cup developed a ribbon edge of pure apricot. Pax's cup was a delicious orangy-peachy pink, deepest at the rim and shading to pale yellow in the center. Prior to this season the cup was rimmed with shell pink, if any color developed at all, with an occasional crown solid as was the case this year.

Two seasons in succession in which every colored cup has bloomed, in one or the other, true to description, is sufficiently encouraging to warrant trial of more of the new things of this type.

As garden plants, Tenedos and Beersheba were not so good as last season. The blooms were fine but the stems were weak. B. F. CURETON.

Walhonding, Ohio.

*Iris reticulata.* (See page 171.)

It is more or less of an aggravation to see a mention of this iris which is apparently not to be had in this country, but its picture is included nevertheless in the hope that some one may be inspired to start growing a supply of it from seed which can be had at times from European sources. A small amount planted in the late autumn yielded a very fair germination almost at once and the following spring brought up as fine a mass of little swords as one might expect from *Iris sibirica*. As a matter of precaution a little more sand than usual was added to the potting mixture, but this may not have been needed as the little seedlings were each tipped with as hard and horny pointed leaves as any of the older bulbs. They make a single leaf each year until they are several years of age, when other leaves begin to come along as with other bulbous plants.

Of the flowers there is little new



*Lilian A. Guernsey**Iris reticulata*

[See page 170]

that can be said. They spring up with amazing rapidity just after the flower of *Iris persica* are well past, which means that hereabouts we have them with the crocus. At the time of flowering the leaves are almost undeveloped and some provision must be made for a soil covering, which should not be too rampant if it is a green thing. The situation for the bulbs should be warm and protected in the sense that the flowers should be spared as much of the early bluster

as possible, with gritty, well drained but fairly rich soil and a bit of lime. When once established the bulbs should be let alone.

Washington, D. C.

#### BROAD-LEAVED EVERGREEN SHRUBS.

Many years ago in my grandmother's greenhouse there was a plant that had grown to such large proportions that it required a half hogshead to hold it. It had medium



small smooth dark green leaves that grew in rosettes on the ends of the stems and very fragrant rather muddy yellowish white flowers in the center of the rosettes of leaves in late winter or early spring. This was the pittosporum (*P. tobira*) and year after year my grandmother had the tub laboriously moved in and out of the greenhouse with the changing seasons. After her death my brother, who inherited the "job" of looking after the greenhouse, learning more and more about plants, and being a little weary of the semi-annual move, decided to put the Pittosporum in the ground and see if it would not survive our winters. To the astonishment of the rest of the family it did, and after it had gotten well established, it went through the coldest, bitterest winter that we had had in the memory of the oldest inhabitant with the loss of only one or two branches. Since that time other people have planted the Pittosporum and find that it is well suited to this climate, being perfectly hardy, and at the same time growing and flourishing through all the heat and drought of our rather hot, dry summers. It is a broad leaved evergreen that we should use more abundantly.

Other broad-leaved evergreens that I have found are hardy enough to be planted as far north as this section are the fragrant olive (*Olea fragrans*, or as it is now called *Osmanthus fragrans*), the tea olive (*Osmanthus fortunei*) and *Osmanthus ilicifolium*, the laurustinus (*Viburnum tinus*), the banana shrub (*Michelia fuscata*), and even the Cape Jessamine (*Gardenia florida*) will grow and bloom if given a little protection. I have never seen a *Camellia japonica* planted around Raleigh, but there is a very large bush of it at Clayton, N. C., about 16 miles southeast of here, which blooms profusely every spring.

That same cold winter that dealt so kindly with our Pittosporum also failed to kill two large plants of the Japanese loquat (*Eriobotrya japonica*).

I have a small plant of the loquat in my garden now that has stood one winter most successfully. Perhaps I should say that during the severe winter of which I speak there was a day and a half (at least 36 hours) when the temperature did not rise above 8 degrees, and during one night it touched zero. That of course was an unusual winter, but while North Carolina is part of "the South," we do not have the warm climate of Florida. We are half way between the North and the South and there are great horticultural possibilities here.

ISABEL B. BUSBEE.

Raleigh, N. C.



PINK DEUTZIA

One of the best of the Deutzias is *D. gracilis rosea*, a variety with clusters of single flowers that are of a delightful clear tint of pink in the bud and the early stages of bloom and bleach gradually to white before they drop. The few single-flowered species of *Deutzia* seem more clean-cut and attractive than the commoner double-flowered species, whose blossoms are fringy and have a somewhat untidy look. The appearance of the single flowers is shown by the photograph of a characteristic spray, and the view of a 10-year-old plant leaves no doubt as to the appropriateness of the specific name *gracilis*. Some of the blossoming branches on this plant were at least 2 feet long with flowers all the way. This *Deutzia* is at its prime just as the



flowering dogwood and wild azalea are going by—in Washington this year early in May. It is a rapid grower when established, and rigid pruning of the flowering branches soon after the petals have dropped gives a wonderful crop of bloom the following spring.

Washington, D. C.

B. H. LANE.

#### GOLDBAND LILY

Experience with *Lilium auratum* in my own garden has been that of many other Eastern amateur gardeners who claim that after three successive seasons of bloom, each giving evidence of increasing deterioration, they finally disappear altogether.

Five years ago, however, there came by chance into my possession four small but firm bulbs which were said to be better than those of larger size with loose fleshy scales and only half as dear.

A space 2 feet deep was excavated in the clay-loam of the garden soil, drainage supplied with broken bricks, bits of crockery, tin cans, etc., to a depth of 6 inches and the remaining 18 inches filled in with rich woods earth and old rotted tree stumps, sifted and mixed with coarse sand. The bulbs were planted 12 inches deep. Experience has likewise taught me that lily beds thrive best which receive a yearly mulching of manure in the late fall.

The snapshot serves only to show an average bloom stalk (not specimen) cut from this shaded and rather crowded planting in the perennial border.

The past season marked the fifth birthday of "the four small bulbs," which show a healthy increase and are giving every evidence of having become well established. From their narrow corner of the earth, during the bloom period, many messengers of joy went forth bearing umbels of rare beauty and fragrance.

On the occasion of a local flower show a basket of *Auratum wittei* and *Auratum platyphyllum*, cut from the planting, with *Veronica longifolia sub-*

*sessilis* and *Thalictrum dipterocarpum* brought back a blue ribbon.



The several types of *L. auratum* appearing in this small collection have furnished opportunity for observation. And so with certainty it may be said that were there a final choice and a chance to begin again one could wish for nothing finer than a planting of the one great glorious variety, gold spotted, gold banded *L. auratum platyphyllum* or *macranthum*.

Ashland, Va. MARY MC D. BEIRNE.

#### CRAB GRASS IN LAWNS

In August, 1928, crab grass appeared on two lawns in such quantities as to make hand weeding impractical. Considerable time was spent accumulating available literature on the eradication of this pest but no solution was offered other than to make new lawns.

The making of a new lawn was not a real solution as even with the best possible work seed of the crab grass would remain. Further, the soil was



of a hard clayey nature, difficult to start seed in and washing badly in heavy rains. The entire removal of the soil was not desirable on account of the very heavy expense involved and the loss of bone meal fertilizer that had been worked in.

After considerable study an experiment was carried out. One plot was skinned and a new lawn built in the generally approved manner.

The second plot was handled differently. Two preserving kettles were set up and boiling water used. With large watering pots the areas of crab grass were well sprinkled with boiling water. The plot was then allowed to stand for several days when it was again gone over with boiling water wherever the crab grass showed signs of revival.

At the end of about ten days it was quite plain that all had been killed. The plot was then lightly raked, just taking off the heaviest of the dead grass. Some portions were then built up a little with new earth but the most of it was left with the dead grass on it and the entire plot resown with a mixture of blue grass, red top and timothy.

In August, 1929, the following observations are made on the above:

The plot that was skinned and a new lawn made came on in the autumn as well as could be expected. This year in July and August crab grass sprouted in this plot and hand weeding was required (three men one day). It would appear that in skinning some crab grass seed had sifted down through and remained in the new lawn.

On the plot that was scalded new sprouting of crab grass was confined to areas that were built up with earth after the scalding (apparently new crab grass seed was introduced with the new earth). Where the old grass was allowed to remain after scalding, the new grass sprouted more promptly, grew better and in every way gained over the other methods of handling; there was no crab grass where the old grass had not been removed.

From this it would seem that the scalding kills not only the grass but also the seed. The remaining dead grass forms a protection for the young lawn grass. The hot water appears to have made the fertilizer in the soil more available as the grass on the so treated areas has made more than double the growth of the other areas.

Both areas now show an almost pure stand of blue grass, but the hot water treated area is better both as to growth and general conditions. The skinned area is quite spotty owing to the necessity of hand weeding this year.

As a result of the work I am willing to recommend the hot water process. It requires some time and labor but in the long run it is less expensive than hand weeding and much more effective.

The two areas used were about 40 feet by 100 feet each.

H. A. WILLIAMSON.

Fairmont, W. Va.

*Cotoneaster hebeophylla* Diels. (See page 175.)

This species is unlike most of those that have been illustrated before as it makes a taller and more spreading bush with widely arching branches and feathery open shoots lined with small leaves of a grayish green on the upper surface and quite ashen with silvery hairs below. The flowers are somewhat more showy than in the dwarfier species, but like most of their fellows are anything but pure white and make no more conspicuous showing than do many of the hawthorns about which so many undeserved rhapsodies have been made. The berries, however, are another matter for they are of a decent size and begin to show their brilliant red tints in late summer while many of the other species are still uncolored. At first the berries appear as a rather dull red for they are covered with a fine down, but this seems to wear off and leaves the light scarlet fruits in their full glory which is not diminished until heavy frosts or hungry birds have made havoc. The





Lilian A. Guernsey

*Cotoneaster hebeophylla*

[See page 174]



leaves color somewhat before falling but are not so fine as in the species which have less hairy covering.

Washington, D. C.

*Rhododendron nudiflorum* Torr. (See page 177.)

Our own native pink azalea which is called pinxter flower in the North and Wild Honeysuckle in the South is often overlooked in the rush for more exotic beauties. In spite of this it is still worthy of a place in the shruberies that are not too near the house for it has a rather sickly sweetness in flowering time that is not pleasant nearby. Left to its own devices in this acid soil of our woods, it usually spreads about near the surface of the soil, making widely suckering clumps of thin stems which flower only on the strongest members, or else it grows up into a six- or eight-foot straggler, with level tiers of branches all crowned with heads of bloom before the leaves push out or with the young shoots.

Among the plants there is a wide range of color variation from the near whites through every shade of rather clear rose pinks until we come to the deep rose color of *Rhododendron roseum*, its near relative. Variation is shown as well in the width of the corolla lobes which makes a great difference in the appearance of the flower heads.

Like all of its fellows it is easily raised from seed if the proper routine is followed and the gardener will wait about three years to see his flowering. In addition he will have better plants, for in soil that is deep and well prepared the plant loses its wide suckering habit and makes as decent and civilized a clump as any of the exotic species. Like all its fellows, too, it will endure any amount of pruning and indeed for collected plants a veritable beheading is the best practice. Move in from nurseries or collecting while dormant, but at any time if you wish, on your own place, if you will watch the watering.

Washington, D. C.

*Deutzia scabra candidissima* Rehd.  
(See page 179.)

This is one of the many modern deutzias that we owe to the genius of the Lemoines. To those familiar only with the rough and somewhat scurfy charms of the old *crenata* and *scabra* this will be of unbelievable elegance. Its leaves, to be sure, are rough and its bark does slough off in flaky bits like any of the older ones, but its growth is more measured in size and seemliness and the over-arching shoots are bent almost to earth with the weight of the heavy heads. The flowers, as the illustration shows, are full double and of lovely form, but the illustration does not even suggest that they are well over three-quarters of an inch across. There is no tinting even in the bud stage when so many deutzias show a pinkish stain on the backs of the outer petals. Like all of its kind it seems to be very easily propagated by cuttings of half-ripe wood in summer or hard wood in winter.

Washington, D. C.

*Dryopteris novaboracensis* Gray. (See page 150.)

The New York fern is one of the jolliest in the wild garden for combining with plants that lose their leaves early in the summer, for it is rather slow to develop its fronds in the spring and then makes a delicate mass to hide the nakedness of the plants that have gone on. It spreads about rapidly from running rootstocks, flourishing equally well in shade and half sunny places. Its fronds are deciduous and of a light yellow green hue with a sweet scent if crushed, but perhaps no more so than many other ferns. If transplanted in midsummer it has the habit of losing all its leaves in an alarming fashion, but if the season is early enough, new ones come quickly, and if it is too late the whole energies of the plant go into the rootstock for the following year.





*Lilian A. Guernsey*

*Rhododendron nudiflorum*

[See page 184]



In the patch shown it covered the early masses of *mertensia* and California *erythroniums* and later in the summer makes a striking contrast with the spires of cardinal flower that rise behind it on the edge of a tiny rill of water that does not show in the illustration.

Washington, D. C.

*Helenium autumnale* L. (See page 181.)

Among the myriad composites that decorate the autumn borders there are few that are more satisfactory than the *heleniums*, natives of our own Southwestern States. In their poorest forms the petals are irregular and badly reflexing and make the poorest of showing, but in the garden selections one can have even rounder and more overlapping petals than those shown in the figure and a considerable color range as well.

They flower through late August and early September at the time when the phlox have just finished off their main pageant and only the taller late flowering types remain. *Buddleia*, *caryopteris* and some of the *rudbeckias* keep them company and the masses of the spreading, ashy blue *Eupatorium coelestinum* and the silver gray stalks of *Artemisia Silver King* make happy contrasts with the lavender white mists of *boltonia* in the offing and the later forms of the *amellus* asters for the foreground.

The best of the matter is that this plant does not make widely running suckers after the fashion of so many composites. The main clumps are compact as a phlox and should be lifted and divided and refed with as much regard. Do not consider it like one of the sunflowers or even like the reliable *Golden Glow* or some fine year you are going to find that it has disappeared from the borders for no special reason, except lack of food, a lack we are not inclined to admit.

In color range the type shows a slightly greenish yellow with a yellow disk, but there are other named se-

lections that have yellow rays and dark brown disks, still others with coppery red reverse, and some with the whole flower in colors that recall the warm red browns of wall flowers.

Washington, D. C.

*Narcissus, Medusa*. (See page 182.)

Ever since the beauties of the *tazetta* narcissus came to the knowledge of our European garden ancestors, our race has cast a wishful eye toward them and resented the fact that they have winter-flowering habits that make them most unhappy residents in northern gardens, if indeed they survive at all. More than twenty years ago The Van der Schoots introduced the race of poetaz narcissus in which the bunch-flowering habit of the *tazettas* was kept and the hardiness of the *poeticus* species was introduced. In the mating, however, there is a compromise that forfeits to a large degree the starry charm of the true *tazettas*. Among this first company of hybrids there was only one form that came into commerce in which the size of the *poeticus* parent triumphed over the smaller *tazetta*. This variety, *Elvira*, is still one of the best known of the group. In later years the diversion of breeding aims in England and on the continent has brought about the increase of more of the small-flowered forms such as we have in *Laurens* *Koster*, *Admiration* and the like among the Holland growers and an increase in the larger-flowered hybrids in the British gardens, particularly those of the *Williams*.

Our present example is only one of the elegant flowers that we have from Mr. P. D. Williams, and although it is not really new, it is still practically unknown in this country.

Usually there are but one or two flowers on a stem, flowers of the size of a true *poeticus* with a perianth almost as white and a cup of a delightful red, that color so often termed sealing wax. Here it seems to be as good a plant as *Elvira* with as rapid



*Lilian A. Guernsey**Deutzia scabra candidissima*

[See page 184]

increase and certainly as many flower stalks. Speed the day when it is in all gardens.

Washington, D. C.

*Sternbergia lutea* Ker-Gawl. (See page 159.)

This plant is by no means either new,

or even rare, in the true sense of the word. It belongs rather to that great company of plants lovely enough in themselves but not of such remarkable charms as to hold the eye of the world at large. Hailing from Asia Minor, they have long been in cultivation and can even be found in this country with a little searching. They are bulbous



things of the Amaryllis family with leaf habits just the opposite of Amaryllis *belladonna*, coming to you as dormant bulbs in midsummer and pushing up small tufts of narrow dark green leaves in September, in the midst of which rise six- to eight-inch stalks each topped with a flower much like a huge golden yellow crocus. As these come in late September and early October they rarely set seed hereabouts and one must depend upon division for their increase. The handsome green leaves persist through the winter and gradually ripen off in the spring.

My own plants have lived in the end of an azalea bed between young plants of Kampfer's azalea behind a mass of *Iris cristata* as the picture shows, but have since been moved into better quarters where they peer up through the flat stems of a prostrate cotoneaster. As we have had zero weather once since their arrival from the South and low temperatures several times there should be no question of their root hardiness. As to how much freezing their leaves might stand there can be no report from this garden for here they are not frozen throughout the winter.

Washington, D. C.

*Lilium speciosum* Thun. (See page 183.)

The spike of the showy lily in this figure is by no means as admirably grown a specimen as that shown on page 170, but it gives a clearer idea of the actual form and carriage of the flower and shows as well what one may expect from a smaller bulb.

Among the lilies from Japan this is one of the more dependable and when once established with healthy bulbs in a deep generous soil, with the best of drainage and good supplies of leaf mold soon makes one of the features of the late August border. If one starts with small bulbs the stalks of the first years will be somewhat overarching as in a Solomon's Seal, with one or more flowers on the end, but as each year

adds vigor to the developing individual the plant becomes more and more erect and makes a larger group of flowers at the head. The flowers vary in color from the pure white *album* with its tiny green blotches at the very base of the petals through all degrees of rosy blushes and blotchings to the deeply colored Melpomene. Each has a peculiar loveliness and all have a delightful scent.

When once happily established do not disturb them but add an annual mulch of the very best rotted leaf compost that you have, and if you are still braver a winter mulch of the oldest and most elegant manure that can be found. Watch like a hawk for any sign of fungus attack and spray with a good fungicide. If you must replant or divide do it as soon as the flowers have faded and in replanting do not forget that this is a stem rooting lily which requires a deep planting with good soil throughout, enough below the bulbs to feed the basal roots and enough above the bulb to feed the stem roots which help to rear the annual flower stalk.

Washington, D. C.

*Lilium centifolium* Stapf. (See page 157.)

Only two summers have shown what this lily can do here, but it has flourished in spite of accidents so well that one wonders if it will not be a rival for *Lilium regale* when it is abundant.

Five small bulbs were given the writer in the autumn of 1927. These were planted in a prepared hole on a hillside azalea bed where they could have a two-foot depth of the very best compost, composed of two parts of old leaf soil and one part of sharp sand added to the rather porous loam of the site. Planted on cushions of sand they were consigned to their fate as there was some doubt of their hardiness. The following spring their location was accidentally dug into with the result that only three short stalks arose and a multitude of separate leaves as large





Lilian A. Guernsey

*Helianthemum autumnale*

[See page 178]





*Lilian A. Guernsey*

*Narcissus, Medusa*

[See page 178]





Lilian A. Guernsey

*Lilium speciosum*

[See page 180]



as some of the basal leaves of the Madonna lily. Two of the three stalks bore large trumpet shaped lilies which seemed rather clumsy on their short stems and not as engaging as the familiar Regal. This year, however, two stalks rose to a height of five feet with flowers as in the illustration, two smaller, and several with single flowers and others without bloom.

Superficially it resembles the Regal lily although it flowers a little later in the month with larger trumpets stained with clear green on the outside and delicate yellow green along the mid-ribs in the inside. The scent is as delightful as that of its cousin and like it it bears no bulbils in the axils of the leaves.

One wonders a bit, after seeing *centifolium*, *regale* and *wallichianum*, if the trio does not make a series that runs down from China into India, and after seeing *Sargentianae*, *sulphureum* and *neilgherrense*, if we do not have in them a parallel series bearing bulbils in the axils of their leaves.

Washington, D. C.

#### PLANT WANTS

In spite of the frequency of complaints as to the lack of plants that various American amateurs want and can not find, the editor has a rather wan smile when he recalls that only about five or six inquiries have come in asking about plants mentioned in the Shopper's Guide, which represents notes taken from the reading of several hundred catalogues. In the last issue was posted the notice of an opportunity of listing of plants wanted by members. The following inquiry is the only one to date. It brings one to the reluctant conclusion that some of the ill-tempered protests against Quarantine 37 may possibly be founded on nothing more than personal prejudices.

Mrs. Charles H. Stout,  
Charlecote,  
Short Hills, N. J.

*Linum alpinum* (the true trailing form)

*Geranium pyzlowianum*

*Geranium farreri* (pink flowered)

*Potentilla fruticosa mandschurica*

*Linaria aequitriloba*

*Clematis alpina occidentalis*

*durandii*

*koreana*

*orientalis*

*tangutica*

*Lonicera morrowi*

*Pentstemon rattani minor*

*Caragana pygmaea*

*chamlagu*

Yellow-flowered tree peony species from China.

Pink (Dorothy Perkins color)—flowered buganvillea.

Any readers having any of these plants are invited to write directly to the above address.

#### A BOOK OR TWO

[Continued from page 165.]

*An Introduction to the Study of Landscape Architecture*, by Henry Vincent Hubbard and Theodora Kimball. Revised Edition. The Macmillan Company, New York, 1929. 419 pages, illus. \$6.00.

The new edition is changed chiefly in the reduction of the size of the pages, the omission of the color block from the half tone section, additions to the index and various additions to the bibliography. The text is apparently the same, addressed probably to the young landscape architect, for it is too technical and too precise to make very palatable reading for any one not already committed to active interest in, if not study of, the profession. It should be noted perhaps that the flavor and content is colored throughout by the Olmstedian principles and that many matters which might well appear are either lacking or unfortunately touched upon.



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