

THE COTTAGE GARDENER,

AND

COUNTRY GENTLEMAN'S COMPANION.

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THE FRUIT AND FORCING-GARDEN, by Mr. R. Errington, Gardener to Sir P. Egerton, Bart., Oulton Park.

THE KITCHEN-GARDEN, by Mr. J. Robson, Gardener to the late Earl Cornwallis; and Mr. T. Weaver, Gardener to the Warden of Winchester College.

THE FLOWER-GARDEN, by Mr. D. Beaton, late Gardener to Sir W. Middleton, Bart., Shrubland Park.

FLORISTS' FLOWERS, by Mr. T. Appleby, Victoria Nursery, Uxbridge.

THE GREENHOUSE AND WINDOW-GARDEN, by Mr. R. Fish, Gardener to Colonel Sowerby, Putteridge Bury, near Luton.

ORCHID CULTURE, by Mr. T. Appleby, Victoria Nursery, Uxbridge.

AGRICULTURE, and the Economy of the Farm-Yard, by Mr. J. Blundell.

MANAGEMENT OF BEES, by J. H. Payne, Esq.

POULTRY-KEEPING, by the Rev. W. W. Wingfield, Secretary to the Cornwall Society for Poultry Improvement.

DISEASES OF POULTRY, by W. B. Tegetmeier, Esq.

ALLOTMENT GARDENING, by Mr. Errington and others.

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time their bloom is rising; and this, I find, is accomplished by giving them the culture here adverted to in the end of October. We first take a scythe, in order to save time, for labour is precious, and mow the top of all runners between rows: we then set a garden line, and chop out the digging line, which, as before described, is down each centre, "chopping out" on each side, and leaving a centre of about ten inches for the spade operation. The coarser part of the detached runners being raked off, manure or compost, in a rotten state, is shaken along the line from baskets, and the centres are then dug about eight inches in depth, the manure, of course, going to the bottom of the trench, or rather blending with the soil in the operation. It is almost needless to observe, that all the extreme ends of the fibres are cut away in this operation; indeed, such is the design—a root-pruning, call it. Now, frequent examinations have proved that the Strawberry may be thus excited collaterally as well as upwards, by surface-dressing; and I have to observe that the latter principle is combined with it, for in the month of April we apply a surface-dressing of half-decayed leaves, the rakings of the shrubbery, about three inches in thickness; and this induces a host of surface fibres, sustains a surface moisture, and assists in keeping the fruit clean. Thus have I proceeded annually with a certain plot, for several years, and I am not aware they have declined in produce.

The spring dressing consists in cutting all foliage away about the middle of March, or just before the young leaf sprouts; if they have commenced growth, much care must be taken not to destroy the new growth. At this dressing, all poor looking buds in the interior of the shoots are thinned away, and finally, the soil is drawn close to the crowns with an iron rake. I dress nothing away in the autumn but the runners, for, unquestionably, it is a serious injury to take away that clothing which is wisely destined to protect the crowns during severe weather. By this practice, it will be found that the foliage receives a check in point of spring exuberance, and more of the strength arising from the new fibres is thrown into the blossom truss; we cannot expect high flavour if the bloom is smothered with foliage. Those who want to grow large show-berries must not resort to this practice, the frequent runner-system has the advantage in this respect. I may also add, that I have not tried this mode with any but the *Keen's Seedling*; with that it was commenced as an experiment, and is now continued by choice; but I do not think it would be expedient to retain them more than six or seven years.

R. ERRINGTON.

BULBS.

(Continued from Vol. x., page 480.)

LYCORIS.

I PASSED over this genus in its proper place, and were it not that custom sanctions the practice of growing it in pots, I would not include it among the half-hardy bulbs; but when I saw my old plant of *Aurea* in the collection at Shrubland Park, last September, in a pot, and looking as well as usual, I determined to give it the same position as *Ixiokirion*—the bulbs we have of both these genera being, to the best of my knowledge, quite hardy, but very scarce indeed in this country.

LYCORIS AUREA.

This is one of our oldest bulbs, the *Amaryllis aurea* of all our books, with the same habit as *Nerines*, to which section of the *Amaryllidæ Lycoris* properly belongs. When *aurea* is in leaf it is easily known from all other bulbs in cultivation, but it is not so easy to tell how that is. The leaves come from the bulb

"all in a bunch;" there are from eight to fourteen of them, all of the same size, from six to nine inches long, and scarcely half-an-inch wide, *linear*, as they say in botany, that means the leaf is not flat; if you lay one of them on its back on the table, the middle or centre line only will touch it; the two edges turn up a little, and that is a linear leaf; those of *aurea* are more uniformly milky-green than any of the same size known to us. It is a very gay flower, of a golden-yellow colour, and from six to fifteen flowers on one umbel, according to the age and size of the bulbs; the flowers spread out and stand upwards from the scape like those of *Nerine*, but without the segments waving or reflexing; the only drawback is that they come before the leaves, and generally in August or September; the bulb grows all the winter, and ought to go to rest before the end of May, but under the influence of heat and moisture it will often keep green from year to year, and then it never flowers. It likes very sandy soil, but not peat, and exactly the same treatment as the *Bella Donna Amaryllis*, only that it is more pliable in a pot.

LYCORIS STRAMINEA.

This is quite a new bulb, very nearly allied to *aurea*, and quite as handsome, but besides the straw-colour and a pink line along the midrib of the segments, there are botanical points of sufficient difference to separate the two as distinct species. They are both from the extreme east, China and Japan. Mr. Fortune sent over this species to the Horticultural Society in 1847.

LYCORIS RADIATA.

This, also, is a very old bulb in cultivation, but if not lost it must be very scarce indeed; the flowers are light crimson. Thirty years ago, every flower like this was called *Amaryllis*, and put into the stove as soon as they were introduced, and from that day to this, nine gardeners and nurserymen out of ten give too much heat to all their bulbs, and the consequence is, that they either do not flower them, or if they do, they lose them after a few years. I do not think, however, that any heat or bad treatment would kill *aurea*; for I have seen it under all sorts of names and bad treatment in my day.

ORNITHOGALUM.

The common *Star of Bethlehem*, in the flower-borders at Beaufort Castle, above Inverness, was the first bulb that I learned the name of, after the Onion, and the first *Ornithogalum*, and the last of them that I cultivated, and yet I know less of *Ornithogalums*, by name, than of any other family of bulbs. I have grown some very good ones of them, imported direct from the Cape, both white and yellow ones, but they were never very great favourites with me, and I did not study them so thoroughly, that I can feel confidence enough to make a selection of a few of the best that would please others; therefore, leaving the selecting from this numerous group to individual taste, I shall merely observe that the strong, large bulb of them, will grow in any good garden soil, but those little white bulbs, so much like Onions for pickling, which we often receive from the Cape, require very sandy loam, and well-drained pots, with a little white sand round the bulb. Peat is poison to this tribe of delicate bulbs, unless they are shaken out of it every rest season, to be preserved in dry sand while they are at rest. They are not so excitable as the *Ixias* to start late in the autumn, and it is more safe in the dry sand till February.

PENTLANDIA MINIATA.

There are three dark-looking bulbs from Cusco, and other parts of Peru, which, from the looks of their flowers, any gardener would pronounce to be *Stenomessons*, but there is a little want, in the inside of the

flower, in the rudimentary-cup, by which Dr. Herbert separates these from *Stenomesson*; but it seems a pity that a genus founded on the splitting of a hair should have been named after Mr. Pentland, to whom we are so much indebted for a knowledge of the vegetation of southern Peru. This genus is sure to lapse into *Stenomesson*, when such bulbs come more into cultivation, and are crossed. *Miniata*, *lacunosa*, and *Sullivanica*, are but three forms of one species. The flowers are beautiful orange and red, and are produced in four or six on an umbel, from early spring to July, first spreading out a little, and then hanging down; the bottom part of the flower is much contracted, as in *Stenomesson*. *Penitlandias* rest, or ought to rest, all the winter, and flower with the rise of the leaf after resting. Light sandy loam, free air, and abundance of water after the full growth of the leaves, and a partial shade, seem to suit them better than anything. All this race may be distinguished by their comparative shortness, and from the bottom and point of the leaves running narrower than the middle.

PEYROUSIA.

This is a genus of pretty little *Ixia*-like bulbs and flowers with the habit of *Anomatheca*, but with a much more tender constitution, all natives of the Cape of Good Hope; and, were it not that they are little known, I would have included them in the *Ixia* group of "Cape Bulbs," and would recommend them to be grown in very sandy loam—more than half sand, with any light loam; for, like the smaller *Laehenalias*, there is no such thing as keeping them alive in peat of any texture. *Corymbosa*, *anceps*, and *oculata*, are the best of them, and they are very pretty blue flowers; *oculata* is blue and yellow. Six or seven bulbs of each of these could be grown in a forty-eight size pot. They are very impatient of much water after the leaf is full grown, and if the soil, particularly peat, gets the least sodden while the plants are in flower the bulbs perish. They ought to be shaken out, and to be kept in sand when at rest. The late Mr. Young, nurseryman at Taunton, was the best grower of them in England, and I believe his secret was the loam instead of peat. The genus is spelled *Peyrousia*, and *Lapeyrousia*, after the French navigator; neither of which, however, is the legitimate one, for Sprengel had them first in his genus *Ovieda*.

PHÆDRANASSA.

This is, comparatively, a new genus, and the bulbs are all but new to gardeners, but they have been long known to science. Humboldt found *chloracra* in the neighbourhood of Quito, and mistook it for a *Hemanthus* (*H. dubius*, of Humb.), a genus to which it has no resemblance or affinity. In 1837, Dr. Herbert includes the plant, with some hesitation, among *Phycellas*, without seeing it alive. Mr. Hartweg sent it to the Horticultural Society, from the Highlands of Quito, and several gardeners flowered it in 1844, myself among the rest. I mistook it for a new *Coburgia*, perhaps *splendens*, of which I had seen a figure from a dried specimen; but a specimen sent to a meeting of the Society passing off for a *Phycella* (April, 1844), I gave up my chance of a new *Coburgia*. As soon as Dr. Herbert saw a live flower of *chloracra*, he saw it could not stand as a *Phycella*, and, botanically, it could not rank with any known genus, and he named it *Phædranassa* (*Botanical Register*, 1845), from two Greek words, meaning a Gay Queen, and I am quite sure that if ever this gay queen marries out of her own family it must be to one of the *Coburgs*, to which, however, she is first cousin already. There is not a drop of *Phycella* blood in her veins.

PHÆDRANASSA CHLORACRA.

This is a handsome flower—a strong, hardy constitu-

tioned bulb—throws up a scape of from 20 to 30 inches high, with an umbel of from eight to fourteen or fifteen flowers, some of which are past before the last one is seen in the bud, thus holding on a long time in flower. *Coburgia inornata* gives a very good idea of this plant, only that the red in this flower is brighter than in any of the *Coburgs*; the tips of the flower are greenish, and also the bottom, but the middle part is a bright red, with a lighter shade. It goes to rest in August, or September, and flowers in the spring before the rise of the leaf. It blossomed with me once in September, but that was caused by a hard experiment. The bulb is a native of the same hills as some of the most difficult *Coburgias*, and I, mistaking it for a *Coburgia*, placed it on the sand, on a slate shelf, where I succeeded to flower some difficult bulbs. On this shelf it had only one inch of very sandy soil in depth, and when the roots obtained a full size the bulb was nearly all out of this soil. It was a very cool damp-kept house, with the front ventilators open day and night, except in hard frost, or very dull weather. Here the bulb, leaf, and flower came out in perfection, and the scape kept on flowering for seven weeks. In the spring, by the end of July, the leaves ripened; and in six weeks afterwards the bulb was again in flower, but not nearly so strong as in the spring; in fact, the stimulus of a constant moisture at the roots, when it ought to be at rest, caused the flowers that would come next March or April to rise in September. This and the next species are easily known by the leaf, which is short, broader in the middle, and very narrow at bottom.

For the right soil see the next species.

PHÆDRANASSA OBTUSA.

This is a much smaller plant in all the parts than *Chloracra*—a smaller bulb, leaf-scape, umbel, and individual flower, but the colours are nearly alike. The Horticultural Society had it from Mr. Hartweg, and it flowered in their garden in the autumn of 1844, when it passed as *Phycella obtusa*; but certainly not the *Phycella obtusifolia*, described, by Dr. Herbert, as a Chilian variety of *Phycella attenuata*. I have a drawing made from Bridge's specimen of the latter now before me, and I had Hartweg's plant, in flower, in my hand the other day, at Shrubland Park, so I can tell the difference without charging my memory. *Phycella chloracra* and *obtusa* must be cancelled from our Dictionary; they are these gay queens. A light sandy loam, such as would flower a Dutch Hyacinth, but with no peat or leaf-mould, and an upright thirty-two pot, will grow *chloracra* to perfection; and a pot of that size would flower three bulbs of *obtusa*. Like the *Coburgias*, these will endure great heat for a season or two, but either of two things must follow, as surely as night follows day, and that is, that *Coburgias* run to leaf-spawn, like Shallots, and never flower at all; and *Phædranassa* neither spawns, or increases the number or size of the leaves, but flowers weaker and weaker, every year, till the growth dwindles to death's door. *Obtusa*, flowering in the autumn without the leaves, is very liable to injury from too much water. Like the Guernsey Lily, people will water it long before it wants any, because the flower-scape is rising; and if the plant happens to be the least confined, the leaves are thus forced to rise before their time, and weaker than they ought; and then we go on to say, one generation after another, that such and such bulbs cannot be grown in our climate.

PLANTIA FLAVA.

This is a pretty little Cape of Good Hope bulb, which has been lately rescued from a host of *similarities*, which all go, at present, under the genus *Sisyrinchiums*. It was named, by Dr. Herbert, in compliment to Mr. Plant, a zealous cross-breeder and nurseryman, at Cheadale. I

have not seen this bulb yet, and cannot say if it is miffy to keep; few of the *Sisyrinchiums* are; but until the whole order of Irids is revised by an able hand, who can tell which is a *Sisyrinchium*, and which is not? *Plantia* will grow in any light compost; and, if it keeps to the family name, it ought to seed, and also multiply by offsets freely enough, under good management.

POLIANTHES, OR TUBEROSE.

. The "*Sweet tuberosa*" is as well-known as the Tulip itself, and the ways to grow it we know not, or if we do, we do not practice it, and so we allow the Italians to grow them for us; we merely flower them. In the good old times of "*herbaceous plants*," they used to have patches of the *tuberosa* all along the borders, about four feet from the edging, with a stick in the middle of the patch to tie four or five of them to it; and once I saw a large bed of them in full bloom in the open air; they were potted, and gently forced in April, just like *Tigridias*; and in June they were planted out in the open ground; but now-a-days, we more often see them drawn up like ghosts, in too much heat and confinement, "to scent the rooms." The kind called *gracilis* is only a botanical plant, of which they take good care in herbariums, the only place it is fit for.

PHALOCALLIS PLUMBEA.

This is an extraordinary-looking, gauky plant, a native of Mexico, and requiring the same treatment as *Tigridias*. It only produces one flower on the top of a very long rigid stalk; rather a large flower for the plant; a beautiful lead colour, with yellow and violet towards the bottom; but it only keeps open a few hours, and that early in the morning, therefore is of no great use as a garden plant. If it could be crossed with any of the allied plants to *Tigridia*, the peculiar colour of the flowers would come in useful.

RIGIDELLA FLAMMEA.

This is a tall-growing bulb from Mexico, whence it was introduced by the Horticultural Society. It is nearly related to *Tigridia*, but more slender and much taller in growth, and requires exactly the same treatment as the *Tigridias*, and flowers from June to September, in the open borders; and with a slight protection in winter, it will stand out-of-doors all the year round. The flowers are of a fiery-crimson, or flame-colour; they hang down on long peduncles, and do not open till towards the afternoon, and when open they are reflexed, the individual flower soon fades, but they come in long succession. As soon as the flower drops, the long, drooping footstalk, or peduncle, assumes a diametrically opposite position, and stands up as firm and stiff as can be, holding the seed-vessel to the full sun. It is from this peculiarity that the genus was named *Rigidella*, signifying, literally, stiff-stalk. The scarlet Geraniums have the opposite habit of showing the flower; they point to the sun, but when the flower drops, if the germen is fertilised, the peduncle droops immediately, and all the "beaks" point to the ground, until within thirty hours of the ripening of the seeds, when they begin to take to their first upright position, and by the end of that time they are stiff-stalks again, as much so as *Rigidellas*. Strong bulbs of this species, in a rich, light border, will throw up flower-stems upwards of four feet high. The bulbs are easily kept, and increase readily, and they are very desirable summer ornaments, when grown in masses, on a south border.

RIGIDELLA IMMACULATA.

This, the spotless-flowered stiff-stalk, differs very little from the preceding species. The flowers are a little smaller, but of the same flame-colour, and the plant is somewhat more dwarf, and the leaves narrower than in

flammea. It has been sent from Guatemala, by Mr. Hartweg, to the Horticultural Society. In a general way, it might be described thus—the Guatemala form of the plant is a little smaller, in all the parts, than the Mexican form (*flammea*), with the addition of a spotless flower. The two would certainly cross, if that would improve them; but looking at the two together, I see no opening for much improvement in them; but there are more kinds of them in Mexico, some of which may be likely enough to improve the breed. As it is, this one ought to be planted in front of *flammea*, on account of its being less of stature, and, also, because the flowers open early in the day, like those of the *Tigridia*, and begin to close by the time those of *flammea* are ready to open in the afternoon. In a pot, in-doors, this flowers much earlier than *flammea*; but give both the same chance in the open air, and they will bloom for nearly three months in the height of summer. D. BEATON.

(To be continued.)

VINERY AND PEACHERY GREENHOUSE.

"I AM about to construct a Greenhouse, heated by hot water, for plants, and a Vine up every other rafter, at the end of my parsonage, where there is already a Peach-tree growing. Would you have this removed, or allow it to remain?" "Cannot I have Peaches from a Vinery, the plants either planted out, or in tubs or large pots?" "Is it impossible in one house to keep bedding and greenhouse plants, and yet from it to obtain fair average crops of *Peaches* and *Grapes*." "How long may I keep *Grapes* in a house in which I am obliged to keep many greenhouse plants after the end of September; and what is the best mode of doing so?"

These are a sample of the inquiries that have lately been made on these subjects. All of them, I rather think, have received less or more attention. I had prepared some notes, in answer to the latter inquiry, before reading the admirable article at page 58, to which I would direct the serious attention of everyone who wishes to preserve late *Grapes* in the winter months.

With the presence of plants that require much water, it is next to impossible to maintain that low temperature, and motion, and dryness in the air, on which Mr. Errington rightly lays such great stress. If only succulents, such as Cactus, or large plants of Scarlet Geraniums, in pots or boxes, were introduced, there would be no great difficulty, as each of them, by means of their stems, would absorb nearly as much moisture from the atmosphere as they would perspire. But, whenever much moisture is prevalent from watering many plants that cannot be kept dry, the atmosphere of the house becomes loaded with moisture; and if you light a sharpish fire, there is danger either of hastening the decomposition of the berry by heat, shrivelling it by strong draughts of air, or surrounding it with invisible vapours, next to saturation point. Hence, those who wish to make the most of their one house for plants and vines, should give no more heat in winter and spring than would allow their Vines to break only a few days before those in the open air; should remove out-of-doors, and under partial protection, all these hardier plants, by the middle of May, or rather the beginning of that month; should then, by keeping the house closer, though never without air at the back, and the use of fire-heat, raise the temperature to 65° at night, by the time the bunches were in bloom, and to from 75° and 85° at mid-day from sunshine; and then good *Grapes* may be had from the end of August to the end of October, with little or no trouble from damping; when the house may be prepared again for its winter residents. Those who, by that time, must have all their flowering plants housed, will act wisely in securing some of their best bunches in bladders,

next to this adopted line—this favourite depth—a regular pan, almost as impenetrable as a layer of sheet-iron, exists, bidding utter defiance to depth of rooting. The despicable results of this practice may be plainly seen in the blueness of the foliage of such things as Swedes, and the general flagging, or drooping, of all crops, except corn, after the occurrence of only three or four days of a hot July sun. Unfortunate crops! they would, if permitted, throw down deep radicles, which would soon prevent this flagging—this standing still, or worse—when they should be progressing the most.

Enough of this. I will now point to some appliances previously hinted at. I before spoke of the possibility of bringing even sand up, with advantage, on some stubborn soils, but how seldom do we see that or any other attempt at improving texture by such means. I much fear that fashion rules here, as in most other things; science is powerful, but it is to be feared that she would but “drag her slow length along” without the aid of fashion. Every body will admit that science projected, completed, and furnished the Crystal Palace, but where would science have been without the overwhelming influence of fashion? And it is partly so with many gardening procedures: be the suggester ever so right in his views, the thing is thrown aside as butter paper, until somebody, high in position, who acts as a sort of fogleman in society, takes it up, carries it out regardless of expense, and sets all the world staring at him. The practice of clay-burning has never, I believe, been fairly condemned on principle; but whatever may be the case agriculturally, there are garden cases where it would, doubtless, be beneficial. But then there are such things as lime rubbish, and the finer debris of old buildings, lime itself, and anything charred, which was once of organic character.

These are the economic materials I alluded to, and every body can get them; but I would direct special attention to the use of lime in old and deadened soils, especially those which have, as gardeners sometimes say, been “mucked, and dug, and cropped, until they are sick of it.” Such soils, of necessity, contain a superabundance of manures, or the dark residue of organic matter, applied constantly in the act of cropping for gross vegetables, in the shape of the various manures, leaf soil, &c.

But it is impossible to overrate the importance of charring every stick and weed, by system, that hands can be laid on. I say by system, for I would not have it understood that I wish people to be always charring. No; we must have simpler and less expensive plans. Twice a year I find sufficient, viz., March and October. The former month will be furnished with all the prunings, dubbings, and general charring of the past winter, or rest season; and the latter will consume vegetable remains, weeds, with their seeds, &c.

Here, then, is a double action; seeds, aye, and insects, destroyed in myriads; a famous compost provided, and a system of cleanly culture promoted.

Deep trenching, at set periods, and for particular crops, and the application of corrective materials, will be found, on trial, to make old kitchen gardens look young again.

R. ERRINGTON.

BULBS.

(Concluded from page 90.)

SPREKELIA.

THIS genus is inadvertently said to be of stove bulbs in our Dictionary, but all of them that we know of yet are as hardy and as easy to flower as the *Vallota purpurea*. The old *Amaryllis formosissima*, that used to

flower twice a-year with us, in the pine-stove at Altyre, thirty years ago, is just as hardy as Red Onions. The Bolivian *Cybisters* require only the frost to be kept from them; and *Glaucia*, from Mexico, is only another form or variety of the *Jacobæa Lily*, from Guatemala, and is quite as hardy. There is another one, called *Cinnabarina*, which flowered at Spofforth with Dr. Herbert, but I never saw it, nor even know where it came from, or if it was published. That the new kinds, which were introduced twelve or fifteen years back, were treated as stove bulbs, I can readily believe, for I have seen hardy bulbs that ought to have been out in the borders kept in a hot stove, this very season, by a first-rate gardener; and I know, from long experience, that nine-tenths of all the gardeners ruin their bulbs by too much heat.

Sprekelia formosissima, or the old *Jacobæa Lily*, is the only bulb that I can call to mind that will grow as well in the stove, year after year, as it will do out-of-doors. The constitution of this bulb is unsearchable.

SPREKELIA CYBISTER.

Here is a living example of how bulbs are often—too often, indeed—mistreated. This bulb was introduced from Bolivia, which you may call the Balmoral of Peru, only that it is in the south-west of the highlands, instead of being, as our Balmoral is, in the south-east; and, as a matter of course, it must have strong heat in London, and then it would not flower, and likely enough it would soon have been lost, but an American gentleman (begging his pardon) who was over here, took a fancy to it, and bought several of the batch, thinking, no doubt, he could flower it before the Londoners; whether he did, or not, I know not, but the year after he sent back one of the bulbs to Dr. Herbert, who understood what it was the moment he saw it, and he found no difficulty whatever in flowering it. *Cybister* is the oddest-looking flower among the *Amaryllids*; the flower hangs down in front, like that of *formosissima*; the lower part of it, or lip, keeps the drooping posture, while the rest of the sepals or petals wave a good deal, and spread outwards and upwards, as if endeavouring to regain the upright position which it held when in bud. At first, the flower-bud stands erect, but when opening, it “tumbles down” to the drooping posture,—from this peculiarity the plant has been named “the tumbler,” which is the meaning of *cybister*. The *Tumbler* produces four flowers on a scape; the colour is of three shades—blood-red at bottom, and lighter red, with a greenish tinge above. It is a native of Bolivia, and was introduced in 1838 or 1839.

SPREKELIA CYBISTER var. BREVIS.

About the same time (1840) that Dr. Herbert flowered the *Tumbler*, Mr. Knight, of the King's Road, flowered another bulb from the batch of Bolivian bulbs, which, on being compared to the *Tumbler*, was found to be only a variety of it with shorter flowers. To show how nearly these *Tumblers* bring *Sprekelia* to *Hippeasters*, and to raise the question, Will the two unite by crossing? I may state, that Dr. Lindley, before he was aware of the existence of the real *Tumbler*, had named this short-flowered variety of it from Mr. Knight, *Hippeastrum anomalum*; I believe, however, that he has given up that name in favour of the lesser *Tumbler*; and I further believe, that if *Tumblers* will breed with *Hippeasters*, that the old *H. aulicum* would be as good as any to try the experiment on; and also, that if a cross is obtained, the seedlings will be more hardy than seedlings of *Aulicum* and *Vittatum*, or, at least, fully as hardy.

There is a mystery about the old *Jacobæa Lily*, or *Sprekelia formosissima*, which we shall never fathom, but it tends to increase the chances of uniting the breed with *Hippeasters*. We know that the old *formosissima*

was cultivated, for many years, with great success in the front of pine-stoves, when, by forcing it early in February, after a winter's rest, it flowered twice the same season,—in the spring and in the autumn. It was the same with the Coral-tree (*Erythrina cristagalli*). When I was a boy, these two were always in the stove, rest or no rest; and the gardener who failed to flower them twice a-year was not considered worth his porridge. If *Amaryllis vittata* of those days, now a *Hippeaster*, and all the other greenhouse kinds that have sprung from it, and other half-hardy ones, are potted in strong yellow loam only, they will bear stove heat for years and years without any injury. I know of no other bulbs about which so much can be said, and the fact is a presumptive evidence, to my mind, that the *Tumblers* must, some day or other, lapse into *Hippeasters*. For their cultivation, see under *formosissima*.

SPREKELIA GLAUCA.

This is a much handsomer flower than either of the *Tumblers*, and if seedlings were to be had in the genus, this *glauca* might well be supposed to be only a cross from *Sprekelia formosissima* by some lighter species. The flower of *glauca* is smaller and paler, and there is a pale streak along the middle of each division of the flower. The leaves are narrow and very glaucous (milky-green). It was discovered, in Mexico, by Mr. Hartweg, who sent it to the Horticultural Society, with whom it flowered in May, 1840. The other kind, *cinnabarina*, of which I know nothing more than that it flowered with Dr. Herbert, was introduced, and flowered about the same time; so that all the new *Sprekelias* "tumbled-in" much about the same time, and that after we had all but forgotten when or whence the old one came.

SPREKELIA FORMOSISSIMA.

For three-quarters of a century this was one of the commonest bulbs in the country, and no one knew exactly where it came from; but from the nature of the plant being able to sustain the heat of the stove, it held its place, while hundreds of other bulbs were introduced, lost, and forgotten, because they could not bear such heat. Mr. Skinner at last found it in Guatemala, whence he sent it home; and much about the same time, I unpacked half-a-bushel of the bulbs, from the gatherings of M. Galeotti, in Mexico, under the patronage of Mr. Parkinson, then our Consul in Mexico, so that I was not surprised to hear of the locality of *glauca*. From this batch, I had a bed in the open air, and without any protection whatever; and the bulbs withstood the severest frost experienced in this country since 1814. Hence my belief that this old stove bulb, as it was once considered to be, is as hardy as a Dutch Crocus; but yet it will not flower without ripening-off the bulbs in warmer earth than our south borders. It is a perfect evergreen, if you choose to keep it watered in the greenhouse during the winter, but, then, it will not flower. At Melbourne, this and *Valotta purpurea* would make evergreen beds, and, probably, flower as freely as Tulips.

It is said that few have ever heard of the natural death of a donkey, and I believe the same might be said about the Jacobæa Lily. It will grow in any good garden soil, and in all kinds of composts. In very rich or highly-manured ground, as for onions, young bulbs of it will double their size in one season, and they never go to rest till ten degrees of frost kills the leaves. But in a damp situation they will go with much less frost, or if a smart frost comes close upon showery weather it is the same.

Every cross-breeder in Europe has tried his hand on it scores of times with no satisfactory result; neither by its own pollen, which is good, nor by that of kindred bulbs, has it produced a single seed. A Mr. Johnson,

in 1810, gave out that his seedling *Amaryllis Johnsonii* was between it and *vittata*, but that mistake has been since rectified, by direct experiment on *vittata* and *regina*, which produced the same cross. Mr. Turner, the curator of the Botanic Gardens, at Bury St. Edmunds, once wrote to Mr. Loudon about a batch of seedlings from *formosissima*, but I could never learn more of them when I was in Suffolk.

The best way to treat this and the other species, is to flower them in pots, and as soon as the flowers are over in May, to turn out the balls under a south wall, or the front of a greenhouse, or stove, in rich deep soil, not too stiff; to give them water in dry weather, and to let the frost kill the leaves in the autumn; or, if there is no frost to the end of November, they ought to be taken up, then keeping the leaves on, and spreading out bulbs and leaves to dry gently in any dry, warm place; a late viney is the best place; but after a week or ten days, you might string them up like onions, and keep them all the winter in the kitchen. They certainly like warmth all the time they are dry. In March, some of them might be potted, and be put into a cucumber-bed to start; the flower-scape comes shortly after the leaf, and before it is quite open remove the pot to indoors, as you would a Hyacinth. In April, put a succession of them to work the same way, and in May the same; or, if you like it better, keep them dry to the end of April, and then plant them out, merely covering the bulbs, and they will all flower before Midsummer; only one flower to a scape; but a strong bulb puts out two scapes; and a two-flowered scape has been seen now and then, but it is a very rare thing.

I would strongly recommend these bulbs to every one who has a garden, as they give no more trouble than common border Tulips, and there is a great chance of novelties by crossing the Peruvian *Tumblers* with the richer Mexican species.

STRUMARIA.

The bulbs included in this genus are, to botanists, the most easy to distinguish of any, from the swelling or strumous formation of the bottom of the style in all of them. This swelling of the lower part of the style, and the regularity of the perianth or flower, are the two private marks which divide them from *Nerine*. They never got into favour in cultivation, and very few gardeners know anything more about them than the mere names. *Angustifolia* has regular flowers, white, and lined or streaked with red. *Truncata* differs from it only in the leaf to a gardener's eye. *Linguafolia* is broader in the leaf, which is half-an-inch wide, than either of the preceding, and the white flower is lined with green. *Undulata*, at first sight, looks more like a *Nerine*, the flower being undulated; but the white colour and swelled style tell it to be a *Strumaria*.

Part of the stamens adhere (adnate) to the smaller part of the style in all of them, except this one, in which the stamens are free; this, with the waved flower, brings *undulata* very near to *Nerine*, and, perhaps, it would cross with that genus; and if so, its pure white blossoms, faintly tipped with red, would open a wide field for improvement in *Nerine*, and render shades and blushes in that section that would vie with *Bella Donna* itself.

S. rubella, with a red flower, comes next nearest to *Nerine*, and the rest of the names under *Strumaria*, in our Dictionary, belong rather to *Hessea* and *Imhofia*.

All the *Strumarias* rest with us in summer, and grow from October to May or June; and require exactly the same kind of treatment as *Nerines*.

THYSANOTUS, TRITOMA, and VELTHEIMIA, are on my list of half-hardy bulbs; but they are not bulbs, although the leaves and flowers look as if they ought to come from bulbs. *Atherisiums*, *Pettersonias*, and many others, have the same looks; and a man might be worse

employed than in gathering together all such plants—I mean on paper—for some of them are extremely pretty, and ought to be better known as half-hardy herbaceous plants.

TRITELEJA,

Or rather, *Tritelia*, as it is sometimes spelled, is a genus of small, hardy, or all-but hardy, bulbs, very closely in affinity with *Brodiaea*, and not unlike it in looks and habit. The old *Grandiflora*, sent home, I believe, by Douglas, from North-West America, has been lost, like his *Calochortis*, long ago. *Laza* is one of the prettiest and most profuse flowerers of hardy Lily-worts; but is rather difficult to keep over the winter. I think this is also one of Douglas's bulbs, and I fear it has gone after *Grandiflora*, for I have not seen it since 1835, when I lost it in Herefordshire. Its leaves are long and narrow, the flower scape requires support, the umbel being too heavy for it, like that of *Milia biflora*, which came out at the same time. The flowers are of a rich blue colour, and from twelve to twenty of them come in one umbel. I had it in almost all peat, and that, I think, was the death of it, and of the *Calochorti* as well; and I seriously warn all bulb growers to avoid peat as much as possible, till they are quite sure of a new bulb. *Uniflora* is something like a *Crocus* in habit, bearing one flower only on a scape; the colour is a lacy-blue. Mr. Low, of the Clapton Nursery, introduced it from some one at Buenos Ayres; but it is a native of Mendoza, where Dr. Gillies found it long since. The yellow one, said to be from Monte Video, I never saw, and know nothing about it.

URCEOLINA PENDULA.

This is a very rare bulb, from South America, high up in Peru, and I am not aware that it ever flowered in England. Those who put it in the stove soon lost it. It is so much like *Griffinia hyacinthina* in leaf, that any gardener would be excused for treating it to a stove climate, if he did not know that it was a half-hardy plant. It is the *Crinum urceolatum* of Ruiz; and there is another, called *fulvea*, from a place in Peru called Parcatinanca. This has not flowered here either, that I know of; but, from the dried specimens sent over by Matthews, it must be a very nice plant, with five flowers in the umbel—and they not unlike some *Bomarea*—with a noble-looking *Griffinia*-like leaf, having the foot-stalk full four inches long, with a broad blade, something in the way of the bottom leaves of the new *Lilium giganteum*.

WACHENDORFIA, WATSONIA, and WURMBEA, have been treated of among "Cape Bulbs," therefore

ZEPHYRANTHES,

is the only remaining section on my list; and the first species in the order of the alphabet is

ZEPHYRANTHES ATAMASCO.

This is the old *Amaryllis Atamasco* of Linnæus, and the Atamasco Lily of our old books. At the time (1737) Linnæus published his *Amaryllis* (Hort. Cliffort. p. 135) all the species which he knew of them, and which were then in the Cliffort Garden, have since turned out to belong to as many genera, or sections of the great family, as *Sprekelia*, *Zephyranthes*, *Nerine*, and *Oporanthus*. Although he gave the name "because *Amaryllis* was the *Bella Donna* of Virgil," he had not seen the *Bella Donna* Lily of Italy, and, therefore, could not describe the type-plant on which he founded the genus. The *Atamasco* is the best known species of *Zephyranthes* to British gardeners; and those who know them not, have only to think of a large white *Crocus*, to be of a bright red colour in the bud, and pure white after opening, and they at once have the Atamasco Lily in

idea. It grows in any good garden soil; but if it is to be left out in winter, it ought to be planted in white sand, and four or five inches deep. Although it grows in open pastures of Virginia and Carolina, it is apt to rot in damp, or very strong, soil with us in winter.

ZEPHYRANTHES CANDIDA.

This is also a well-known and a perfectly hardy bulb, with white flowers and rush-like leaves. A bunch of white *Crocus* flowers set among a lot of small *Jonquil* leaves gives a good idea of it. It is a native of Buenos Ayres, but is much hardier than *Atamasco*; and where it does well, it is one of the best hardy border bulbs we have, flowering all the summer, until stopped by the frost, and the leaves hold green all winter. In the chalky soil, at Shrubland Park, it increased prodigiously, but never flowered worth a button. I have had it, however, with dozens of flowers open on a tuft for months together. In Buenos Ayres it grows in such abundance along the banks of the great La Plata river, that the shore is silvered with it for miles, as the Cotton Grass of Scotland, on a smaller scale, appears on the margins of bogs and swampy ground.

ZEPHYRANTHES CARINATA.

This is my own favourite of all the genus. The flower is of great substance, large for such a small plant, and of a bright, shining, rose colour, expanding widely under a bright sun. The narrow leaves are purple at the bottom, and look exactly like those of a small, young offset of *Valotta purpurea minor*. It delights in light sandy loam, and flowers in May and June, producing only one flower on a scape, like all the species of this genus. They all grow and flower in the summer, and go to rest in winter, except *candida*.

ZEPHYRANTHES CHLOROLEUCA.

This is a two-flowered species of *Habranthus*, now called *Chilensis*, with stout, greenish-white flowers, about which nothing has ever been known in cultivation.

ZEPHYRANTHES DRUMMONDI.

This is the same as *Cooperia pedunculata*, supposed by Donn to be a *Zephyranth*.

ZEPHYRANTHES MESOCHLOA.

This is another white flowering species, from Buenos Ayres, with a greenish-white bottom to the flower, a little stained with red on the outside. It is all but hardy, and seeds freely on a south border.

ZEPHYRANTHES ROSEA.

Another very pretty little bulb, from the high mountains in Cuba, and likes a warm situation, or to be kept in a pot in the greenhouse. It is much in the way of *Carinata*, but with a smaller flower.

ZEPHYRANTHES STRIATA.

This, and another one much like it, called *Ackermanni*, is a variety of *Verecunda*. The three are from Mexico, or Guatemala. They have white flowers, tinged with red before they expand, which they do quite flat on a hot day. They are very free flowering bulbs, and last a long time in bloom; and each flower is succeeded by a seed pod, and the seedlings flower early, with very little attention.

ZEPHYRANTHES TUBISPATHA.

This is rather a stove bulb, from the Blue Mountains, in Jamaica, with white flowers that are greenish below.

ZEPHYRANTHES VERECUNDA.

This is incidentally mentioned above under *Striata*; a desirable pretty border bulb.

OTHER ZEPHYRANTHS.

There are several more species of this genus known to, and described by, botanists and travellers, but they are either not in cultivation, or little known if they are. The whole race delight in light, rich, sandy loam; and if they are grown in pots, large upright 32's are the best for them, and from three to seven bulbs might be put in each pot, and no peat or leaf-mould should be used in the compost. In the East Indies, and in Australia, all of them would answer for Crocuses. *Candida*, *carinata*, *rosea*, and the varieties of *verecunda*, are the best as a selection of them.

D. BEATON.

VAGARIA.

This (omitted in its proper place) is the only genus in the whole series with which I found myself at fault; and in returning thanks to two or three individuals who assisted me out of a fix, here and there, with some obscure species, I must add, that I could not find a gardener, or amateur, who could define *Vagaría*, or even conjecture which is *Vagaría* proper. What I always took for *Vagaría* is the Spanish bulb called *Lapiendra*, with the white band in the leaf, and I made some enquiries about it in THE COTTAGE GARDENER some time since. I once thought I had it by the ear through a gentleman well known as *Dodman*; but, no; not yet. I knew that Dr. Herbert cancelled his *Vagaría* long since, on receiving what he took to be its type, *Panoratum parviflorum*, from the Garden of Plants in Paris. I knew, also, that Dr. Lindley re-opened the genus *Vagaría* on receiving the true *Panoratum parviflorum*, of Redoute's *Liliaceæ*. Here was a fix; and to one who knows the botheration caused by "Answers to Correspondents," to those whose time is of the utmost value, it was hard to trouble the author of the second *Vagaría*; but a less authority could not unfix me; and now I have to thank Dr. Lindley for putting me on the right scent. "I regard it as perfectly certain," he replies, "that my *Vagaría* and Redoute's *Panoratum parviflorum* (as to the flowers) are identical: but his leaves are evidently represented from some other plant, as so often happens when flowers and leaves are not co-extaneous," or produced together. "*Lapiendra* is, no doubt, a very different thing."

VAGARIA PARVIFLORA

Is now ascertained, beyond a doubt, to be a native of South America, having been recently introduced from Bogota by C. B. Warner, Esq. The leaves are broad above, and narrow, or petiolated, at bottom, like those of *Griffinia*; but the nearest affinity is to *Euryclæa*. "Certainly it is no *Panoratum*." "The flowers are small, firm, white, with a greenish tube," and five of them form the umbel. It is a greenhouse bulb, and does best in sandy loam and a little rotten dung.

D. B.

SEASONABLE LITTLE MATTERS.

SINCE writing last week, what changes we have had! a sharpish frost at one time, an April day at another. The beauty of the flower-garden is now over for this season, though, six days ago, on the 16th instant, *Dahlias*, *Ageratums*, *Penstemons*, *Calceolarias*, *Oupheas*, *Fuchsias*, &c., were very beautiful. A few days previously, and even the *Heliotrops* was more sweet and beautiful than in June. The flowers of all, except, perhaps, the *Penstemons*, are now injured, although the foliage of many, as Scarlet Geraniums, shrubby *Calceolarias*, &c., are little the worse for the changes of weather they have passed through. Had it not been for the wet dull weather preceding filling the young shoots with watery fluid, the frost would have exercised less injury

than it has. Like our correspondents, who are now eagerly inquiring what they are to do with their plants, we should feel, that if such matters had not received previous attention, we should be alluding to them now even past the eleventh hour. And yet, for the sake of beginners, who are really Cottage Gardeners, I am tempted to advert to a few little matters that are all-important to them.

SCARLET GERANIUMS.

This red blazer is still an universal favourite. For the florists' Pelargoniums for windows, a fair friend told me, she had found such benefit from the details of Aunt Harriet's system, that she troubled herself but little about other articles. It always gives me a spice of pleasure to find that some one else has been more successful in popularising the minutiae of plant culture than I have been able to be. I have found that the description, by the same writer, of "Harry More's" system of managing Scarlet Geraniums in pots or boxes—keeping the plants in the same boxes for years, and removing them to any dry place secure from frost before they were injured—is the best for securing abundant bloom in windows and balconies. If the soil is pretty moist at storing-away time, and if then the pots or boxes are covered with moss or dry hay, and a little of the latter is left ready to throw over the tops in a very frosty time, little more will be required until March, when any shrivelled shoots may be removed, the plants be placed nearer light, and have their stems syringed or sponged with milk-warm water. In April, a little surface-soil may be scraped off, the soil moved with a pointed stick to allow air to enter, then watered, pruned a little where necessary, and surfaced with fresh, rather rich soil, and the same plants will bloom better and better every year. I have found no plan more certain and economical than this.

But some of our friends, who ask questions how they are to manage these plants, in damp cellars and dry cellars, in close garrets and dry garrets, say, and with truth, that this is no direct answer to them, when their plants are not now in boxes, but have been growing in the open ground. Well, even here, those possessing no glass will find it best to imitate, as far as possible, the Harry More system. I have hung plants up in damp cellars, and they moulded and rotted. I have hung them up in dry cellars and garrets, and they became mummy-dried. I have packed the roots in damp moss, and left the tops exposed, unless in severe frost, and had few failures. I have taken them up in barrowfuls to the rubbish heap—there cut off all the soft part of the green shoots, and every leaf; shortened the long roots to some six inches in length; dipped the tops, and especially the cut parts, in a pot of quick-lime; and then packed the roots, as close as the stems would squeeze together, in wooden boxes, and in soil slightly moist, the latter being placed rather firm; and then taken these boxes to any out-of-the-way place, rather dry, and where there could be a little light admitted on fine days, and covering thrown over all when the weather was severe. In such boxes we used to have some failures, but, on the whole, the system answered well. Those who had convenience might pot them separately, in April, and coax them forward in their windows; and those who had not that convenience would have to thin them out as soon as the tops became a thicket—placing some under a temporary protection, and others in beds, to be protected there. The minutiae here are everything. The removing of the green parts and leaves lessens the evaporating surface, and takes away the parts likely to damp or shrivel; this damping and bleeding are farther prevented by the action of the quick-lime. The older parts of the stem contain a storehouse of organisable matter, which only require the stimuli of