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Fuchsia fulgens.



Tecoma jasmínoides.

Alfred Adlard sc.

THE
FLORICULTURAL
CABINET,
AND

FLORISTS' MAGAZINE,

JANUARY TO DECEMBER, 1837.

VOLUME V.

CONDUCTED BY MR. JOSEPH HARRISON,

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Mr. [illegible]

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PREFACE.

IN presenting our readers with the Fifth Volume of the Floricultural Cabinet, we do most unfeignedly offer our most sincere thanks to our numerous subscribers and contributors for their patronage and support.

Although, with each former Volume, we had the high gratification of an increasing demand, yet the circulation has extended more during the present year than any previous one, since our first Volume was published, and the sale has been increased by more than ten thousand numbers. This fact affords us no ordinary degree of pleasure, whilst it assures us that our labours have been approved.

Nearly up to the present period, our opportunities for acquiring information for all the recently introduced plants has been very limited, by reason of our engagements in the situation we held as Gardener, at Wortley Hall; but now being at liberty, we have every desired opportunity of obtaining information of their introduction, character, culture, &c. With this object in view we have spent the past autumn in, and around London, viewing collections of plants, obtaining information, and taking notes thereof. These particulars will be given in future numbers. So sensible are we of the advantages that are afforded by viewing collections in and around the Metropolis, (which is in the aggregate the great mart for newly introduced plants,) and of such information being embodied in the Cabinet, for the benefit of our Readers, that we intend immediately to take a residence in or near London, and purpose to devote that attention to the subject, which will, we are persuaded, prove both interesting and useful to our subscribers,

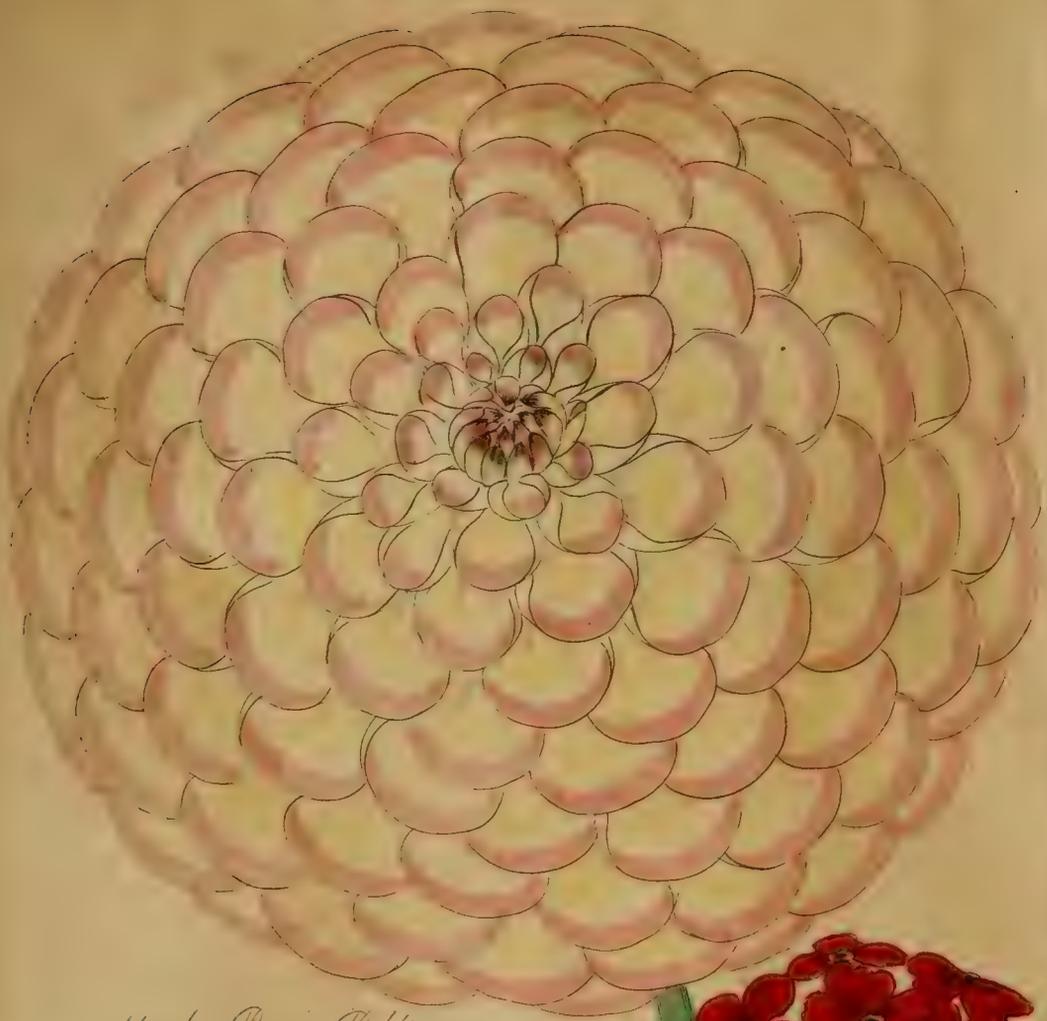
and render the next Volume the best which has appeared, both for the cultivator of flowering plants in general, and the Florist whose attention is more particularly directed to a certain class of flowers. We pledge, that our utmost efforts shall be directed to effect the desired purpose.

We are under very great obligations to our friends who have, as heretofore, so liberally continued to favour us with communications for the present Volume. We again record our thanks for their kindness, and most respectfully solicit a continuance of their communications, to a work which is already so largely indebted to their favours, and which has materially contributed to their popularity, as to gain so unprecedented a circulation as the Floricultural Cabinet has obtained.

The Floricultural Cabinet having thus become the medium of circulating Floricultural Intelligence, to so great an extent, and our Readers, with us, being desirous to promote and extend its operations, we therefore respectfully solicit of each recommending our Publication to other persons, and whilst thus co-operating, the furtherance of the object will be promoted.

We again enter upon our Editorial labour for the next year with increased energy, and encouraged as to the future, by an increased number of friends.

Downham, Nov. 22d, 1837,



Musketeer Dahlie



Sida
sp.



Sida
sp.

THE
FLORICULTURAL CABINET,

JANUARY 1st, 1837.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I.

DESCRIPTION OF A PLAN FOR A PLANT-STOVE AND GREENHOUSE, WITH A POTTING-SHED, &c. ATTACHED.

BY AN OLD SUBSCRIBER, PIMLICO, LONDON.

THE accompanying plans are designs for a Plant-Stove, Greenhouse, and a potting-house attached, for the use of amateur gardeners.

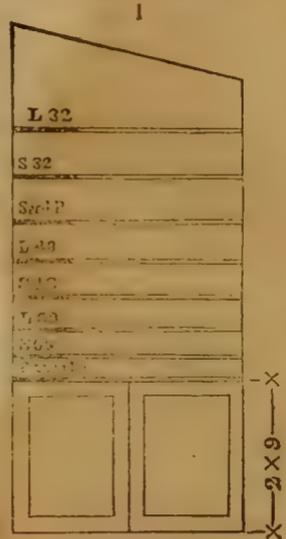
The first thing to be considered in the erection of a Greenhouse, &c., is the choice of a situation. The most proper will be, that which affords a full south aspect, and with the east and west sides open to these points of the compass.

The site of the building should be in a dry situation, for if not so placed, the warmth, or superior temperature of the house, will induce the moisture to rise out of the ground, and in cold seasons of the year will render it damp and chill. To prevent this, I should recommend that the entire site of the building be covered, a foot thick, with what is here called *Concrete*; that is a mixture of lime and gravel, or brick rubbish, in the proportion of about one of the former to three or four of the latter. The lime should be powdered and mixed dry with the other materials; then, before laying them upon the surface of the site, as much water should be added as will thoroughly moisten them. Two coats of this concrete, each being six inches thick, will effectually prevent the ascent of any moisture from the ground below.

The next best aspect for a Greenhouse, will be on the east side of a house or other building which faces the south. In this situation the plants will have the advantage of the morning and mid-day sun. A Greenhouse constructed in any situation with a less favourable aspect than either of those described, will have but little chance of being suited to the growth of plants.

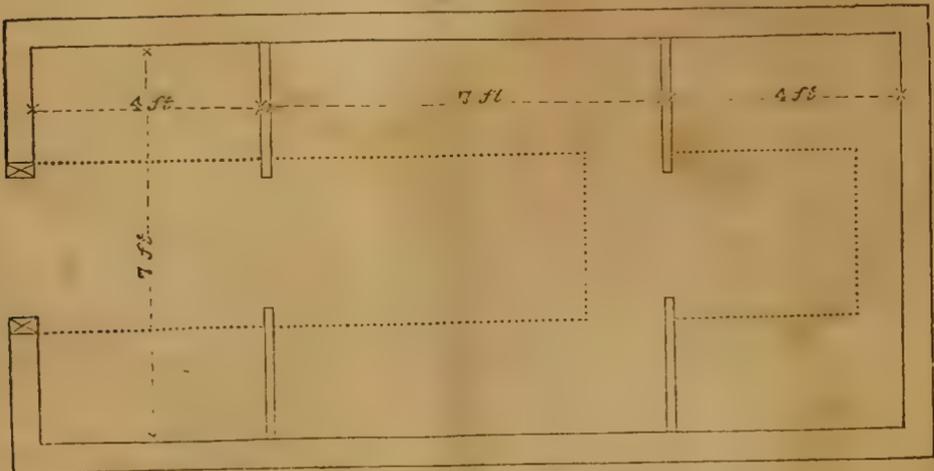
If the building be detached from any other, it will be necessary to provide separate means for warming it, and for this purpose, nothing can be better, or more economical, than the little furnace, &c., described in the *Floricultural Cabinet*, for March, 1836. If the ash-pit of the furnace was furnished with a good register door, the combustion of the fuel could be so managed as to continue the night through. The chimney should not be more than a foot long, with an elbow to pass through a six-inch wall—if longer, it will increase the draught too much. No doubt the gentleman who furnished the plan, &c., has provided the necessary appendages to his furnace.

The plans which I have sent you, consist, *first*, of a potting-room, four feet wide by seven feet long, (Fig. 1.) Through this to a greenhouse, seven feet square, (Fig 2.) And beyond this, descending two steps to the hothouse or Plant Stove, four feet wide, (Fig 3.) It will be perceived that the dimensions are small, but I think not too much so for the use of many amateur gardeners. Indeed some may desire smaller, in which case the potting-room and plant-stove need not form any part of the plan—or a portion of the three may be left out; say one side of each, leaving the remaining side and the gangway, which would, no doubt,



(Fig 2.)

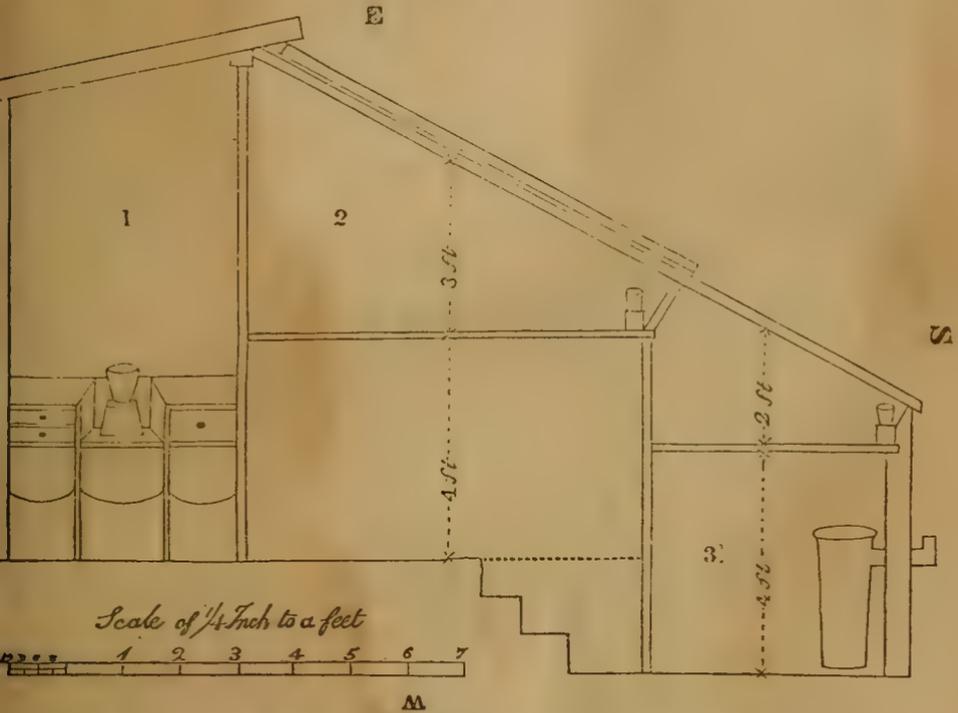
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be quite sufficient for the use of many persons. A well arranged potting-room is a very necessary appendage to every greenhouse, and as there are very many operations to be performed in it, and much time spent there, it ought to be both conveniently and comfortably fitted up.

(Fig. 3.)



In the annexed plan, (Fig 3) one side of the potting-room is fitted up with a counter, in the top of which there is a well, sixteen inches square by eight inches deep. In the middle of this well is fixed a block of wood, eight inches square by six inches thick, leaving a space of four inches all round. The top of this block is two inches below that of the counter. The use of the block is to set the pots upon when potting, and the well round it is to hold the mould and keep it together. The space upon the top of the counter on each side of the well, is to place the pots upon as they are filled. Immediately under that part of the counter on the left of the well, are two drawers, one to hold tools, the other bass matting, cut into lengths of nine, fifteen, and twenty-four inches, to be ready for tying up plants. To the right of the well is a drawer for potsherds, for the use of drainage. The space under the drawers and well is divided into three bins—one for holding compost for annuals; another, compost for greenhouse plants; and a third, for any other compost tha

may be required. The bins must be made to run upon castors, so that they may be readily taken out to be filled with such composts as may be required. The wall above the back of the counter should be fitted up with wells to receive round sticks for plants, of the lengths of 6, 9, 12, 16, 20, 24, and 30 inches. And for square sticks for border flowers, (or standards,) in lengths of 18, 21, 27, 33, 42, 54, and 66 inches. The opposite side of the room is fitted up with a closet, the top of which is a counter, or work-bench. Against the wall, over the back of this counter is a range of shelves for garden pots and seed pans. Eight inches of the back of this counter, (which is two feet wide,) forms the bottom of the first shelf. Each shelf is broad enough to hold two pots, and they are so distant from each other, as to admit of two standing one within the other. A set of shelves so arranged, and the pots thus placed, afford ample space for as many pots as will be required by most amateurs.

I have lately adopted a new mode of affixing names to plants that are grown in pots, it is as follows:—Instead of using tallies, I have had a blank label painted on the rim of each of my pots. For pots, up to large sixties, one inch is quite sufficient; for those above that size, one inch and a half. This affords ample space, either to write the name, or place a number. Either one or the other is done with a black-lead pencil, whilst the paint is newly laid on; this does not rub or wash out. Two coats of paint are necessary to have them look well; the last coat of paint should have less oil in it than the first, it will then be more easily written upon. These names will last as long as the pot, and is cheaper than any other description of labels. More time is required in preparing tallies, than is necessary in adopting my plan, and not near so neat or durable.

ARTICLE II.

ON RESTORING PLANTS WHICH HAVE BEEN AFFECTED BY FROST.—BY MR. JACK FROST.

As the winter advances, a few remarks on the nature of rescuing Tender Plants from the effects of frost, by the application of cold water, may not be uninteresting to some of your readers. Every gardener is aware, that sprinkling cold water upon frozen plants has a tendency to restore them, but I am fully persuaded that, through ignorance of the nature of such application, it is seldom performed with that degree of success which it is capable. Heat, or caloric, exists in two states, viz., latent and perceptible; when any two sub-

stances of different temperature, come in contact with each other, the temperature of the one is raised, and that of the other is lowered, until the two substances become equal, and if they are of equal density, the temperature will be a mean one—this is provided that neither of these substances undergo a change from solid to fluid, or from fluid to gaseous. In this case, a great quantity of perceptible heat will be consumed, and converted into latent heat; and if the change is from gaseous to fluid, or from fluid to solid, perceptible heat will be produced from the giving off of the latent. Thus, if equal weights of ice at 32, and water at 172, be mixed together, the whole of the ice will be melted, but the temperature of the mixture will be 32, so that 140 degrees are lost, or converted into latent heat.

If a tender plant that will not bear the frost, a *Pelargonium* for instance, be exposed to an atmosphere of 32, or exactly the freezing point, it will not be injured, but if the temperature sink below that point, say 28, under ordinary circumstances, when the least circulation of air is, the juices of the plant will be frozen, and it will be injured by the application of perceptible heat, in its rising from 28 to 32; but if the temperature when at 28 is raised by the freezing of water, when the act of freezing, by giving off latent heat, raises the temperature to the freezing point, the plant is uninjured. It follows, therefore, that the application of water should commence before there is any alteration in the temperature of the surrounding atmosphere, that is, in a morning before the sun rises, or before a fire is put on, and continued until the temperature is raised to the freezing point; but if the temperature of a greenhouse should be sunk to 28, and a slight syringing of water applied, only sufficient to raise the temperature, by the congelation of its particles to 30, a great injury will be sustained; if left to rise afterwards by perceptible heat to 32, as the agitation which will have taken place amongst the plants, will have more effectually frozen their juices. The water which is used, should not be much, if any, above the freezing point, or as cold as can be procured, so that the temperature of the plant should rise from 28 to 32, not by the application of a warmer substance so much as the converting of latent into perceptible heat. It is also of very great consequence that the leaves or no part of the plant should be moved when in a frozen state, as the cellular tissue, of which they are in a great measure composed, being of a very delicate texture, each cellule being filled with watery juice, which becomes frozen, the least bending of that part of the plant would rupture the membrane, which are only (and in many cases not quite) elastic enough to allow of the expansion of the water by freezing; it is, therefore, obvious that

instead of the water being laid on by a heavy rose, as I have sometimes seen, it should be done by a very fine syringe, like a shower of dew.

Being pressed for time, and not wishing to take up too much of your valuable pages, I have put the above ideas (the result of experience) in as condensed a shape as possible, but I hope not too much so to be understood.

ARTICLE III.—ON THE PROPAGATION OF CAPE HEATHS.

BY A PRACTICAL HEATH GROWER.

A GENUS so interesting, and we may say so long fashionable, must necessarily have early attracted the attention of plant cultivators; and from the profusion of flowers which most of the species produce, and their parts of generation being for the most part so perfect, we need not be surprised at the many hybrids which the care or curiosity of the cultivator have produced.

Heaths, like most other plants, propagate themselves from seed, although most of those cultivated in this country have hitherto originated from cuttings. A considerable portion of them ripen their seeds with us, and these are annual importations of seed from the Cape: particular care should therefore be taken in raising them, for there is a great probability of new varieties being produced, especially from seeds produced in the heath houses of this country.

Propagation from Seed.—The time we would recommend for sowing heath seeds is late in February, or early in March.—By sowing them at this season, we can always have the young plants sufficiently strong to stand the following winter. The size of the pots should be according to what quantity of seed you have to sow, as we consider it best to sow only one sort in a pot. The pots should be filled at least one half with broken pots, so as to have them well drained. The upper part should be filled to within one-fourth of an inch of the top with very sandy peat, and the surface made smooth. Upon the surface so prepared, the seeds should be thinly sown regularly all over it, and scarcely any covering put over them; this precaution is absolutely necessary from the circumstance that heath seeds are very small, and unable to push through a deep covering. The pots so sown should then be placed in a cold frame under glass, where they should remain; and if the weather should be very dry and much sun, they should be shaded with a mat. This shading should be continued constantly during sunshine, until the plants be from half an inch to an inch high, afterwards it should be gradually removed to harden them by degrees. For six or seven weeks the surface of the mould must never be allowed to become dry

but daily examined, at the end of which time the seeds may be expected to have vegetated; some seeds, of course, do not vegetate so soon as others, therefore the pots should still be carefully attended to; but after three months or little more, all hopes of their vegetation may be given up. As soon as the seeds begin to vegetate, the frame should have a little air admitted to prevent damp, and this should be increased as the young seedlings gain a little strength. Whenever the plants are sufficiently large to bear handling without injury, they should be potted out into small sized pots, well drained, always putting five or six into the same pot, particularly near the edge. In taking the young plants out of the seed-pot, great care is necessary that they be not injured; and when the whole (*or as many as is wanted*) is thus potted, they should be very carefully watered with a fine rose watering-pot, and then kept for ten days or a fortnight in a close shady place, after which they should be placed upon shelves in the heath-house or greenhouse, as near the glass as possible, that they may enjoy plenty of light and air. Here they should be shaded for a few hours in the heat of the day, if there happen to be much sun at the time. In this state they are to stand till the spring, and to be regularly watered, and kept free of damp, which at this season is their greatest enemy.

Propagation by Cuttings.—Cuttings of heaths may be put in at any time when the young wood is taken, after it has become sufficiently firm so as to prevent its damping off; many of the sorts will be in a proper state in the months of May, June, and July. The length of the cuttings must depend on the habit of the species of some of the free growing sorts, they may be about an inch and a half long; and from others that are of a more stunted growth, they may not exceed half an inch in length, in both cases they should be taken from the plant at the part where the young cutting starts from the old wood; strip off the leaves nearly half the length of the cutting, place the cutting on the nail of the thumb, and with a sharp knife cut off the small end close to the joint or place where it was pulled off the plant. The pots for the reception of the cuttings should be about eight inches in diameter at the mouth, they should be filled at least five inches with broken pots, the upper part of which should be of a smaller size than those below, over which should be placed a thin layer of fog (*hypnum*) to prevent the mould from working down among the draining. The pots should then be filled to within one inch of the mouth with very sandy peat, and the remainder filled to the level of the edge with fine sifted pit sand, and the whole pressed firmly down. After being watered, the pot is then

fit to receive the cuttings. When more than one sort is put into a pot, care should be taken to select the kinds as near of a habit as possible; unless this is attended to, some sorts will be found to strike root in a much shorter time than others, which makes it inconvenient when potting them out. When the pot is filled with cuttings, it should be well watered with a fine rose watering-pot, and placed in a close shady part of the stove as much away from fire heat as possible, and admitting no air near to the spot where the cutting pots are placed; likewise taking care never to allow the surface of the mould to become dry. Where there is not the convenience of a moist stove, an exhausted hotbed frame, where there is very little bottom heat, will be found to answer as well if not better. We do not consider bell-glasses at all necessary in any of the above-mentioned situations, unless it be for some sorts that are very difficult to strike, such as *Erica aurea*, *taxifolia*, &c. or where the situation in which they are placed is very dry and airy. If glasses are used, they will require to be wiped almost every day, to prevent any damp from injuring the cuttings. And when they have struck root, which will be easily known by their beginning to grow freely, the glasses should be removed gradually some time before they are potted out. When the cuttings are rooted, they should be potted out singly into the smallest sized pots, and afterwards treated in the same way as recommended for seedlings.

Young Heaths, either from seed or cuttings, should never be potted out later in the season than the beginning of September; if potted out after that period, they have not time to get established in the pots before the following winter. The soil best suited for the first potting should be one-half peat, and one-half sand, always taking care to drain the pots well with small pieces of broken pots or bricks.—Cuttings that are not rooted before the beginning of September, should be allowed to remain in the cutting-pots till the following March, after which they should be potted out, and heated in the same manner as already recommended.

ARTICLE IV.—ON THE CULTURE OF GERANIUMS.

BY MR. THOMAS APPELBY,

Gardener to George Young, Esq. Sheaf House, near Sheffield.

HAVING promised you a paper on the Culture of Geraniums, I shall now endeavour to fulfil my engagement.

I employ the term "Geranium" as being most popular, though the proper botanical term is *Pelargonium*. English, Stork's Bill

(Pelargos. Stork) the fruit or seed having a beak like a Stork's bill.

As this is an extensive genus comprising nearly three hundred recorded species, and *five hundred* varieties, and as the same culture will not answer for them all, I find it necessary to divide it into three Species.

1. Species that have tuberous Roots.
2. Species that have not been hybridized.
3. Species that have been hybridized.

1. Species that have tuberous Roots.

These have thick fleshy tuberous roots, and some species have short stems, but the greater part have no stems, the leaves and flowers springing immediately from the roots. Some are exceedingly beautiful, as *P. longiflorum*, *niveum*, *Leeanum*, *undulaeflorum*, *roseum*, *astragalifolium*, *asarifolium*, *dipetalum*, &c. &c. All of them are pretty, and where there is convenience are well worthy of cultivation. Unfortunately, they require considerable care to cultivate them successfully, and hence they are much out of fashion, which I am sorry for, as I am pretty certain if they were better known, and oftener seen, they would be more in request.

A good greenhouse is the best situation for them during winter and spring; when in a growing state, they should be as near the glass as the arrangement of the house will admit. Plenty of air must be given on all favourable days. They should be frequently syringed with cold water, and be smoked with tobacco, whenever insects make their appearance.

During the growing season, they require watering pretty freely, but as soon as they have done flowering, and their leaves begin to turn yellow, decrease the quantity of water gradually; the best method to do this will be to water once in three days, then once a week, then once a fortnight, and lastly, once a month, by which time they will be completely at rest, when no water must be given to them till they begin to grow again, which may be looked for about February or March. When at rest, any situation where they can be kept moderately dry and cool, will do for them. Heat, light, and moisture not being necessary.

The best time to increase this section of Pelargoniums, is just before they begin to grow. Take off a small tuber or two where they can be spared from each plant, and pot them into as small pots as they can be placed just to cover them; place them in gentle heat, giving but little water until they begin to grow, when they may be removed among the established plants, and the ordinary culture given; they may also be increased by seed, which, however, they do not produce so freely as the shrubby species.

The best soil for those plants is an equal mixture of loam, peat soil, and dung; they require also well draining, by placing plenty of broken potsherds at the bottom of each pot at least one inch thick.

2. Species that have not been hybridized.

Many of those species [also are rather difficult to cultivate, and in consequence are comparatively scarce; but if the following directions are attended to, I trust the difficulty will be surmounted.

The species under this head are represented by *Pelargonium* tri-color, bicolor, clatum, pendulum, tetragonum, fulgidum ovate, elegans, &c. &c.

As they are all shrubby species, they require watering all the year, though always carefully, for if the soil gets sodden with water for a length of time, it is generally fatal to the plants. They also require greenhouse treatment during winter and spring. In summer they require placing out of doors in an open situation, screened from high winds, and set upon a bed of ashes so thick as to prevent worms from getting into the pots; keep them clear of weeds, tied up neatly, and regularly watered during dry weather. Pot them into larger pots when they require it; the best season for which operation is the month of April.

The compost I have found them to grow best in, is loam, peat earth, vegetable soil, and sand in equal parts.

To propagate them, take youngish cuttings off about the month of May; fit some bell or small hand-glass to such a number of pots as may be required; fill them half full of broken potsherds, rough bits of turf, or anything that will permit the water to pass off freely; put in upon them as much of the compost as will fill the pots up to one inch of the rims, and fill up to the top with pure sand, then give a gentle watering, and insert the cuttings, giving more water to settle the sand close and firm to them. When pretty dry, cover them with the glasses, and place them in a gentle heat; pot them off when struck, and keep them close and warm until they have struck root again; then give them the ordinary treatment, as to situation, air, watering, potting, and so forth. Some of this section seed also, but not freely.

(To be concluded next month.)

ARTICLE V.

A FEW REMARKS ON THE MANAGEMENT OF THE GENUS CRINUM.

BY MR. HENRY SANSOME,

Gardener to the Rev. E. T. Halliday, North Town, Taunton, Somersetshire.

HAVING successfully cultivated many species of the beautiful genus *Crinum*, I am solicited by many of your readers to forward you my method of cultivation, which should you consider it worthy insertion in your valuable Magazine, it is at your disposal.

The greater part of this genus being inhabitants of hot countries require the stove in order to their success, and a liberal supply of water during the summer months; but during winter, the quantity of moisture should always be diminished, otherwise many of the bulbs will perish. I find, however, those with columnar stems, do not object to plenty of moisture at all times, as the habit of their leaves is more decidedly perennial; but it is by far the best, at all times, to rather underwater than overwater, and particularly those varieties which are of tender growth.

The compost I find the best for *Crinums* generally, is a rich yellow loam, rather of a friable texture; many cultivators of *Crinums* use peat in the compost, but I consider it very prejudicial; plenty of drainage in the pots I consider very essential, so that the plants may often receive the proper nourishment of fresh water—the size of the pots much depend on the habit of the bulb—but in order to bloom them well, they require plenty of pot room when in a healthy state. Whenever the youngest leaves of any *Crinum* with a sprenial bulb turn yellow and decay, the bulb should be allowed to go to rest for a short period; too much moisture in too low a temperature, will often produce this effect. In potting, the whole of the column should be kept above the soil, and all the obsolete coats, which are the base of decayed leaves, should be gradually stripped away, leaving the bulbous stem smooth and clean. I find nearly the whole genus to succeed the best when plunged up to the rims of the pots in troughs of sand, which are fixed over the flues; and during very hot weather, I find it very essential to inundate the troughs, but not to keep them constantly flooded; some of the species at the approach of winter, will require the pots to be turned on their sides, and to be kept perfectly dry. As soon as the plant has completely ceased to vegetate, shake the earth carefully from its bulb, pull off the decayed coats without making the bulb bleed, and repot it in dry pulverised loam, and let no water be given till the spring. My minimum heat is 65 Fahrenheits, and maximum from 80 to 90

If the preceding hints be strictly adhered to, success will follow. I have many other exotics doing equally as well as the *Crinum*s, which, should you consider the same worth recording, I shall feel great pleasure in forwarding for insertion.

ARTICLE VII.—REMARKS ON THE CULTURE OF FUCHSIAS,

By Mr. William Barratt, St. John's Botanic Gardens, Wakefield.

BY my former communications you will easily perceive, that I have paid some attention to that beautiful genus of plants, *Fuchsias*. I have this season added to my stock several very splendid varieties, and intend shortly to give you a continuation of the name, habit, and description of the new ones, to those of mine you have already published in the *Floricultural Cabinet*, for the last two years. The hint I wish to give you at present on *Fuchsias*, is, their arrangement in the beds, in order to produce, shall I say, one of the most splendid beds of beautiful and graceful flowering shrubs our gardens can boast of. The shape of bed most suitable is an oval one, say five feet across, and eight feet in length; plant in the middle of the bed some of the tallest growing kinds; in the next row round, some middle sized ones, weeping kinds; next row should be the several varieties of *Globe Fuchsias*; and another row dwarf kinds,—and then complete the bed with an edging of *Fuchsia reflexa*, and *Fuchsia microphylla*, planted alternately. The plants when planted, should be in the middle two to three feet high, and the other rows gradually less in height; the edging should be about four inches in height. Although they will not all exactly grow proportionately to their heights when planted, yet they will do something near it, and if planted out in April, or early in May, in rich soil, and a little peat mixed, the effect will surpass the expectation of most people.

ARTICLE VIII.—ON THE CULTURE OF HOYA CARNOSA,

BY S. W. E. SMITH, LYMINGTON, HANTS.

IN a former Number of the *Cabinet*, “*Pedro*” wishes to know the treatment of the *Hoya carnosa*:—I have a beautiful plant, whose branches are nine feet long, and covered with large bunches of its lovely flowers, dropping their delicious juices upon other plants. It is trained across the greenhouse windows; is potted in a mixture of equal parts of sandy loam, yellow loam, and good manure. I keep it nearly dry all the winter, and in spring and summer water plentifully every two or three days with good manure water. I have struck

three young plants since May. I take off the cuttings at two joints, and insert them in the same compost, kept a little moist, shaded and stimulated by the heat of the cucumber frame. They can be struck from single leaves only, but I have never tried the experiment.

ARTICLE VIII.—ON THE CULTURE OF PINKS.

BY A PRACTICAL GARDENER.

THIS Flower, though it has nothing mysterious in its cultivation, has furnished some authors with so large a subject to write on, that they have composed whole Volumes on it. They have discovered wonders in every particular, even to the least action they imagined within themselves that nature wrought in these flowers, which has carried them to very prolix considerations thereon, and to reflections rather chimerical, than backed with the least appearance of truth.

Works of this nature in point of instructions, are of the number of those we call specious; and where the authors, by endeavouring to make out too plainly what they advance, are lost in imagining spaces, and puzzle themselves more and more.

To what purpose is it to make a wonder of a thing that is all natural, plain and easy? Can they believe, that the shortest way to instruct, is to descend into particulars, which, far from encouraging us to cultivate a flower, disgust us rather, and dishearten us from it? Besides that, these pretended rules are most of them merely visions, and arguments good for nothing but to swell a volume; nor can any advantage be gained from them: We, therefore, without further preface, will come at once to the point.

To follow the natural Order in the culture of Pinks, reason requires us to begin, by giving rules for the method of sowing them, since seed is the first principle of all vegetables.

Without going so much about the bush, to come to the method of sowing of Pinks, I say, we sow them in the naked earth upon hotbeds, or in pots of earth, or wood, in autumn, or in the month of March.

We sow them in the naked earth, having first traced out a bed according to the rules of gardening, and of the size we think fit; upon which, we scatter mould at least an inch thick, but, not till after we have made the earth as tangible and easy to work as possible.

If it be upon a hotbed, we need use no other ceremony; for the mould that is there will be enough of itself, having a sufficient quantity of salts to give this plant its requisite growth for planting.

But, if we make use of the pots of earth, or of wood, we must fill the bottom of them with a good kitchen-garden earth well sifted, and lay over it at least an inch thick of mould; this mixture pleases not some, who have written on this subject: but experience having more fully convinced me than all their empty discourses, I pretend to lay it down as an infallible rule.

The pots and garden-plots, where you intend to sow your pink-seed, being ordered in this manner, you may scatter it thinly over them, or sow it in rows drawn by the line, I mean as to the bed; for, as to that you sow in pots, it must always be sowed scatteringly, and never in rows. When this seed is sown, take care to cover it forthwith, either with a rake, or with your hand.

Having done this, water it immediately to the end of the mould, which is naturally light, may cleave the closer to it, better cherish the burgeon, and make it sooner take the requisite dispositions to become a plant of its kind. In order to the obliging it to do this, likewise take care to sow the seed in places exposed to the sun, and to carry the pots where you have sown any into such places also.

You should always have a good stock of pink-seed, that you may sow a great deal of it: For, a true florist should never give himself this trouble, but with a design to have some that are worth his raising: and it often happens, that among a thousand plants we have scarce three or four that are worth our care, though indeed we have sometimes more. When these plants are come up, they require to be frequently watered.

The Pinks sown in this manner, being come to a growth fit for planting, we prepare beds for them; along which, we draw drills by the line, four inches distance from one another; and observe the same in planting the Pinks.

The usual season to plant Pinks from the seed, is always about the end of March, or the beginning of April; and the Pinks thus put in the ground, grow till the next year without producing any flowers: but, after they have weathered out the winter in this condition, provided we have taken care to protect them from the severity of the frosts, by covering them with straw, we see them pullulate, and shoot forth slips from the foot; and from the midst of most of those slips, rise some stalks that bear flowers, and others that serve only for layers.

As soon as we have planted our Pinks from the seed, we take care to cover them in the day-time, with screens of straw laid ridge-wise over them, or with some piece of cloth stretched out over them in the same manner, to hinder the heat of the sun from coming too soon to

the roots, and over-heating them; which would much retard their taking root again. And, we must not neglect to cover them in this manner for the space of seven or eight days, unless the weather should be rainy, which would save us that trouble: we must also not forget to uncover them every evening, that they may have the benefit of the freshness of the night, which, in that season is very propitious to plants.

In the next month of the following year, when the Pinks are blown, we take a view of all that are planted, and have any flowers; and, if any of them have finer flowers than ordinary, we put some mark upon them, that we may have layers from them for increase, which is one of the three ways in use to multiply the kind. This first method of perpetuating Pinks, is properly speaking, a nursery.

Next to the seed, which is the first way of increasing the kinds of the Pink, comes that of the layers; to succeed wherein, you must follow the rules I am about to give you; but I presume that your Pinks are worth preserving, and that your slips come from valuable stocks.

If so, take a penknife, or some other instrument of like nature that cuts sharp, and, making choice among all the slips of the Pink, of that whose stem is strongest and fairest, make an incision in it through the middle of the nearest knot, to the foot of the plant, taking care that this incision go no farther than half, or, at most, than two-thirds of the knot: having done this, lay the slip gently down, fasten it with a little crooked stick, support it with another little stick, if you lay down your slips in the naked earth, for if it be in pots, the edges of them are sufficient to support them: then having covered with a little mould the part that is in the ground, water it well, and let it alone till it require your farther care.

If it be in the naked earth that you lay down your layers, you must for the first three days take care to cover them, to keep them from too much sun, which at first would do them mischief: and if it be in pots, set them for the like number of days in the shade, and bring them afterwards into an aspect, that will make them act more vigorously.

The layers ought to have taken root about the eighth or twelfth of September at latest; which is what you must take care to see: and if you find they have not, or that they have shot out only little fibres that can scarce be seen, you must get ready a bed of reasonable heat, and put in it the pots of the layers that have not yet taken root: this warmth is such a friend to the plants, that it never fails to actuate and give life to the parts that are disposed to shoot out the roots.

Indeed the layers that are in the naked earth have not this advantage; for which reason too, more of them die away than of those that are in the pots. but on the other hand, this does not always happen; and I myself have seen layers that had not retaken root within that time, lie in that condition in the naked earth all the winter, and take root towards the end of March, which is no small evidence against such as are over-cautious in the management of Pinks.

Among all the productions that a stock of a Pink produces, there are always some of them that are much less than the others; and these are they we leave to keep up the chief stock.

Now since the earth in which we set the layers is generally light, and by consequence unprovided of any large store of moisture; you must be careful to water the layers very often, and not to expose them to too great a heat.

I wonder why the name of suckers has been given to that part of the Pink we cut off, and that has no root; and why it was not rather called a slip, which is always taken for a small rootless branch of a plant, and which we thrust into the earth to make it take root: but in point of art we must always conform to the custom that has been long established: I say then that the third expedient made use of to multiply Pinks is by the suckers, which is performed in the following manner.

Consider your pink-stock, and having cast your eyes over it, resolve within yourself which suckers you will make use of: the middle sized are always the best: when you have done this, take your scissors, and cut off your suckers within two or three joints of the middle, which is the place whence the leaves spring out; and take care it have no more: when you have thus cut it off, slit it into four, by the lower end to the joint next that end, and from thence guide that incision to the second joint, and having taken off the tops of its leaves to within three inches of the middle of the sucker, throw it into the sun to make it wither a little: when you see it begin to languish, take it again and throw it into fresh water, and leave it there till you see it has recovered new vigour; then take it out of the water, and having your pots of earth or wood ready, and filled at the bottom with kitchen-garden earth, covered over with at least two inches of mould, thrust in your suckers to the second joint, press down the earth a little against the part you thrust in, water it plentifully, and set your suckers in the shade: do this, and I will answer for the success.

(To be continued.)

PART II.

LIST OF NEW AND RARE PLANTS,

Noticed since our last.

1. *BANKSIA OCCIDENTALIS*, West-Coast Banksia. (Bot. Mag., 3535.) Natural Order, Proteaceæ; Class, Tetrandria; Order, Monogynia. A very neat and handsome species of this very singular tribe of plants. Both foliage and flowers are pretty; the latter are of a dark red colour. *Banksia*, in honour of Sir Joseph Banks.

2. *BRASSAVOLA CORDATA*, Heart-lipped. Orchidaceæ; Gynandria; Monandria. (Bot. Reg., 1914.) There is nothing very striking in the flower of this species of Epiphyte. The petals are of a greenish-yellow colour, very narrow, and about one inch long; the labellum is half an inch long, and the same breadth, heart-shaped—white. The plant is a native of Brazil, and was imported from thence by Messrs. Loddiges, in whose collection it has bloomed this year. The species is very nearly allied to *B. nodosa*; the flowers are only half the size of that species, and having a heart-shaped labellum. *Brassavola*, in compliment to A. M. Brassavola, an Italian Botanist.

3. *BROUGHTONIA COCCINEA*, Crimson-Flowered. Orchidaceæ; Gynandria; Monandria. (Bot. Mag., 3536.) Synonyms, *Dendrobium sanguineum*; *Epidendrum sanguineum*; and *Broughtonia sanguinea*. The flowers of this species of orchideous plants, are said to be, by Dr. Hooker, the richest coloured of any of this splendid family of plants. It is but rare in the collections in this country, though introduced, from Jamaica, to Kew Gardens, 1793. The plant usually blooms from May to July. The flower stem rises about ten inches high, bearing a raceme of, from six to ten, very rich crimson coloured flowers, continuing in bloom a long time. Each flower is upwards of an inch across. It is a very desirable species, and well deserves a place in every collection. *Broughtonia*, in compliment to A. Broughton, a Botanical Author.

4. *CATLEYA INTERMEDIA*, VAR. *PALLIDA*, Pale-flowered. Orchidaceæ; Gynandria; Monandria. This species has bloomed in the collection of the London Horticultural Society. It is a native of Brazil. Mr. Tweedie remarks of it, "This is by far the handsomest of the tribe found in the neighbourhood of Buenos Ayres, and grows equally well on the sea-beaten rock, and the moss covered tree in the heart of the forest, and is to be found in bloom at all seasons. There are many varieties of it; their colour pink and crimson." The present variety is very beautiful. Each flower is about three inches across. The sepals and petals are of a pinkish-white colour. The labellum is three lobed, the centre one feathery at the summit, and terminating with large stripes and spots of a deep crimson, finely margined with white. The following fine species have been described by Dr. Lindley:—*Catleya bicolor*, native of Brazil; sepals and petals of a tawny colour; the labellum is of a bright purple and white. *C. coccinea*, native of Brazil, a very beautiful flowering species. The flowers are about three inches across, of a bright scarlet colour. The flower stems rise about three inches high. This latter circumstance connected with its brilliant coloured blossoms, render it a most striking and very desirable species. *C. Harrisonia*, a native of Brazil, producing from one to four flowers on a raceme. *C. maritima*, a native of Buenos Ayres, producing three flowers on a raceme, of a fine rose colour. *C. ovata*, a native of Brazil, very much resembling *C. labiata*. Messrs. Loddiges possess a fragrant species with crimson flowers, which was discovered by Mr. Schomburgk, in British Guiana.

5. *CRATÆGUS GLANDULOSA*, VAR. *MACRACANTHA*, Long spined glandular Hawthorn. (Bot. Reg., 1912.) Rosaceæ; Icosandria; Pentagynia. Synonyms, *C. glandulosa*; *C. macracantha*. A very fine variety of American Hawthorn, of a vigorous habit, producing a profusion of deep vermilion red berries, in clusters, and which make a very showy appearance. The foliage is of a dark green. The spines are from three to four inches long.

6. *DROSERA FILIFORMIS*, Narrow-leaved Sun-dew. Droseroaceæ; Pentandria; Pentagynia; Synonym, *D. tenuifolia*. A native of New Jersey, where it was discovered by Mr. Macnab, and by him introduced to the Edinburgh Botanic Garden. It has bloomed in the Comely Bank Nursery, and in the stove at Dr. Reill's. The flower stalk rises eight or ten inches high, producing a raceme of ten or twelve flowers, rose coloured, each flower about half an inch across. *Drosera* from *drosos*, dew; referring to the clear fluid which exudes from the foliage, and appears as if covered with dew.

7. *EUTOCA WRANGELINA*; Baron Wrangel's Eutoca. (Brit. Flow. Gard., 362.) Hydrophyllæ; Pentandria; Monogynia. This pretty flowering annual is a native of New California, and has very recently been introduced into this country. It has bloomed, this summer, in the garden of A. B. Lambert, Esq., Boyton House, Wiltshire. The plant is of ready culture, growing freely in the open border, and blooming for several months, and has a peculiarly neat appearance. The cymose heads of pale-blue blossoms being showy; each blossom is about half an inch across. *Eutoca*, in compliment to Baron Wrangel, a Swedish Nobleman.

8. *GENISTA MONOSPERMA*, Single-seeded. (Bot. Reg., 1918.) Leguminosæ; Diadelphæ; Decandria; Synonyms, *Genista monosperma*; *Spartium monospermum*. It grows wild in Sicily, Barbary, Greece, at Gibraltar close to the sea-beaten rocks, where, in February, it blooms in vast profusion. It is said to be one of the most deliciously fragrant blossomed shrubs yet discovered. The flowers are white. *Genista*, from *genu*, the knee; branches being flexible like the knee-joint.

9. *ISOPAGON BAXTERI*, Mr. Baxter's. Proteaceæ; Tetrandria; Monogynia. (Bot. Mag., 3539.) A native of New Holland, from whence it was sent to the Edinburgh Botanic Garden, in 1830; it has bloomed in the greenhouse at that place. The foliage is very handsome, much resembling *Grevillia acanthifolia*. The heads of flowers are rose coloured, with darkish tips. The plant usually grows about two feet high. It is a pretty greenhouse shrub.

10. *MALVA MUNROANA*, Mr. Munroe's Mallow. (Bot. Mag., 3537.) Malvaceæ; Monadelphæ; Polyandria. It was introduced into this country by the late Mr. Douglas, who discovered it growing on the barren plains of the Columbia, in North-West America. It will bloom freely when grown in the open air in this country, and a warm and sheltered situation be selected for it; it will then bloom from July to October. If cultivated in the greenhouse, it blooms from May. Each flower is near an inch across, of a pale rose colour.

11. *NECTAROSCORDUM SICULUM*, Sicilian Honey-Garlic. (Bot. Reg., 1913.) Liliaceæ; Hexandria; Monogynia; Synonym, *Allium siculum*. A hardy bulbous plant, discovered in the shady woods of Sicily; nearly thirty flowers are produced in each umbel; they are of a brown, purple, rose, and white intermixed, each flower is more than half an inch across; it is more interesting than showy. *Nectaroscordum*, from *nectar*, honey; and *skordon*, garlic.

12. *ORNITHOGALUM CONICUM*. Pure-white flowered Star of Bethlehem. (Bot. Mag., 3538.) Asphodeleæ; Hexandria; Monogynia. A native of the Cape of Good Hope, from whence, Baron Ludwig sent bulbs to the Glasgow Botanic Garden, in 1835; the same year it bloomed in the greenhouse. The flower scape rises about one foot high, terminated by a raceme of flowers, at first conical, afterwards more elongated. The flowers are of a pure white, each near two inches across, making a showy appearance. *Ornithogalum*, from *ornis*, a bird; and *gala*, milk. The plant producing much when bruised.

13. *PHLOMIS ARMENIACA*. Armenian Jerusalem Sage. Labiatæ; Didynamia; Angiospermia. (Brit. Flow. Gard., 364.) A hardy herbaceous perennial plant, with flower stems rising about a foot high, producing numerous fine yellow blossoms, which have a neat and elegant appearance, being large showy. The plant was introduced into this country in 1834, from Armenia, where it was found growing on dry stony hills. It well deserves a place in the flower garden. It is grown in the Chelsea Botanic Garden. *Phlomis*, from *Phlogmos*, a flame; the down used for candle wicks.

14. *PRESCOTTIA COLORANS*, Purplish Prescottia. (Bot. Reg., 1916.) Orchidaceæ; Gynandria; Monandria. A stove herbaceous orchideous plant from Brazil, and imported by Messrs. Loddiges. The flowers are produced in a dense

manner, upon a spike of six or eight inches high, something in the way of the common Plantain—they are of a yellowish-green. *Prescottia*, in compliment to John Prescott, Esq., of St. Petersburg, a celebrated Botanist.

15 *RATIBIDA COLUMNARIS*, VAR. *PULCHERRIMA*, Painted-rayed. (Brit. Flow. Gard., 361.) Compositæ; Syngenesia; Polygamia Frustranea; Synonyms, *R. sulcata*; *Rudbeckia columnaris*; *R. Tagetes*. The late Mr. Drummond discovered this hardy perennial plant growing in Texas, from whence he sent seeds into this country. It is found frequently growing on the margins of rivers throughout the western regions of North America. The present showy variety has been raised by Mr. Miller of the Bristol Nursery. The flower stems rise from two to three feet high, each crowned with a splendid flower, three inches across. The disk of the flower has a large portion of a fine velvety crimson and brown colour; the exterior part of a fine yellow. Altogether it is a very splendid flowering, and deserves a place in every flower garden.

16 *SISYRINCHIUM GRAMINIFOLIUM*, VAR. *PUMILUM*, Dwarf grass-leaved. (Bot. Reg., 1915.) Iridaceæ; Monadelphia; Triandria. This very neat and beautiful flowering plant was discovered on the mountains near Valparaiso and Conception; a plant of it has been sent to Robert Mangles, Esq., Whitmore Lodge, Summing Hill, Berkshire; in the very select collection of that gentleman it bloomed in May 1836. The flower stems rise near six inches high, producing a profusion of flowers, each of which is near an inch across, of a pretty yellow, with a deep purple spot at the base of each petal. The plant requires protection during winter in a cool frame or greenhouse. *Sisyrrinchium*, from *Sesurigchion*; an old Greek name for the Iris *Sisyrrinchium*.

17. *STACKHOUSIA MONOGYNA*, Pink-tipped. (Bot. Reg., 1917.) Stackhousiaceæ; Pentandria; Monogynia. A half hardy perennial herbaceous plant, a native of New Zealand, from whence it was sent by Mr. James Backhouse to the York Nursery. The flowers are produced in a dense spike. The petals are very narrow. Each flower is nearly half an inch across. The tips of the spikes are of a bright pink, but when the blossoms expand they are pure white. *Stackhousia*, in honour of the late John Stackhouse, Esq., F. L. S., of Pendarvis, in Cornwall.

18 *VERBENA LAMBERTIA*, VAR. *ROSEA*. Drummond's Pink Flowered Verbena. (Brit. Flow. Gard., 363.) Verbenaceæ; Didynamia; Angiospermia. This very pretty flowering variety was discovered by the late Mr. Drummond, in Texas, and is cultivated in this country under the name of *V. Drummondii*; the plant appears to be only a variety of *V. Lamberti*. The flower stem rises to half a yard high, terminating in a spike, from three to six inches long, of fragrant flowers, which are pale rose coloured. When grown vigorously it is a very handsome variety. It delights in a fresh loamy soil, well enriched with manure or leaf mould. The plant is quite hardy and easily increased by slips. It may be obtained at most of the principal Nursery Establishments.

PART III.

MISCELLANEOUS INTELLIGENCE.

 QUERIES.

ON THE CULTURE, &c. OF CACTUSES.—In the month of August, 1835, I addressed a Query to the Editor or Correspondents of the *Floricultural Cabinet*, requesting information as to the name and treatment of a number of small Cactii, which I then described thus. They were raised from seeds, and originally appeared with flat leaves like the Cactus speciosa, but have since made shoots which are both hexagonal and octagonal, covered with hairs, each shoot having the appearance of being twisted, they are now three years old. The specific name and mode of treatment to make them bloom freely, is what I request information upon, and shall feel much obliged to any one who will kindly answer me.

ON THE CULTURE OF CYCLAMENS.—A subscriber to the *Cabinet* would feel himself extremely obliged if any correspondent would inform him of the best method of growing the Sweet Scented Cyclamen. I purchased several roots in bloom three years ago, but have not had the pleasure of witnessing a single bloom on them since. By giving this assertion in your next number, you will still further oblige yours, &c.

December 13th, 1836.

ALPHA.

ON PANSIES.—Can you or any of your Subscribers, inform me where, near Sheffield, I can procure the following Pansies, and at what price? viz. Royal Crimson, Iver Beauty, Rollinson's Princess Victoria, and Jane Ann's Favourite. Near Sheffield, Dec. 13th, 1836.

AN ADMIRER OF THE CABINET.

ON SOWING SEEDS OF ANOMATHECA CRUENTA, &c.—A Subscriber has been anxiously awaiting an answer in your *Cabinet* to the question asked in the October publication, relative to the management of the Seeds of the Anomatheca cruenta, and if likely to blossom the same year? Perhaps Mr. Harrison himself would be kind enough to give an answer in his next Number, as the season may soon be too late to take advantage of the knowledge required.

December 6th, 1836.

The seeds should be sown as early as there may be the convenience of giving them a warm and moist temperature, as a cucumber or melon frame, or pine stove. The pot should have an inch deep or upwards of drainage, in a rich, light, sandy soil; we have found the plants to grow very vigorously. When the plants are strong enough to take up out of the seed-pot, which will be when about two inches high, let that be carefully done to retain all the fibrous roots, insert one plant into a small sixty-sized pot, replacing the plants into the frame, to assist in re-establishing them; when they appear to be striking root afresh, give an increase of air, so that the foliage does not draw up weakly. In a short time they will require pots a size larger. When this is done, they may be placed in a cooler department, as a greenhouse or frame, where they can be protected till the middle of May, when, with balls entire, they may be planted in the open border, where they will bloom the same season. We had some which bloomed from the middle of July to the end of September. The situation was open to the sun, and sheltered from the East, West, and North winds.

CONDUCTOR.

ON THE DAHLIA.—Has any of the readers of the *Cabinet* tried the experiment of cutting the roots of two Dahlias, each into two parts, and then joining the two sorts together, that is, one portion of each kind being secured to a portion of the other. If this has been tried, I should be obliged by being informed what the result was in affecting the colour, &c. of the flowers.

C. NEVILL.

ORNAMENTAL CREEPERS, &c.—I should be very much obliged, if some reader of the *Cabinet* would give a list of Ornamental Creepers, or climbing plants, suited to train against a wall, trellis, pillar, or arbour. A list of greenhouse, and one of hardy kinds, will confer a great kindness on

FLORA.

Notts, Dec. 13th, 1836.

ANSWERS.

ON DESTROYING THE WIRE-WORM.—In answer to an inquiry respecting Wire-Worms, contained in the October Number of the *Floricultural Cabinet*, I beg to send the following Extract from Kirby and Spence's Introduction to Entomology. "A very simple and effectual remedy for that destructive insect, the Wire-Worm, was mentioned to me by Sir Joseph Banks.—He recommended that slices of potatoes stuck upon oceneers, should be buried near the seeds sown, examined every day, and the Wire-Worms, which collect upon them in great numbers, destroyed."

ON COMPETITION IN EXHIBITING TULIPS, &c.—In replying to the Query which was forwarded to us by Mr. Figgans, and inserted in the November Number, page 260, we give the following as our opinion. Supposing that distinct prizes are offered as follows:—The first Rose 20s.; second do. 15s.; third do. 10s.; and fourth do. 5s. In this case, A would be entitled to 20s. and C to 5s. In the same manner A would be entitled to 10s. in *Biblemans*, and 10s. in *Bizards*; and C to 15s. in *Biblemans*, and 15s. in *Bizards*. A would thus obtain 40s. and C 35s. From which it is evident that A has the advantage over C, in the first prizes, viz. 20 to 5, whilst C has the advantage in the second prizes over A of 30 to 20. If A and C were to compete where there were prizes only given to firsts and seconds, then the first would be obtained by A; but if no thirds were offered prizes, A would not be entitled for the third *Biblemans*, or third *Bizards*; C would not be entitled for the fourth Rose, but would claim the prize for the second *Bib.* and second *Biz.* Thus A would get the first prize, and C the seconds.

(None of our Correspondents having replied to Mr. Figgans's Query, and an answer being desired in the December Number, we have inserted our opinion of A and C's claims in such a competition.)

CONDUCTOR.

ON THE CULTURE OF CACTUSES.—A Correspondent requesting instructions on the Culture of the Cactus, I herewith send you some practical observations taken from the Horticultural Transactions, they are part of an excellent communication by Mr. Green, gardener to Sir Edward Antrobus, Bart.—"The compost that I use," observes Mr. Green, "is an equal quantity of light turfy loam, and pigeon's dung, and one-third sheep's dung, exposing the mixture one year to the influence of the summer's sun and winter frost to mellow. When wanted for use, I add one-third of sandy peat, in both cases mixing them well together. I grow the young plants from February to July, in the forcing flower-house kept from 55° to 60° Fahr. I afterwards remove them to a shelf in an airy situation in the greenhouse, exposed to the mid-day sun, giving them plenty of air and little water. The plants that I want to flower the following September, are placed in the forcing-house the first week in December, giving them very little water for the first ten days, and gradually increasing the water as the plants advance in growth. About the 1st of February I stop all the young shoots, which soon become well ripened; from this time I decrease the quantity of water until they become quite dry, in order to throw the plants into a state of rest. In the beginning of March, I replace them in a cold shady situation in the greenhouse, treating them as before. For plants to flower in August, I place a quantity more in the forcing-house the first week in January, treating them the same as those for September; only they are put to rest in the greenhouse a fortnight later, and replaced in the forcing-house one week sooner.—The first flowering plants are put in the forcing-house the end of January, and will come in flower about the middle of March. When these plants have done flowering, and are removed from the drawing-room, or greenhouse, I prune out most of the old shoots that have flowered, so that the plants are furnished regularly with young shoots for flowering the ensuing year; these plants are also placed in the forcing-house for ten days, to ripen the young wood and dry up the moisture, and are then put to rest in the greenhouse as usual: such plants will flower a second time in October. Others put in the forcing-house the middle of February will flower about the end of April; if then pruned, and dried, and put to rest as before, they will flower a second time in November, and so on in proportion. I repot them at all seasons whenever the plants may require it, always

observing to keep the pots well drained with potsberds, that the moisture may pass off readily. This process may be considered troublesome, but superior growth, and abundance of flowers, amply repay the care bestowed. By the above treatment, *C. speciosus* and *Jenkinsoni* have generally produced from ninety to a hundred fine expanded flowers, at one year old. The plants that I brought to the Society (May 21, 1833,) were about two years old; the *C. speciosus* bore two hundred flowers, *C. speciosissimus* seventy-two, *C. Jenkinsoni* one hundred and ninety-four. I prefer growing them in wooden tubs, with nice stakes fixed to the tub, to the usual mode of supporting them by sticks driven into the ball of the plant, which I consider injures the fibre, and makes the plant appear unsightly."

REMARKS.

ON THE CABINET NUMBERS, &c.—The *Floricultural Cabinet* is unquestionably the most valuable Publication to the Amateur, as well as the practical Gardener, both rich and poor, its pages being open for questions and answers, which are both amusing and instructive. I have frequently seen questions in it which would seem at first sight but of little utility if answered, but in themselves of great importance, especially to the young beginner, and pleasing to all who have the pleasure of perusing it. The low price at which the *Cabinet* is charged, places it within the reach of every one who is anxious for improvement in the beautiful study of Horticulture. It is to be regretted that the Proprietor did not, when the *Cabinet* was first established, see the likelihood of so useful a Work rising to its present dignity, and have many more Numbers printed than was called for, as a friend of mine being anxious to possess the whole of the Numbers now published can only obtain 26 of them. We are informed by the Bookseller (who supplies me with the Number monthly) that the Numbers above named cannot yet be obtained, nor can he say whether they will be obtainable or not. You will therefore greatly oblige me and my friend by informing us in your next Number, how and when we are likely to get them.* We have not yet been favoured, as suggested by one of your correspondents, with Plates and description of Grasses. I feel confident that it would be of very great utility, as so little is known about Grasses, when so much is required, if a Double-Number were to be issued until a few descriptions on Grasses with plates were given. I do not think that any one of your numerous Subscribers would object to it, for myself I would rather give one shilling per Number, and have two plates and descriptions, when we could also have some of our good old-fashioned flowers represented.

Can any of your Subscribers inform me of a Grass or any other aquatic plant that would grow in an iron tank about 12 feet by 9, where lukewarm water is always running through it.

ESCHSCHOLTZIA.

Liverpool, December 14th, 1836.

ON NEW OR HANDSOME FLOWERING PLANTS.—*Tropæolum brachysema*.—Last month we noticed, at page 295, a new species of *Tropæolum*, the specific name of which we did not know. We have recently obtained information that it had been named by Dr. Lindley *T. brachysema*, to whom a flowering specimen had been sent, by G. C. Rashleigh, Esq. Hyde Lodge, Winchester, Hants. Mr. Rashleigh has received a considerable collection of roots, bulbs, and seeds, from Valparaiso, among which was seed of the *Tropæolum*. It has bloomed in the collection of that gentleman, flowering very freely, of a pretty yellow, slightly streaked with a dark colour inside. The blossoms hanging in abundant clusters add very much to its beauty. The foliage is exactly like the *T. tricolorum*. The flowers are in form more like the common *Nasturtium* of the gardens, each flower being rather more than half an inch across. It is a very neat and

* Complete sets of the *Cabinet*, from No. 1 up to the present one may now be had of Messrs' WHITTAKER & Co. We had no idea, at the commencement of the *Cabinet*, that the demand would be more than one quarter of what it has reached, or we should have been better prepared to meet the wishes of our friends. The increased demand each month, and getting up back Numbers, has required great expense and exertions in the operations. We have much pleasure in announcing that we can now, and in future, meet the demand. CONDUCTOR.

pretty species, well deserving a place in every greenhouse. Plants of it have been sent to Mr. Thompson and Mr. Knight, King's Road, Chelsea, and Mr. Ingram, Southampton. Mr. Rasleigh has also flowered some other handsome Tropæolums, differing in some particulars from *T. tricolorum*, and *T. elegans*. The collection contained some new specimens of *Phycella*, as well as a very sweet, night-scented, small flower, which is supposed to be *Leucocoryne odorata*.

Gardouquia multiflora, Many flowered.—A very neat and handsome flowering species, requiring a greenhouse temperature. It is a shrubby plant, growing from a foot to half a yard high. It has very much the appearance of a neat plant of the Fuchsias. The flowers are produced in abundance, very similar to the *Epacris grandiflora*, they are about the same size and form, of a pretty rosy crimson colour. The foliage is fragrant. The plant deserves a place in every greenho use. It strikes freely, and may soon be had of most nurserymen.

Sedum Siboldi.—A new species from China, which requires to be grown in the greenhouse. The plant blooms profusely, and its fine scarlet flowers make a very showy appearance. It is propagated easily, and may soon be had fo most of the public nurserymen.

Eutaxia pungens.—This is a very neat handsome and abundant blooming species, recently sent from New Holland, and is now spreading in the London Nurseries. It is a shrubby plant, growing from two to three feet high. The flowers are yellow with an orange red centre. The plant deserves a place in every greenhouse. It blooms freely during summer.

Clerodendrum speciosissimum, Showy flowered.—This fine flowering shrubby plant has very recently been introduced into this country, and is one of the most showy plants for the conservatory or greenhouse. The plant grows to four or five feet high, and produces numerous large spreading panicles of fine rich scarlet flowers. Each blossom is two inches across. It may be had of the public nurserymen, and it well deserves a place in every conservatory or greenhouse. We were informed, the plant had been introduced into this country by Messrs. Lucombe, Prince & Co. Nurserymen, Exeter.

Bignonia venusta.—A most splendid flowering climber, which ought to be in every stove, warm conservatory, or greenhouse. When the plant has got established, it blooms profusely, its large clusters of flowers, near twenty in each, of a fine orange colour, being exceedingly showy. Each trumpet-shaped blossom is near three inches long. If the roots of the plant have the advantage of a bark pit, or otherwise wormed, it greatly promotes its vigour, and is the means of bringing it early into bloom. Plants may be had of most public nursery establishments.

ON ORCHIDEÆ.—For what purpose can the world have been adorned with these Orchideous plants? To man or animals they are scarcely ever of any known use. No honey is secreted by their flowers; neither poison, medicine, nor food, are collected in the recesses of their stems; and their very seeds seem unfit for feeding even the smallest bird. We can scarcely suppose them provided for the purification of the unwholesome atmosphere of the forest recesses in which they delight, for their organization is that of plants whose leaves perform their vital actions too slowly to effect such a purpose. For what then can they have been formed, unless to delight the sense of man, to gratify his eye by their gay colours and fantastic forms, and to shew the inexhaustible fertility of that creative power which we recognise every where in Nature. If this be not the object of those countless changes of form and colour which the Orchis tribe exhibits, we shall scarcely comprehend why in this very genus *Oncidium* the lip bears at its base a collection of tubercles which are not only different in every species, but so strangely varied, that

“Eye of newt, and toe of frog,”

are the least singular of the forms that lie cowering in the bosom of their petals; the heads of unknown animals, reptiles of unheard-of figures, coils of snakes rising as if to dart upon the curious observer, may all be seen in the blossoms of the various species, whose very flowers may be likened to unearthly insects on the wing.

ON NUMEROUS SPECIES OF LUPINES.—In the Synopsis of the Genus *Lupinus*, by Dr. J. G. Agardh, that gentleman has described seventy-six certain species, and adverted to seven other kinds of which very little is known.

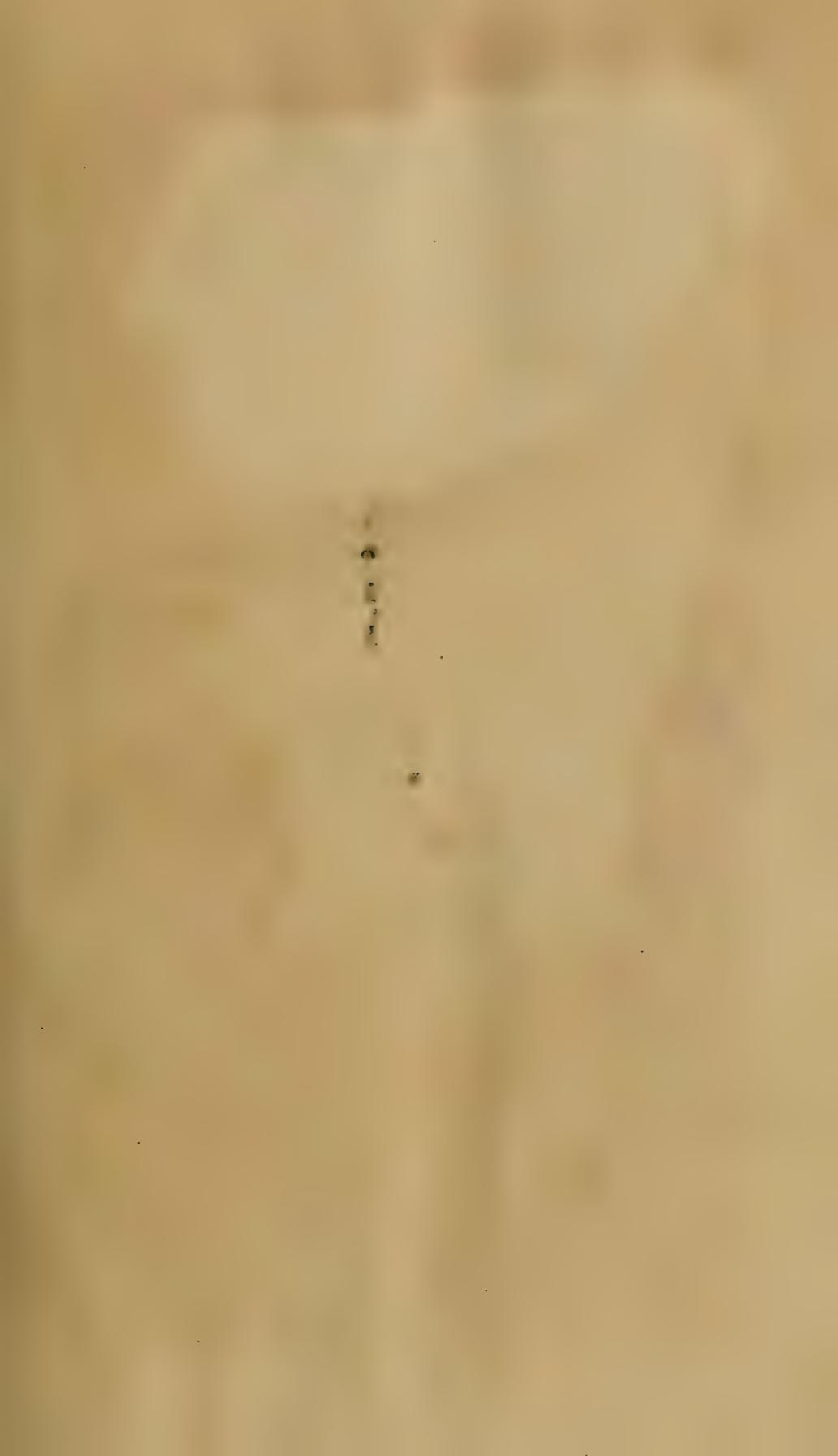
ON CHINESE GARDENING.—The style of Chinese gardening, like other arts, is peculiar; they have no idea of spacious landscape; there is a littleness in all their designs; they have a desire for a small part of every the grandest features of nature: lakes, where a mackerel would be puzzled to turn; rocks which a man may carry away under his arm; aged trees fifteen inches high; and thick forests of pines composed of equisetum. Of whatever extent the ground may be, it is all divided into little squares, parallelograms, or irregular areas of a few square yards or perches. These compartments are surrounded by low brick walls, having a flat coping, on which are placed flowering plants, in fine glazed porcelain pots. The paths are often composed of flat stones, not two of which are on the same level, if near together. A great deal of trellis-work are in the gardens, either appearing like the remains of former fences, or as coverings of naked walls. If a ditch or artificial hollow be in the garden, it must be crossed by a semi-circle arch of four or five feet span. Their little tanks of water are not considered beautiful until they are completely covered with ducks' meat, (*Lemma*); in short, there are so many childish freaks which constitute the beauty of a Chinese garden, that it is astonishing so clever and civilised a people can be gratified with such puerile efforts of unnatural taste. As far, however, as their collections of flowering plants decorate a garden, the assemblage is enchanting. Their Magnolias, Bombaces, Azaleas, Camellias, Ixoras, Pæonies, &c., not to mention the great variety of herbaceous and aquatic plants natural to the country, are indeed magnificent; indeed one of the finest traits of the Chinese character is their fondness for flowers.

REFERENCE TO PLATE.

1. *Marsh's Paragon Dahlia*.—This very handsome kind was raised by Mr. Marsh, Gardener to Sir Bethell Codrington, Bart. The flowers are of a very perfect form, cupped petals. It is a profuse bloomer, comes into bloom early, and has always produced double blossoms; the flowers stand well above the foliage; the plant grows three feet high. We purchased the stock of Mr. Marsh last season. A considerable quantity of very vigorous plants will be offered for sale early this spring.

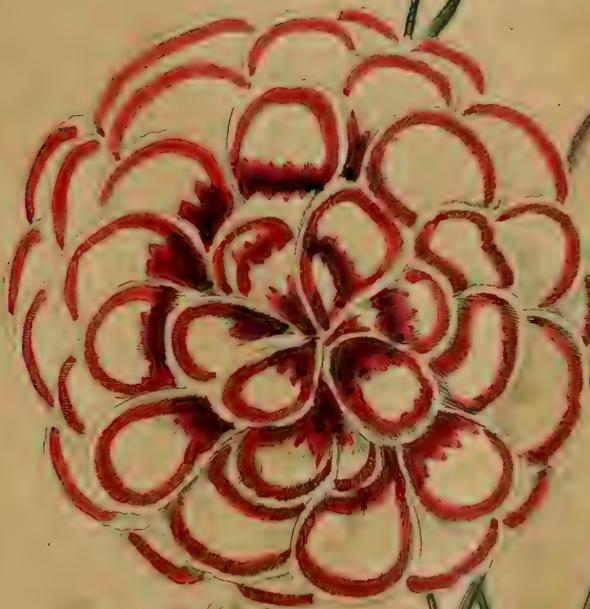
2. *Gardoquia Hookeri*, Dr. Hooker's. *Gardoquia*; Labiate; Didynamia; Gymnospermia. This very neat and handsome flowering plant is a native of South Carolina, from whence it was sent, along with many other valuable seeds, by Mr. Gordon, to Mr. Charlwood, Seedsman, Tavistock-Street, Covent Garden, London. During the last summer, we saw it in the very select collection of plants at William Bows, Esq., Broughton, near Manchester; it was cultivated in a warm part of the greenhouse, and by the very successful mode of culture the plants had, they produced a vast profusion of blossom, and had a most handsome appearance. The plant is shrubby, grows from half a yard to two feet high, bushy, blooming from April to November. The very worthy gardener, under whose management every thing appears to be cultivated in a state of perfection, entitling him to very superior merit, informed us, that to have healthy plants, young ones must be annually raised, (cuttings striking very easily,) and they may be constantly kept in an excited state. The pots had a free drainage, and in a mixture of sandy peat and loamy soil, it flourished in the manner we stated. We understood that the plant was very liable to injury from over-waterings, that especial attention to avoid this was necessary. *Gardoquia*, in honour of D. Diego Gardoquia, Minister of Finance under Charles 4th, King of Spain, a lover of Botany, who greatly assisted in the publication of the *Flora Peruviana*.

3. *Verbena Tweediana*, Mr. Tweedies'. This very handsome flowering plant has bloomed in Scotland during the last summer, where it attracted much notice. Several of our friends who saw it, one of whom says, that it very far exceeds that admirable little plant *V. melindres*, (*chamedrifolia*), the racemes of flowers being much larger, as also the flowers, and of a fine crimson red colour. The plant grows erect, from half a yard to two feet high, blooming very freely. It deserves a place in every greenhouse and flower garden. It strikes readily by cuttings, and grows vigorously in a rich loamy soil.





Geranium



Carnation



Carnation



THE
FLORICULTURAL CABINET,

FEBRUARY 1ST, 1837.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I.

ON THE CULTURE OF THE NEAPOLITAN VIOLET.

BY MR. ERRINGTON, OULTON PARK, CHESHIRE.

I BEG to hand you the following remarks, on the culture of that lovely winter flower the Neapolitan Violet, for insertion in your excellent Magazine, if you consider it worth your notice; for I do not remember having seen anything of the kind in that work from its commencement.

The first part of the process is to obtain early runners, to affect which it is of course necessary to have a bed or patch of established plants in hand—such being the case, commence your operations early in April, by sifting some very fine vegetable mould all over them; of course not choking the plants, but merely to form a receptacle for the fibres of the young runners. In the course of a month, by due attention to watering when dry, &c., (a process particularly necessary,) fine early young runners may be obtained. Prepare them a bed or beds on an open and airy border, (south if possible,) and if the soil be somewhat solid so much the better, as the object is not so much to get an excessively luxuriant, as an early and stiff plant. On this solid sub-soil (if I may so term it) raise a bed six inches above the common level, with soil composed as nearly as possible, of equal parts of fresh loam, inclining to lightness and vegetable soil; by which latter I mean about equal parts of bog or heath soil, and finely decomposed leaf mould.

On this bed prick them out at about eight inches apart each way, and all that remains to be done, while they are in this situation, is to push their cultivation on as fast as possible, by complete attention to watering and weeding. If the weather prove excessively sunny for days together, shading at any period through the summer will be highly advantageous. One thing must be here remarked,—to

wards July they will be getting strong, and of course producing abundance of strong runners: as soon as these become thick they must be thinned with the knife, once or twice; in doing which, let all those that appear long-jointed be cut entirely away, and all such as appear short-jointed and stiff, be retained: leaving finally from three to six, not more, of these stiff and staunch adherents. In the first week of September, if the cultivation has been done justice to, they will be fit to remove into their winter quarters, for what is termed forcing. As to the making up of the frame, fancy must dictate that, as there are so many modes, and each good of its kind: I will, however, just observe by the way, that they are very impatient of heat and moisture, and are full as likely to be "killed by kindness" as lost by neglect. In this, as in most of our gardening operations, nature must be our principal guide. I have tried a small bottom heat of leaves, and have found it to answer well; but this of course requires great caution to watering and giving air, as they are liable to damp off in winter: however, I am convinced that if the runners be obtained and cultivated early they will be best on a cool bottom, say an old melon bed that stood high enough to receive a good body of lining through the winter: in which case the old bed may be pierced through with abundance of holes, both for the escape of superfluous moisture, and for the sake of the heat of the linings penetrating the bed. The soil they are to be planted in should be prepared as follows:—about three inches thick for the bottom, of the surface of an old cucumber bed, taking as much rotten dung, as loam or soil: on this place about three or four inches more of the compost before directed, only adding a good sprinkling of sharp sand, and a little very rotten dung to it. The plants may now be removed, in doing which, take care to obtain as large balls of earth as is possible, the less check they receive the better; and when the frame is planted give the whole a good watering. All that can be done hereafter, is to keep on the lights in all rainy and inclement weather; never suffering them to have a drop of rain, and giving them all the air possible without starving them. As the early frosts begin, let the plants be regularly matted up at nights; as the cold increases, add more mats towards December and through severe weather plenty of hay or litter: I need scarcely add, be sure to keep the frost out. Let it be well remembered that they are very impatient of confined damp, and also of heat:—from 50 to 58 degrees is plenty for them. The slugs are mortal enemies to the blossoms; therefore be sure to keep a few cabbage leaves in the frame, and pick them over regularly every evening or morning. By these means this lovely winter flower may be obtained in the very highest perfection from October to May.

ARTICLE II.—ON FORCING ROSES, &c.

By J. R. Willis, Gardener to the Rev. W. P. Thomas, Drakes Place, Wellington.

As I see no answer to the desire of your correspondent, "A Devonian," in Vol. iv, page 75, on Forcing Roses, I once more intrude on the pages of your valuable work, the *Floricultural Cabinet*.

In giving an account of the plan I adopted with the Roses I had under my care last season, I must observe that it answered my most sanguine expectations; I am, therefore, following the same mode of treatment this present one. I hope at the same time it will meet the wishes of "A Devonian."

I pot the plants the latter part of August in the compost and same sized pots I recommended in Vol. ii, page 3 of this work. Having but one plant stove, which is about 40 feet long by 15 feet wide, I take a common cucumber frame, putting some rotten tan into it, in which I plunge the pots, (but I should have named, that before I put them into the frame, they are pruned back to two or three eyes,) I then put a strong lining of hot dung, as recommended by Mr. Wood, in Vol. ii; and put on the lights directly, having some very thick reed mats made for the purpose, I cover the lights with them; they remain covered in this manner about a fortnight when the buds will all have broken. I take the mats off and let them have all the light I can so as to bring them to their colour, which they will attain in a few days. I then remove them to the coldest end of the plant stove, which I keep now at 75 or 80 degrees; I keep them to this situation about a week, when I remove them on a trellis to the front of the house, towards the end where the heat first enters, where I keep them moderately moist at the roots, and occasionally syringe the tops. It is almost needless to add, that the time for putting them into the frame can only be governed by the time they are required to be in bloom, which I find to be about six or seven weeks from the time of putting them in the frame. In answer to the question, "Whether it is possible to have fine forced Roses late in December and January?" I reply, that I have forced them so as to have them in bloom at Christmas, but the flowers were never so fine, neither do I find them to bloom so freely as those which come in flower in February and March; in fact I have had them in February and March little inferior to those in the open air. With respect to whether "They will bear removing to a conservatory after the blossoms are produced, &c.?" I answer, they will remain in flower much longer than if kept in the stove, but I find that the buds that were just formed when they were taken from the stove will turn yellow and drop off; they are not so liable to fall when kept in a warm room in the house; I have had them in the house for more than a week, and then removed them back to the plant stove, and opened the buds already formed, but they certainly feel a check, as they were not so fine as the first. In answer to the question concerning "Moss

and Province Roses?" They both force remarkable well with me, and produce a great number of flowers; the only difference I show them in treatment from the others, is, they are syringed rather oftener than the other sorts. The Roses I principally force, are those here named, they may not be considered the best by some, as I am aware that the different growers have their fancy sorts for the purpose of forcing Moss crimson, Moss scarlet, Province, Crimson perpetual, Gloire de jardins, Lee's perpetual blush, Yorkshire province, Indica Ochroleua Noisette, Smith's New Yellow Noisette, Charles 10th—These are the sorts I most admire for the purpose of forcing, not forgetting the one recommended by Mr. Wood, viz., Rose du Roi. With regard to "The height the Dog Rose stock should be, to show the flowers to advantage?" I should say, in answer, that the height in some measure depends on a persons own fancy, but, however, my opinion is, the dwarfier it is the better.

The Persian Lilac should be taken up or repotted as soon as the leaves are off, and potted in a sandy loam, in pots sufficiently large to contain their roots when potted; put them in some convenient and sheltered place, until the latter part of January, then put them in the stove, and keep them moderately moist. *Hydrangea hortensis* may be forced just in the same manner.

The greatest beauties we can add to a conservatory in spring, are, in my opinion, Rhododendrons, Azaleas, and Kalmias. Those I force are Rhododendron ponticum, Do. Smithii, Do. Cunninghamii, Do. arboreum, Do. Catawbience. *Kalmia latifolia*. Azalea Indica alba, Do. phœnicea, Do. Smithii, Do. pink, Do. blush, Do. white, Do. yellow. These should be carefully taken up with good balls, disturbing the roots as little as possible, and put them in pots large enough to contain the balls. The time I pot them is in November—I do not recommend their being brought into the forcing-house until after Christmas, when they will begin to push directly; the only treatment I use, is keeping them moist and syringing the buds.

Dec. 6th, 1836.

ARTICLE III.—ON DESTROYING THE WIREWORM.

BY C. S., PLUMSTED HALL.

A "Subscriber and Constant Reader" mentions in the *Floricultural Cabinet* for October, 1836, that a friend of his had lost, in one season, an extensive collection of Dahlias owing to the attacks of wireworms. The same circumstance is very prevalent in those counties where the cultivation of hops are general; and the method adopted by a very clever grower of these plants is, to have five or six slices of raw potatoes placed among the loose mould which surrounds the plant you wish to preserve. In a short time the slices of potatoe will be quite filled with the worms, when it is advisable to employ women or children to take up the slices of potatoe and put down fresh ones.

In the hop ground I saw, one of the slices of potatoe alone contained twenty wireworms, and by examining one slice of potatoe it will be easily discovered when they require to be replaced.

ARTICLE IV.—ON THE CULTURE OF THE PRIMULA SINENSIS.

By Mr. Plant, Gardener to S. H. Haslam, Esq., Chesham, Bury.

It may not be unacceptable to some portion of the readers of your *Floricultural Cabinet*, to be informed of a mode of treatment in order to bloom the *Primula Sinensis* in its best perfection, and at its proper season.

The compost I make use of consists of rich light loam and peat soil in equal parts.

The seed is sown in the month of May, in a pan lightly covered and placed in a cold frame. When the plants have formed their two first rough leaves they are transplanted singly into pots of sixties; when their roots have filled these, they are then removed into forty-eights, and afterwards into thirty-twos, keeping them in the same situation, and finally into twenty-fours when removing them into the greenhouse in October. It is necessary in all the pottings to give a good drainage of broken crocks or cinders.

The *Primula Sinensis* and its varieties, treated after this manner, form a desirable addition to the greenhouse and conservatory during the winter and spring months, afterwards they may be planted into the open border or thrown away, as it is requisite in order to have good blooming plants to sow the seed every year.

ARTICLE V.—ON CULTIVATING THE ERYTHROLENA CONSPICUA
BY SCARLET THISTLE.

My pleasure ground is laid out with small clumps of different shapes, one clump is planted with white dahlias, another with yellow and so on. I am fully convinced that by having each clump planted in this manner, the superiority of one flower over the other is more fully seen and the effect more striking.

The clump next to the one planted with white Dahlias I had planted with *Erythrolena conspicua*, and I do assure you the effect was most beautiful. The plant is of very easy culture; I recommend the seed to be sown under a hand-glass in March, and when the plants are three or four inches high, to be placed singly into pots, and kept in a frame until the middle of May, when they may be turned out of the pots into the clump. The soil I find them to thrive the best in, is a rich loam. I have had plants this season from five to seven feet high, and completely covered with fine large bright scarlet flowers. Should you consider this worth noticing, you shall hear from me again.

ARTICLE VI.

ON THE TREATMENT OF THE ERITHRYNA LAURIFOLIA.

BY G. H. S.

THE *Erythrina laurifolia* was introduced into Britain in the year 1800, from South America, and is generally treated as an inhabitant of the stove and greenhouse only, which on trial is found to grow and flower most beautiful when planted out in the open air with other exotics from the same country; using a compost of peat, sandy loam, and decayed tree leaves, well chopped and incorporated together, but not sifted. If planted in spring, head it down almost to the surface of the ground, and place a hand-glass over it, keeping it close until all the buds are broke, then admit plenty of air in favourable weather; on the hand-glass being removed, the young shoots must be well secured, in case of wind, as they are very apt to break, if not supported. If treated as above, it will have a fine green foliage intermixed with its beautiful scarlet blossoms from July to September. When it has done flowering, it may be headed down and covered with tree leaves for the winter, or all the shoots tied together, and then rolled up with hay-bands, and in spring treated as before directed.

ARTICLE VII.—ON THE CULTURE OF THE AURICULA.

By James Sheppherd, Nursery Seedsman and Florist, Winchester.

I HAVE for the last ten years practised growing Auriculas, and followed Mr. Emerton's plan, laid down in his Treatise, for several years; but loosing so many plants, year after year, convinces me that his compost is too hot, which induced me, three years ago, to try a fresh compost, and it proved very successful. My plants this year completely cover the pots with leaves, which have from twelve to twenty-two leaves, with trusses, from nine to twenty-two pips.

Good soil and good management, as Mr. Emerton observes, is not easily beaten, although I differ with him in many respects; as for instance, I do not use exactly the same soil, nor keep my plants under glasses in the winter, neither keep them in the same situation when in bloom. The situation in which I keep my plants for the four winter months, viz., October, November, December, and January, is under a shed, in a full south aspect, where they can enjoy all the sun. Observe to keep them tolerably dry; the beginning of February I top-dress them and put them under glasses, but giving them all the air I possibly can, and also to keep the frost from them; I manage to keep them as warm at night as in the day, for this being their growing season, they like to be kept at a regular temperature, if not, they will become more or less chilled, and not bloom free. The situation in which I like to keep them, when in bloom, is in an east aspect, letting them have the sun till 8 o'clock in the morning, after which, I shade

them with very thin mats till the sun is gone from them: if put to a north aspect, and some of the pips not quite blown out, they will be chilled and never open free. Remember I do not keep them too warm when in this situation, neither let the cold nights chill them. If auriculas have too much water they will become *sickly* and turn yellow, which was the case with four or five of mine last spring in letting them have too much rain. The compost must be rich, light, and sweet, and when you are potting your plants never press the mould too hard about the roots, nor on any consideration over pot them, as this family of plants, like many others, will not thrive well until the roots touch the pot.

Before I changed my compost I lost from ten to fifteen plants every year, but for the last three years I have been very successful and only lost one, Taylor's Ploughboy,—which by some neglect the old soil had not been removed from it, and had diseased the plant in the trunk, just under the surface. About the latter end of May, when the bloom is over, I remove them to their summer situation, which is shady, as they thrive better in the shade in the summer months, until the end of September, but by no means under the droppings of trees. Observe, I take off all the offsets when I top-dress them, which I consider the best time, as the auricula at this season (February) makes considerable progress, and whether the offsets have roots or not I take them off, provided they are large enough. I plant four offsets in pots called forty-eights, in which they will take root very freely, not letting them have too much sun; in about two months they will be fit to pot off in the same size pot above named.

I herewith send you some new varieties of seedling auriculas of my own rearing, which I trust will be found worthy of your notice.

If the lovers of auriculas should like any of No. 1, 2, and 3, they can be obtained by taking the three varieties at 18s. 6d. per plant, on application, post-paid.

Plants will be ready to send out in August next. I beg to state that the above sorts are free growers, and most excellent trussers, from fifteen to twenty-two pips.

[The blooms were so damaged in conveying as to prevent us taking any drawing of them.—CONDUCTOR.]

(Continued from page 10.)

ARTICLE VIII.—ON THE CULTURE OF PINKS.

BY A PRACTICAL GARDENER.

BE not impatient about your suckers taking root; but if by the tenth or twelfth of September, you see that nature has not had strength enough to operate in them, put your pots into hotbeds, and be careful to cover them with glass-bells.

Never did any author enlarge so much upon nothing, as he that wrote the culture of Pinks has done upon this article: he has carefully enumerated every particular, even to the minutest circumstance of things, that he imagined only might happen: in short, he has forgot nothing, yet all he says is, for the most part, empty words that prove nothing.

To make a mixture of earth proper for Pinks, that naturally love the cool; take one third of good kitchen-garden earth, one third and a half of mould, and half a third of yellow earth; sift them well and mix them all together. When this composition is made, take pots of a middle size, which are wider at top than at bottom, so that whenever you think fit, you may the more easily take your Pinks out of the pots: fill them with this earth; press it down a little, to hinder it from sinking down too much of itself, as it otherwise would: and when you have filled them thus with the earth to within an inch or better of the brim, fill them up quite with mould taken from an hotbed.

Having done this, go to your suckers, take up the little hook that holds them fast, and if you find they have taken root, divide them from their stocks, by cutting them with a knife or some such like instrument, as near as you possibly can to their stalk: take care that the two shanks of your suckers, which are the lower parts of them that spread themselves abroad, by reason of the incision which was made on them, and to which the little fibres adhere, be always of a like length; gnaw off the ends of the leaves. This is a method which has been hitherto constantly practised.

Having exactly followed these instructions, take it for a certain rule, that the true time to plant the suckers, is towards the beginning of October; and when you have divided them from their stocks, and have nothing more to do, but to put them in pots, observe the following method of doing it:

Take your suckers, that are prepared in the manner I named, hold one of them in your left hand; with your fore-finger make in the middle of your pot a hole large and deep enough to contain your sucker; put it in, and fill up the hole; press down the earth upon the suckers, water them, and when you have planted them all in this manner, carry your pots into the shade: leave them there for ten or twelve days, which is the usual time in which we suppose them to have retaken root.

The safest way to govern plants is, always to have regard to their constitution, and to the places from whence they draw their first extraction. The Pink comes from a temperate climate, and accordingly desires but a moderate sun. Therefore, when the ten days the suckers have been in shade are over, take them from thence, and place them in an easterly aspect, which agrees with them the best of any.

This Pink is not very sensible of cold, therefore, be not afraid to let it weather out the first frosts: we see a great many endure the

winter in the naked earth, and come to no damage. Not that I advise you to leave your pots exposed in this manner; that would be too much neglecting a flower that deserves a particular esteem.

As soon, therefore, as the frosts begin to pinch, let all your pots be carried into your conservatory, if you have one; and if not into a chamber or some other place, where they may be sheltered from the rough violence of the air.

If the winter be mild, and consequently the earth in the pots that are in the conservatory should grow too dry, it will not be amiss to give them a little water, drawn fresh from the well, or some other place of that nature: but if it freeze, or if there be any likelihood of frost, you must not do so on any account; for to water them, would do them more harm than good.

There is no animal more dangerous to Pinks than rats; you must, therefore, be very watchful that they do them no mischief, and make use of all the means which have hitherto been invented to destroy them.

There can be no fixed time prescribed to take the Pinks out of the conservatory, for the end of the winter must determine it; though about Easter we see the florists generally set them out in the air, but in a place of shelter from the hoar-frosts, to which the season is still subject, and where the sun never comes: for plants, that have been as it were imprisoned, must be accustomed by degrees to endure the open air, otherwise they will be suffocated by it, and die away.

If there be any leaves on the Pinks, that seem to be rotten, you must be careful to take them off, which must be done by pulling, or cutting them off as close to the stem as you possibly can.

When the Pinks have been for some little time in a place like that I have described, you must carry them to another, where they will thrive, and grow better; that is to say, you must set them in the easterly aspect, which is favourable to them; though I have seen some exposed to the south, that have done very well, and that grew in a short time by the help of frequent waterings; but the water ought always to be warmed by the sun.

These waterings should never be given them till after sun-set; and always with a little watering-pot, that the water falling gently on them like rain, may not beat down the earth: as to the quantity of the water, it must always be left to the discretion of the florist, to give them as much or as little as he thinks fit.

When the pinks begin to spindle, they require a little more care from him that looks after them, than they did before: for we then take little hazel-sticks, of about the size of the little finger, the bark of them being stript off, set them at the foot of each spindle, and tie them with a small rush as fast as they rise up: for without this prop, the stem, which is naturally weak, would not be able to support the flowers it produces, but would be apt to grow very crooked.

The stock of a pink sometimes shoots out mounters from all its slips, which is an inconvenience we ought carefully to avoid: therefore carefully take off some of them, by cutting the stalk to the second joint.

The frequent waterings given to pinks, and that beat down the earth, together with the heat of the sun that dries and hardens it, obliges a florist to turn up the surface from time to time: and we may affirm, that each time he does so, he will find a visible advantage by it: after which tillage, we always give it some new mould taken from a hot-bed, as well for neatness sake, as for the benefit the pink gives by the addition of new salts, which penetrate into the plant, whenever we water it.

The pink is a plant that requires more assistance from art than any other; it often produces buds we wish it did not: and when we perceive this hurtful fruitfulness, we must not omit to ease it of the burthen, as much as we judge convenient; especially when two grow aside one another, we must be sure to take away one of them: for in the affair of pinks, we ought to be more desirous of beauty, than of the great number of flowers.

The buds we take away are always those that grow nearest the foot of the pink; and we must shew our judgment in this operation; that is to say, we must take away from those that want nourishment, than from those which grow naturally large, on which we are sometimes obliged to leave all of them, because they are subject to burst.

In regard to the Pinks that burst, we must, when we have any that are subject to do so, tie the bud, and shift it a little on the side where it bellies out: the large and short bud, we ought mostly to suspect.

When the Pinks are in flower, we should consider whether nature has disposed all things in a manner, so just in all its proportions that we may say, this is a beautiful Pink; and in defect hereof, we must comb such as require it; the manner of which is as follows:—

Wash your hands clean, and wipe them very dry, take your ill-shaped pink and bend down the top of the husk, shifting it a little; take notice which leaves of your Pink are out of order, and with your hands dispose them in the most beautiful order you can: after this you will see the difference there will be between the first disposition and the second.

All persons that are truly curious, when they have any Pinks that burst, and which by reason of that accident cannot keep their flowers in due order, make use of a piece of pasteboard, cut round, and a hole made in middle, not larger than the size of the pink, and this they place just under the leaves of the flower, which they put into their due order: this gives it a beautiful aspect, and makes it grow to a wonderful size.

The Pinks that are in pots are generally set upon boards, that are laid upon trestles, and when they are placed to advantage, they claim the admiration of all that see them.

When your Pinks are in flower, whether they grow in the naked earth or in pots, you must take care to cover them; for their flower is so delicate, that the sun withers it away in little time, and the rains will take off all their lustre: therefore, they that raise up Pinks, must make use of what expedients they think fit, to preserve them from these injuries.

There are some, who, to make the flowers of their Pinks last the longer, carry them into the shade: this is a very good method, and may be followed if you think fit.

The pink is a plant, that from its root shoots out leaves, that are long, narrow, hard, thick, and of a bluish green; from the middle of which grow stalks that are hard, round, and knotty from space to space; at the top of which are flowers of many leaves and various colours, supported by a long and pipe-like cup. From the middle of the cup rises up a chive, that in time becomes a cylindric and membranous head, opening at the top, wrapped up in the cup itself, and filled with a small flat seed, of a black colour, and that comes to maturity, by setting the pink in the same place where it was when it began to blow.

When you would furnish yourself with a stock of pink-seed, you must always make choice of the most fruitful, and the most inclined to bear seed; which a florist, who applies himself ever so little to the culture of his pinks, will easily distinguish.

After having given rules for the culture of pinks, as also the description of them; and told how and in what place the seed is formed, I believe it will be proper to set down in this place the qualities that render it a beautiful flower; to the end that he who cultivates it, may know perfectly well on what he bestows his labour.

A pink is reckoned beautiful when it is large, has a great many leaves, and forms as it were a sort of little dome.

When it is of a clear white, without any mixture of carnation; when its leaves are even at the edges, and not jagged, all of them round, and not sharp-pointed.

The more variety of colours a pink has, the more it is esteemed; especially when the colours are well divided, and not in the least imbibed.

The most beautiful variegation that can be on a pink, is always that which reaches from the bottom to the top of the flower; and when besides these advantages that please the eye, Nature has favoured it with a regular disposition of its leaves; or that we, in defect thereof, have ranked in due order ourselves. A pink, in which all these qualities meet, deserves the labour we bestow in cultivating it; and we have reason to be fond of it, on account of its excellence.

THE DISEASE OF PINKS.—Pinks are subject to certain diseases which are easier to prevent than cure: they are rottenness, and the white disease.

The rottenness is prevented by avoiding to give too much water, and by cutting to the quick the part that is unsound, before it is quite tainted, and covering it over with a dry and light earth.

In regard to the white disease, we preserve this flower, by not keeping it too dry; by not placing it in a situation that will be to hurtful to it: and in short, by preserving it from the fogs, which infect it to that degree, that they throw it into a disease which kills it without remedy.

Take care not to place your pinks in any plots of the garden, where there are other flowers of the large kind: whose beds filled with them, afford in the season a very beautiful prospect: but it is always best to raise them in pots, to adorn an amphitheatre made on purpose to receive them.

ARTICLE IX.—REMARKS UPON GREENHOUSE SPECIES OF ACACIA

BY A FOREMAN OF A LONDON NURSERY.

THE volumes of the *Floricultural Cabinet* contain numerous valuable articles on the treatment of various flowering plants, but it appears to me that those individuals who have favoured us with the excellent remarks on each kind, have generally directed their attention to such plants as required a lengthy article upon them. For such I am sure the readers of the *Cabinet* are much indebted, but there are many, very many, beautiful flowering plants which have not been noticed, they highly merit it; and though no lengthy remarks are necessary, I think it would be equally acceptable if a few short observations upon them, as to the particulars of the plant, its culture, so as to keep it healthy, and bloom profusely, &c., were given. I believe many of the readers of the *Cabinet* have hesitated to communicate useful information, merely because the observations they had to make upon a plant, or plants being few, they would not therefore be interesting or useful, but I am sure the more simple the means, the more condensed the remarks, the more acceptable to us. I hope therefore those readers who have practical knowledge of any beautiful flowering plant, hardy or tender, will favour us with information. To commence with, I herewith send a few remarks upon two genera of plants of which no notice has been taken in the *Cabinet*, they are the greenhouse Acacias, and Mimosas. I have included the two, because many of the kinds formerly Acacias have been transferred to the Mimosas, and others of the Mimosas to the Acacias. And considerable confusion prevails through the country as to their identity. But whether they are now designated Acacias, Mimosas, Ingas, &c., there is a natural identity in the class of plants and I refer to them as a whole. The plants are profuse bloomers, very showy, most of the kinds produce yellow flowers, some white and others pink: most of them are very fragrant, as the well-known *Mimosa paradoxa* or *Acacia armata*.

They generally produce their lovely blossoms during the early spring months, hailing the return of that delightful season with presenting an array of beauty, and affording a delightful gale of perfume. The greater portion of this ornamental tribe of plants are from New Holland. They are generally very free growers and of easy culture. I find them to grow vigorously in equal parts of good rich loam and peat, having a quantity of Calais sand mixed therewith. I use a good portion of drainage in the pots, and give the plants plenty of pot room. This latter attention is necessary as the plants root so very rapidly. In a soil as above described and giving a good drainage, a very free supply of water is required, I always take care to let the soil be dry before I give a fresh supply of water. I shift the plants into larger pots immediately they have done blooming, they then push freely those young shoots which are the blooming ones for next season.

I would add a list of kinds here, but I think it unnecessary to do so, as each kind are graceful in form, and beautiful in flower, and merit a place in every greenhouse or conservatory.

Many of the kinds strike root freely from cuttings, taking the young shoots, I strike them in sandy loam, the greater portion being sand, and place them where they get a little bottom peat. Those kinds which I find do not root readily from cuttings, I have struck from portions of the roots, inserting them, &c., as done to shoots, leaving out the top part of each about an inch. I have never failed to raise plants of any of the sorts by this method. I always cut the lower portion of the root in a transverse direction close under an eye. If this plan of striking was adopted with most kinds of greenhouse plants, it would be found to succeed better than by taking shoots. The roots not being liable to damp off as the shoots often do. I shall continue to send a few remarks upon plants for each successive number of the *Cabinet*, if it meet the approval of the conductor.

ARTICLE X.—ON THE TREATMENT OF THE HOYA CARNOSA.

BY PRIMULA SCOTICA.

NOT having observed any reply to your Correspondent's question respecting the treatment of the Hoya Carnosa, I send my gardener's mode of treatment, which always succeeds admirably. He uses a mixture of sand and heath mould, and during the colder part of the year, keeps the pots in the hothouse. Those plants of the Hoya Carnosa that are propagated by planting the leaf, are long in producing any stem; and it is better to procure a good offset, and lay it spirally in a pot containing the above mixture, when a fine plant is rapidly produced. This waxen-flowered plant shows to-advantage trained along a rafter, or against a trellis, and requires the free access of air and light.

ARTICLE XI.

ON THE REPOTTING OF GREENHOUSE PLANTS, &c.,

BY A PRACTICAL GARDENER IN STAFFORDSHIRE.

ON account of the variety and number of greenhouse plants, it is rather difficult to reduce them to any one certain rule; not only because they are less expensive, and consequently more cultivated, but also that our milder climates, are found to produce plants in greater abundance than the *Torrid Zones*.

Therefore the business of shifting is, in general, a weighty concern. To be enabled to execute this business with regularity, every preparation should be previously made, and the different sorts of mould laid up in a shed; as well to keep them from becoming too wet for use by sudden showers, as from getting too dry by the action of the sun, or arid winds which may be expected at this season. Also on wet days (if nothing more urgent is to be done) let a quantity of old broken pots be made small, to serve for draining to the tenderer sorts; the coarse siftings of peat being sufficient for the stronger growing kinds.

Things being thus in readiness about the middle, or end of May, the general shifting should be commenced: in order to which, let some of the plants be carried to the shed, and carefully proceeded with in the manner already directed for hot-house plants; observing, above all things, not to injure the roots, but gently to loosen them with the hand in such manner, that the mat of roots, which is generally formed on the outside, may not remain entire; whereby they will soon strike into the fresh mould that encompasses them.

Green house plants for the most part require a considerable share of pot room, as many of them are very free growers; but still great caution is necessary, to avoid over potting the tender weak growing kinds. When shifted, let them be tied up if requisite, and well watered. It will be also necessary to shade them for a few days from the influence of the sun and winds, until they are perfectly established in the fresh mould. Any dead or ill-grown parts can now be with propriety cut away, so as to give the heads a regular neat appearance: by observing this process, it will be found, that though a temporary check may be the consequence, they will soon flourish and do much credit to the operator by their healthy appearance and progress.

It being mentioned that shelter, and occasional shade is necessary for a few days when they are first placed in the greenhouse, I must add, that should the weather prove dark, and cloudy, this work may be omitted: however, if hot sunny weather ensue, it will be indispensably necessary; and also, to water them twice, or thrice a day when first potted, observing to wet the leaves as little as possible.

By the middle of June, it will be time to think of preparing the out-door departments, in which it is intended the plants should stand during the summer months.

The most eligible situations for this purpose are, the north aspect of vacant walls, or hedges, where they will be a little shaded from the noonday sun, or between rows of close hedges particularly planted, and solely appropriated to this purpose. I can by no means espouse, or recommend the practice, of setting them close under the shade or branches of large trees; as the plants are thereby inevitably drawn into a weak state in a few weeks, and those who adopt such situations, are not unfrequently under the disagreeable necessity of throwing away many, of perhaps their most rare plants, every Autumn; and even those that remain will have a bad unsightly appearance. Indeed shelter from the winds, is the great desideratum, to prevent their being upset, for in my opinion, most greenhouse plants are fond of the warmth of the sun, except when recently potted, provided their roots are kept moderately moist. Let us look for a moment to the arid mountains of the Cape, and there we shall find them exposed to its full glare, and perhaps without water for months: their roots however can penetrate deeper there than they can possibly do in pots, so that life is preserved, and as soon as the periodical rains commence, they resume in a very little time their verdure, and, "breathe their balmy fragrance all around."

Some gardeners' practice is to plunge them amongst the shrubs and flowers of the pleasure ground; this answers pretty well with the strong growing kinds; such as myrtles, geraniums, coronillas, &c., old plants or supernumeraries that will not be wanted to house in the autumn: and even has a very pretty effect when judiciously done; but it will by no means do for the tenderer species. Therefore, upon the whole, the most unexceptionable situations, are such as at the same time afford a moderate portion of shade, and are so situated, as to break the force of those strong gales, which frequently blow in the summer, and early autumn months, and yet allow that free circulation of air so necessary to the well-being of plants in general, and at all seasons. Having fixed on the place they are to stand, it must be thoroughly cleared from weeds, and the hedges, if any, neatly clipped. It should then be well rolled, to make it perfectly firm and level, over it a layer of good lime, slacked, and made into the consistency of thick white wash, should be poured, and allowed to soak into the surface: this I recommend as being a strong preventative against worms getting into the pots; which is always injurious to the plants. When this is dry, let about an inch of finely sifted coal-ashes, be regularly laid on, and firmly rolled a second time.

Being thus prepared, the plants may be brought out and set regularly and level on the surface; in whatever form may best suit the situation, or the fancy of the proprietor, even on this subject a few observations may not be unnecessary.

Therefore in placing them, it should be endeavoured to give them a loose, easy, but yet judicious manner; which is by far more handsome

than the stiff, shorn-like front, admired by some: any plants that may be in flower, should be placed in conspicuous situations, but not so as to make the clump look in the least tawdry; simplicity and neatness are the principal objects to be considered, in this, as well as the other decorations of the flower garden: another circumstance to be remembered, is, that now as their summer growth commences, it will be necessary to allow each plant, sufficient room to spread according to its natural habit of growing; and also to be careful, that the curious tender sorts, (which are frequently the most valuable,) are not crowded by the large free growing kinds. Indeed they should be set, as well as heaths, in a separate clump as they lose a good deal of their interest, by being confounded with large shewy plants that attract the eye, at the first glance, from the more delicate and minute, but to many not less attractive species.

Should the weather prove dry when they are thus set in their clumps, they must be freely watered; particularly in the afternoon, when the sun has nearly ran his course. A good washing also with an engine, or syringe, at times in the absence of the sun, will be of considerable service to them; but if any individual plant should at any time become too wet, let it be placed apart from the rest, and not watered again until it evidently requires it: this is a circumstance which I shall have occasion to mention hereafter; all that is necessary now, for a few weeks, is to pick off dead or withered leaves, and weeds of every description; and a regular attention to the directions already given.

PART II.

LIST OF NEW AND RARE PLANTS,

Noticed since our last.

1. *BURLINGTONIA CANDIDA*, Snow-white flowered. (Bot. Reg. 1927.) Natural Order, Orchidaceæ; Linnean Class, Gynandria; Order, Monandria; Synonym, *Rodriguezia candida*. A truly delicate and handsome flowering species of this most interesting tribe of plants. It has been introduced from Demerara, by R. Bateman, Esq., in whose superb collection it bloomed in 1835. The flowers are produced upon a pendulous raceme, that which bloomed at Mr. Bateman's produced five flowers. Each blossom is about two inches long, of a snow-white transparency, having the tip slightly suffused with a sulphur colour. The genus consists of five charming species, viz., *B. candida*, *B. fragrans*, the flowers are produced upon an upright raceme which are delightfully fragrant, having the perfume of Jonquils or Narsisus's. It is a native of Brazil, where it is found growing upon the loftiest branches of the Cedrela tree, and the flowers are produced in vast profusion, their fragrance is so powerful as to give a delightful perfume to a considerable extent around it. *B. rigida*, found in Brazil, producing its flowers in a long, stiff, erect raceme, the summit of which is terminated by a cluster of five or six blossoms, of a largish size, they have the delightful fragrance of violets. *B. rubescens*, a native of Peru, where it is found growing upon the trunk of the Calabash tree, the flowers are produced upon an upright raceme, of a beautiful white, spotted with rose colour. They are produced most abundantly, and in blossom nearly all the year. *B. venusta*, a native of Brazil, producing its lovely flowers upon a pendulous raceme. They are of a snowy-white, slightly suffused with pink. The plant blooms so profusely as to be literally loaded, bending beneath the heavy clusters. *Burlingtonia*, named in compliment to the Countess of Burlington.

2. *DELPHINIUM TENUISSIMUM*, slender-branched (Brit. Flow. Gard., 366.) Ranunculaceæ; Polyandria Trigynia; Synonym, *D. divaricatum*. A hardy annual *Larkspur*, a native of Greece, near Athens. And has bloomed in the Chelsea Botanic Garden. The plant grows about a foot high, much branched, producing medium sized blossoms of a rich purple colour. *Delphinium* from *Delphin*, a Dolphin; the nectary is supposed to resemble that fish.

3. *EPIDENDRUM CRASSIFOLIUM*, Thick-leaved. (Bot. Mag., 3543.) Orchidaceæ; Gynandria; Monandria; Synonym; *E. ellipticum*. A native of Rio Janeiro, producing erect spikes of rose coloured blossoms, making a showy appearance. Each blossom is near an inch across. This species has been figured in Loddiges' *Botanical Cabinet*, under the name of *E. ellipticum*, and which Dr. Lindley refers to his *E. crassifolium*; Sir W. Hooker is of opinion that they are not the same species, the former being a native of Brazil, and the latter of St. Vincents. *Epidendrum* from *epi*, upon; and *dendron*, a tree; the native habitation.

4. *HEUCHERA CYLINDRACEA*, Cylindrical. (Bot. Reg., 1924.) Saxifragaceæ; Pentandria, Digynia. A hardy herbaceous perennial plant, a native of North America, where it grows in dry mountain woods. The flowers are apetalous, produced upon a small panicle. The species was discovered by Mr. Douglas. *Heuchera*, in compliment to J. H. Heucher, professor of Medicine, Wurtemberg.

5. *HIPPEASTRUM AMBIGUUM*, var. *longiflora*; Knight's Star-lily. (Bot. Mag., 3542.) Amaryllideæ; Hexandria; Monogonia. This very splendid flowering species has bloomed in the Glasgow Botanic Garden. It was sent there from Lima, by J. Maclean, Esq. The scape contains several blossoms, each being as large as the common white lily of the gardens. They are white, veined, streaked with red, and greenish towards the bottom of the tubular part of the flower.

ISMENE AMANCAES, Narcissus flowered. (Pax. Mag. Bot.) Synonym, *Pancratium*; *Amancaes*; *Amaryllidea*; *Hexandria*; *Monogynia*. A native of the hills of Amancaes, near Lima, in Peru, where it grows in vast abundance, producing a profusion of its fine yellow flowers. It was introduced into this country in 1804. It merits a place in every stove collection of Liliaceas plants. The plant grows about two feet high, sending forth a scape near a yard high, containing several flowers, each about six inches long, delightfully fragrant. The limb portion of the blossom is about four inches across. It is cultivated by Messrs. Rollinsons, Tooting Nursery. *Ismene*, after Ismene, daughter of *Cedipus*.

7. **LILIUM PEREGRINUM**, Narrow sepalled white Lily. (Brit. Flow. Gard., 367.) Liliaceæ; *Hexandria*; *Monogynia*. An old inhabitant of the gardens in this country, but which has nearly disappeared. It is, however, cultivated in the very select collection of R. H. Jenkinson, Esq., Norbiton Hall, Kingston, Surry. The flower stem rises about a yard high, terminating in a spike of ten or twelve flowers. They are campanulate, drooping, of a pure white. Each flower is about three inches long.

8. **ŒNOTHERA FRUTICOSA**, VAR. **AMBIGUA**. Shrubby Evening Primrose. (Bot. Mag., 3545.) Onagraria; *Octandria*; *Monogynia*. Dr. Hooker describes the following varieties, viz.:—*O. fruticosa vera*, *O. f. ambigua*, *O. f. phyllopus*, *O. f. incana*, *O. f. Frazerii*, *O. f. linearifolia*. *Œnothera fruticosa*, is a species, widely extended throughout North America, from Canada to Carolina; but so variable in its foliage and hairiness, as to have suggested the idea of their being the several species above enumerated. All of them are handsome border flowers, producing yellow blossoms, which continue for a long time. Any of them would be ornamental to the flower garden.

9. **ONCIDIUM CRISPUM**, Curled flowered. (Bot. Reg., 1920.) Orchidaceæ; *Gynandria*; *Monandria*. This very singular and noble-looking species is a native of Brazil, and has bloomed in the fine collection of Richard Harrison, Esq., Liverpool, Messrs. Loddiges's, and others in this country. In its native habitation, on the Orgean mountains, in Brazil, it has been found that a single stalk produced from fifty to sixty flowers. Each blossom is two inches, or upwards, across, of a dark chesnut-brown colour, most singularly handsome, being unrivalled in its tribe. This very interesting genus abounds in the tropical parts of America, and are found growing profusely in the highest mountains. One species, *O. nubigenum*, has been discovered, where the air is nearly freezing, on the mountains of Peru, at the elevation of fourteen thousand feet above the sea. There are many handsome flowering kinds already introduced into this country, some of which are but of recent importation. One species, *O. ornithorhynchum*, a native of Mexico, produces flowers of a beautiful rose colour. *O. lunatum*, a beautiful little species from Demerara. There have been many other fine species discovered which have not yet been sent to this country, viz.:—*O. macranthum*, from Guayaquil; *O. pictum*, from Peru; *O. tigrinum*, from Mexico; *O. deltoideum*, from Peru; *O. gracile* from Brazil; *O. isopterum*, from Brazil; *O. leucochilum*, from Mexico; *O. lunatum*, from Demerara; *O. maculosam*, from Brazil; *O. Martianum*, from Brazil; *O. ramsum*, from Brazil; *O. reflexum*, from Mexico; *O. ramiferum*, from Brazil; *O. retusum*, from Peru.

10. **POTENTILLA THOMASII**, Thomas's Cinquefoil Roseaceæ. (Brit. Flow. Gard.) *Icosandria*; *Polygynia*. This is far the handsomest of the yellow flowered kinds. It was discovered by M. Thomas, a botanical collector, on Mount Polline, in Italy. It is cultivated in the very superb collection of Mrs. Marryat, Wimbledon, where it bloomed the last season. It is quite hardy, and certainly merits a place in every flower garden. The plant grows about one foot high, and crowned by large corymbose heads of fine lemon coloured flowers. Each blossom is more than an inch cross.

11. **ROSA SINICA**, Three-leaved China Rose. (Bot. Reg., 1922.) The plant is well deserving a place against a good aspected wall, or similar situation. It grows rapidly, and is well suited as a climber for covering a wall or trellis. The foliage is of a shining green. The flowers are produced in profusion of a pure snow-white. They are single, but being so beautifully white, and each more than three inches across, renders it highly ornamental. The rose is

much esteemed in the south of France and Italy, where it is very generally grown in the gardens. The plant may be obtained of Mr. Wood, of Maresfield, Sussex.

12. *SISYRINCHIUM SPECIOSUM*, Showy flowered. (Bot. Mag., 3544.) Iridæ; Triandria; Monogynia. A very pretty, flowering, greenhouse species, a native of Chili, from whence it has recently been imported into this country, by Mr. Towart, gardener to Her Royal Highness the Duchess of Gloucester, Bagshot Park. In its native country it is found on sandy hills, where it blooms profusely. Each flower is about two inches across, of a splendid purplish-blue, with a yellow eye at the centre. The stems rise about eight inches high. It deserves a place in every greenhouse. The plant has bloomed in the Glasgow Botanic Garden.

13. *TRADESCANTIA CARICIFOLIA*, Sedge-leaved Spider-Wort. (Bot. Mag., 3546.) Commelinæ; Hexandria; Monogynia. The species is a native of Texas, from whence it was sent to this country, by the late Mr. Drummond. It has bloomed in the Glasgow Botanic Garden, in a cool frame. The flower stems rise about a foot high, producing an umbel of many flowers, of a purplish blue colour, each flower being near an inch and a-half across. This, like all the spider-worts, is a very neat and pretty flowering plant. *Tradescantia*, in compliment to Mr. John Tradescant, gardener to King Charles the First.

14. *TRIGONIDIUM OBTUSUM*, Blunt-petalled. (Bot. Reg., 1923.) Orchidæ; Gynandria; Monandria. This singular species of the orchideous tribe of plants has been sent, by Mr. Colley, from Demerara, to R. Bateman, Esq., of Knypersley Hall, Congleton, Cheshire. The genus belongs to the sort of Maxillarie like plants, but the curious flowers sufficiently distinguish it as a genus. It is of a free flowering habit. The flowers are near two inches across, white, and orange-brown, with purple veins. *Trigonidium*, in allusion to the triangular form of several parts of the flower.

15. *TRITELEIA UNIFLORA*, One-flowered. (Bot. Reg., 1921.) Liliacæ; Hexandria; Monogynia. An half hardy, bulbous, plant, a native of Mendoza, where it was discovered by Dr. Gillies. Each flower is about an inch and a-quarter across, white, with a delicate sky-blue tinge. It is cultivated by Mr. Lowe, of Clapton Nursery.

16. *TULBAGHIA LUDWIGIANA*, Ludwig's. (Bot. Mag., 3547.) Liliacæ; Hexandria; Monogynia. This plant was introduced into this country in 1834. It is a native of Cafferland, South Africa. Scape grows about two feet high. The flowers are produced, in a umbel, about eight in each. The perianth is of a greenish purple, with purple streaks, the limb six parted. The inner part forms a crown to the mouth of the tube, of a fine yellow colour.

17. *WITSENIA CORYMBOSA*, Corymbose, flowered. (Pax. Mag. Bot.) Iridæ; Triandria; Monogynia. A native of the Cape of Good Hope, well deserving a place in every greenhouse. The plant produces a profusion of flowers, in dense corymbs, of a lively bright blue colour. It blooms from August to the end of the year. *Witsenia*, from Mr. Witsen, a Dutch Consul in India.

18. *VERBENA AULETIA*, VAR. *DRUMMONDI*, Sweet Lilac Vervain. (Bot. Reg. 1925.) Verbenacæ; Didynamia; Angiospermia. This very pretty variety has been recently introduced into this country from Louisiana, from whence it was sent by Mr. Thomas Drummond. This variety is very different from the variety which has been in our collections in the country for the last two years, the flowers of that variety being of deep rose colour, whilst the present variety has flowers of a beautiful pale lilac. They have a peculiar fragrance. The plant is a half-hardy perennial plant, deserving a place in every flower garden. Messrs. Rollissons have plants of this pretty variety, where we saw it in bloom the last summer.

PART III.

MISCELLANEOUS INTELLIGENCE.

QUERIES.

ON THE MANAGEMENT OF ERICAS.—I shall esteem it a great kindness if some Correspondent of the *Cabinet* would give me the particulars of a mode of treatment with Ericas, so as to keep the plants bushy and healthy. I have had frequent renewals of plants, purchasing bushy ones, but though I have kept them in an airy part of the greenhouse, and to the best of my knowledge have treated them with a regular supply of water, &c., yet they soon become naked, and in two or three years died. I have invariably found too, that a great quantity of my large plants, bought at a distance from my own residence, have soon died after removal. How is this to be accounted for? Would small plants be likely to succeed better? I beg in this place to thank the Correspondent, "A Practical Heath Grower," for his very excellent remarks on Ericas in the January number. If the same person, or others, practically acquainted with the subject, will favour me with a reply, I shall be greatly indebted for such kindness.

North Wales, January, 1837.

W. P. HAMILTON.

ON IPOMOPSIS ELEGANS.—I have had seeds sown of this handsome flowering plant for the last four years, I have succeeded to get the plants near flowering, when, on a sudden, without any reason I could discover, they withered, drooped, and died. This has invariably been the case with plants grown in pots, as well as in the open border. I shall be very much obliged if some Reader of the *Cabinet* would give me the particulars of a successful mode of treatment. An early attention to my request will be an additional kindness, so that I may be successful the coming season. This plant did go by the name of *Gilia aggregata*, two or three years since. I name this lest any of the Readers should not know it by the more recent name.

Nottingham.

MEDICUS.

ON A LIST OF ROCK PLANTS.—Will you, or any of your Correspondents, be kind enough to give a list of some of the best plants for rock work? A variety of colours, and flowering at different seasons is desirable. The rock has a western aspect.

J. G.

To "J. K." I would be obliged to your Wilts Correspondent, whose initials are the same as my own, J. K., (and who I humbly thank for his honourable mention of my name in last month's *Cabinet*.) if he would favour me, at his convenience, with any list or hint he may deem it prudent to let me know of; and he in return may, with every liberty, put any question to me on any subject on gardening, &c., he may consider me likely to know; my knowledge is not much, but what I know I will freely communicate.

J. KERNAN.

4, *Great Russell-street, Covent Garden, London.*

REMARKS.

ON TREE MIGNONETTE.—Sow seed of the common Mignonette, towards the end of February, in pots of the size thirty-twos, such being near six inches deep, and four and a-half diameter, inside measure. Use a good rich loamy soil. After the seed is sown, place the pots in a cucumber or melon frame. When the plants are up, they must be placed where they can get air, to prevent them being drawn up weakly as well as to preserve them from damping off. When the plants have made a few leaves, pull up all the plants but two, which must be allowed to remain till they get over danger from damping off, when the best may be retained and be secured to a support. As the plants grow, side shoots will push, they must be pinched off, always leaving the leaf at the

base of each shoot which contributes to its growth. If the leading shoot should shew flower it must also be pinched off. When the plants have grown ten or twelve inches high they may be removed to a warm part of a greenhouse. Water must be given when the plants are dry. As the season advances the plants must be placed in more airy situations, which will gradually harden them. When the plants have reached a desirable height, from half a yard to two feet is very desirable; pinch out the leads. This will induce a number of lateral shoots to push and form a bushy head. Plants thus treated will bloom early the following spring; after they have shewed flowers, the plants, if vigorous, may be removed, with balls entire, into pots a size larger, they will then bloom all the season.

T. T. B.

Chelsea, Jan. 12th, 1837.

ON BLOOMING HYACINTHS IN GLASSES.—The bulb should be allowed to touch the water, then be placed in a dark room or cellar for two or three weeks. The water will by that time become offensive and require to be replaced. With the fresh water given add a small portion of salt, about the size of a hazle nut. The water must be changed, and salt added twice a week in future. When the glasses are brought out of the dark room or cellar into a sitting-room, the plants push more rapidly and flower sooner by being kept in the darkest part of the room, and if in a high situation, as a shelf or chimney-piece, all the better. When the flower stem has pushed several inches high, the glasses may be placed near the window to give colour to the petals; without which the darker the situation the lighter coloured the flowers. In order to have the fine stems of flowers erect, I have had a wire frame made which fastens round the glass near its bottom, again nearer to its widened part at the top, the wire is then bent to the middle of the opening and then carried upright to the height desired, to this the flower stem is secured, it prevents the flowers from overwhelming the glass as well as keeping the stem neat.

JOHN CHARLES.

Monmouth, Jan. 12th 1837.

JONES'S SULPHUREA ELEGANS DAHLIA.—We have been informed that an old and very inferior flower called Sulphurea Elegans, has been sent out last season as a substitute for the former splendid sort. The old sort is not worth growing in any collection, whilst the latter deserves to be grown in every one. The flower is of a very large size, of an unique handsome colour, a very perfect shape, and far superior to any other of the yellows I saw at the exhibitions in the metropolis, or the country during the last season. Persons who order this kind during the present year, should obtain the warrantry of the correctness of the kind from the person offering for sale.

W. C.

Wallingford, December 16th, 1836.

TO OBTAIN FLOWERS FROM BULBOUS ROOTS IN THREE WEEKS.—Put quick lime into a flower-pot till it is rather more than half full; fill up with good earth; plant the bulbs in the usual manner; keep the earth slightly damp. The heat given out by the lime will rise through the earth, which will temper its fierceness: in this manner flowers may be obtained in three weeks.—*Magazine of Domestic Economy.*

HEATING BY MEANS OF HOT WATER.—I have recently seen an experiment tried in using glass pipes instead of iron, and which answered most completely, giving out heat much quicker, affording a greater degree of heat, and retaining it longer.

ON DRYING PLANTS.—I observe that the weights I use in drying plants have been misprinted in the December number. They should be, one weight of 20lbs, and two of 10lbs, each.

PRIMULA SCOTICA.

ON THE AGE OF TREES.—Adamson and De Candolle have ascertained and published accounts of the probable longevity of numerous celebrated trees. Some of the Cedars of Mount Lebanon, measured in 1660, by Maudrell, and Pocock, were found to have been nearly 800 years old. The Oak of Welbeck Lane, described by Evelyn, must have been 1100. The Olive trees in the garden of Jerusalem certainly existed at the time of the Turkish conquest of that city. The English Yew trees of Fountain's Abbey, Yorkshire, have survived

1200. Those in the church-yard of Crowhurst, in Surrey, 1400. That of Fotheringall, in Scotland, from 2590 to 2600. That of Braburn, in Kent, 3000. But they describe two other trees of a most remarkable character, viz., the Boaback, estimated at 5150; and the Cypress of Taxodium, in Mexico, which is 117 feet 10 inches in circumference, is still more aged. The ages of the following trees have been ascertained, with as much exactness as historical data, or the principles which have been derived from admeasurement and counting the circles of trees of like kind afford:—A Date tree in Egypt, 360. Apricot tree in Damascus, 324. Red Oak of Mount Etna, 400. Walnut tree of Balbec, 406. Almond tree in Damascus, 640. Fig tree in Damascus, 648. Olive tree of Palestine, 719. Fig tree of Palestine, 780. Olive tree of Asia Minor, 850. Oak in Louisiana, 1000. Sycamore of Heliopolis, 1805. One of Cedars of Mount Lebanon, 1824; another, 2112. A Peletin (terebinthus) of Asia Minor, 1890. The celebrated Chesnut of Mount Etna, 2660. The Sycamore of Bosphorous, 4020.—*Youth's Instructor*.

ON THE CONTRASTING COLOURS OF FLOWERS TO PRODUCE THE BEST EFFECT.—To demonstrate the theory of colours, then, a circular card may be divided into seven compartments, by lines drawn from the centre to the circumference, one compartment being painted red, the next orange, the third yellow, the fourth green, the fifth blue, the sixth purple, the seventh violet. Let water-colours or patterns of ribband, of each of these respective colours, be procured, and arranged in the enumerated order. It will be found, that any one of these colours is producible, by due admixture of the two adjacent colours. The first and third, red paint mixed with yellow, produce the second colour, orange. The second and fourth, orange mixed with green, produce the third, yellow; the third and fifth, yellow and blue, generate green, the fourth colour; that and the sixth form the fifth, blue; the fifth and seventh violet create the sixth, purple; the sixth and the first, red, constitute the seventh, violet; the seventh and second, orange, terminate in the first, red. What then is the necessary conclusion, but that in the order of prismatic colours, adjacent colours are inharmonious; and that harmony results only from union of two colours, distant in order by one intermediate tint. The principle productive of harmony being thus discovered, may receive confirmation, by experiment with ribbands of different colours, blended, or with sewing silks twisted, in the preceding order of arrangement. Yet, beauty resulting not only from harmony, but also from contrast, the next inquiry is, from what principle to produce the latter effect. It is discoverable from the following experiment. To patterns of ribbands or silk, of the seven preceding colours, let white and black be added; and all be placed in a perpendicular line, the white above the red, the black beneath the violet, adapting the numbers to the altered arrangement, the white being denominated one, the red two, and so on, the violet being marked eight, and the black nine. By advancing black to the side of white, or as it is accounted the absorption or absence of all colours to the accumulation or presence of all, the strongest possible contrast is produced. Violet and purple will also contrast with white, in decreasing ratio; while the remaining colours produce a very inferior degree of contrast, by no means eligible from their approximation to white, in graduated reflection of light. On a similar principle, the best contrast to black next to white, is red, as the colours ranking first of the seven in order of refraction, therefore first in power of reflection; orange is an inferior contrast, but yellow, blue, purple, or violet, from graduated absorption of light, present no contrast to its entire absorption, black. In the same manner red receives no contrast from the two nearest colours in the prismatic gradation, orange or yellow, but from the semi-colour green; it admits the lowest contrast in blue, higher in purple, or violet, and the highest, as already remarked, in black. The decisive inference then is, that contrast is not producible without passing over two prismatic colours at least. Such being fixed laws, constituting the primary principles of the theory of colours, and demonstrable by experiment multifarious and conclusive, their application to landscape gardening and the disposing of flowers in the flower-garden, &c., involves not the slightest difficulty, and solves numerous phenomena. Why, for instance, does verdure, or why do shrubs, supply the best relief to gaudy flowers? On account of excellent contrast, green being a sober colour inter-

mediate between the deeper and brighter tints, consequently affording a foil to all. Why is snow injurious to the effect of foliage, or flowers, of every graduated tint? On account of its glaring whiteness, supplying neither contrast nor harmony, white entering into the composition of every shade of tint, and particularly being productive of semi-colours; consequently, being a component principle, when uncombined it can neither harmonise, nor contrast with itself. Why does the olive tint of the expanding oak-leaf offend the eye of taste? Because, its being composed of green in combination with yellow, the component principle can neither harmonise nor contrast with itself, in a simple uncompounded tint, in the surrounding grass, or foliage of more forward trees. Why does the verdant herbage of spring produce inferior picturesque effect, in grounds ornamented with trees, than the sterile grass of early autumn, consequent on mowing? Because, spring grass and foliage are gradations of one and the same colours; consequently, in whatever variety of gradation, the diversified tints of any colour, neither harmonising nor contrasting, cannot possibly be productive of picturesque effects. Contrariant is the effect of sterile grass, on account of its russet tint, like ripened corn, presenting advantageous contrast; russet being a semi-colour, uncompounded of green. Countless natural phenomena, with their solutions, might be multiplied, illustrative of the preceding theory of colours being of practical utility in gardening.—*Dennis's Landscape Gardening.*

AURICULA.—Nature has given such a finish to the finer specimens of this plant, that art may well be required to furnish them with the shelter of a roof. Some of the family are hardy and beautiful as spring flowers on the open borders; but the more delicate cannot endure the pelting of the rain which falls in April, the season of their beauty; a glass frame is therefore essential to the saving of the fine meal with which the flowers and sometimes the leaves are covered, and which seems designed to moderate the heat of the sun, but which has in itself no defence against the washing of the rain; and hence those plants which are brought to great fineness by cultivation, soon perish or grow poor when neglected. The best specimens at first raised from seed are quickly propagated by offsets from the roots; and as cultivators have great tenderness for their young brood, you have only to open an asylum and it will soon be filled. It were vain to attempt particular descriptions of five hundred varieties. As to the general properties of a good plant, the stem should be of such length as to carry its head of flowers erect, and raised above the foliage. About seven or eight pips, or single blossoms, make a rich and close umbel of flowers. The circumference of the border of each blossom should be round, the anthers large, the eye smooth, white, and circular; the ground colour should be equal on all sides, defined next the eye, and only broken where it blends with the edging. The favourite ground colours are—black, purple, dark brown, rich blue, bright pink, crimson, or glowing scarlet. A green edging is fine, but that combined with a crimson ground colour, being very rare, is, probably on that account, prized the most. Florists have given receipts for compost with trifling exactness of invalids who pore upon dietetics and weigh their food. Sound earth, vegetable earth, peat earth, decayed willow-wood, and wood ashes, are recommended in proportions, from half, down to twelfth and twenty-fourth parts. No doubt such a commixture may be very good, but some other will do just as well. Let the compost be rich and light; consisting of one half of old rotted cow's dung, either from a spent hot-bed or gathered from the fields, and the other half black mould from the garden, adding more or less of peat moss and sand according as the soil is light or heavy; the whole mass to be so blended as to assume a uniform consistence. With this, fill the flower-pots within an inch of the top, taking care to cover the hole in the bottom with a piece of slate to prevent the intrusion of worms. The pots should be six or seven inches wide and about the same measure in depth. Smaller ones may be used for bringing forward young plants, whether seedlings or off-sets. The proper time for planting or re-potting, is in August. Strip every plant of its decayed leaves and of all stumps of roots beneath the young fibres, and having firmed the earth with the hand give a plentiful watering. The pots may then be closely set together in the frame, which should be half filled with saw dust, in which the pots are to be immersed to the lip. The glass cover may be put on, at the first to encourage striking, and then kept on or off according to the weather,

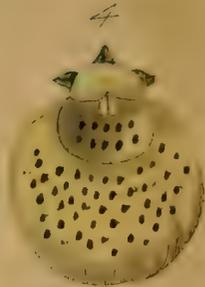
using the help of a bass matting in every hard frost. Before winter, fill up the vacant inch left on the surface of the pots with old dung gathered from the fields, which replace with fine mould about the time of flowering. To destroy green fly, with which the plants are apt to be infested, a slight cloud of tobacco fumes closed for a few minutes under the glass cover is all that is necessary. Other flowers in congregated array may be more dazzling, but the auricula so exhibited has no rival in soft, rich, and diversified beauty. It has more of dignity than gayety; it has not the tinsel of a theatre, but the jewellery and grandeur of an assembly of nobles and high dames, in broad ruff, powder, crimson, purple, and ermine. The sight justifies the art: art cannot make the purple of the auricula, but without art the auricula has not the purple; and the finest forms left to the common fare of earth and skies, soon become the spectres of what they were—the gorgeous velvet dwindling to the meanness of hawkweed, and the crown-broad disk to the dimensions of a daisy.—*Manse Garden.*

THE LILY.—Of which there are many varieties, but a few of the best are the large common white, growing four or five feet high; (the small white flower, not unfrequently called lily, is a *Narcissus*;) the orange lily, which takes its name from its colour; the fiery lily, which may be known by the bulbs it bears on the stalks; the martagon, or Turk's-cap lily, of which there are many sorts, and which are named from the turning in of the petals presenting the figure of a turban; the tiger, and the crown imperial. The bulbs are scaly and do not agree with the treatment of hard bulbs. If kept long out of the ground they must be placed in sand to prevent drying. The proper season for planting is September; planted in spring they are apt not to flower that year. But the best rule with all the tribe, is to observe when the leaves begin to decay after the season of flowering, and then to take them up, whether to give more room or fresh soil. They are too monstrous for beds and do best either in single plants or in patches at intervals. The crown-imperial, though not the most showy of lilies, is a grand and elegant flower, and remarkable for its rapid growth at an early period of the spring. At that season of all food it is the most enticing to snails. Being horribly olefiant and juicy, it is probably to their palate what garlic is to a Spaniard. But unfortunately for the plant, being fisular, the snail perforations, resembling those of a flute, admit the air direct to the heart, and death is the consequence. Early in spring scoop out the earth around the stems, and with it the slimy people sleeping beside their banquet. Put a roll of stiff paper round each stem, not tight, and fasten it with a pin; then draw in the earth, leaving the paper two inches higher. The snails do not find their way over.—*Ibid.*

REFERENCE TO PLATE.

The superior kinds of Pinks and Picotee given this month are seedlings in the possession of the persons who raised them, and who offer them for sale. They have been advertized in the *Cabinet* for October and November, last year. We have been informed, by persons who have seen the flowers, that they are of first-rate excellence, and ought to be in every collection of this class of flowers.





J & J. Parkin

Floricolumna tuberosa

THE
FLORICULTURAL CABINET,

MARCH 1st, 1837.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I.—ON TENDER AQUATICS.

BY C. B. B.

THE enquiry of your Liverpool correspondent under the signature of Escholtzia, respecting plants which would grow in a tank of tepid water, (such as is frequently attached to steam engines,) induces me to trouble you with the following observations; which I hope may meet the eye of some lover of flowers at Birmingham, Sheffield, Leeds, Liverpool, or Manchester, and induce him to make an experiment, which I think can hardly fail of success. Every one at all acquainted with stove plants, is aware of the exceeding beauty and magnificence, of the tropical water plants, even when confined to the narrow pots and pans, and cisterns, to which the limits of our hothouses generally restrict them. Now it is most probable that these plants would flourish with even more than native luxuriance, in the warm water tanks attached to steam engines. They delight in extreme heat, and will bear any temperature short of 100 degrees; about 85° to 95° during summer suits them best, and in winter from 60° to 65°; and some species will not flourish, without a continual change of water, which it is almost impossible to provide in a common hothouse or pit; but, which, might always be ensured by constructing a large tank, and allowing the hot waste water from a steam engine to flow into it. In case any of your readers should be willing to try the experiment, and it is indeed one well worth trying, (for the magnificent plants in question are rarely seen in any tolerable beauty in this country,) I add the following suggestions:—

The tank should be in a situation to receive plenty of sun, and should be covered with cucumber lights, to prevent the blacks from the engine, and the inclemency of weather, from injuring the buds and leaves, as the flowers of several species arise above the water, and would never endure the air of our climate even in summer. The plants should be planted in very large pans, 1 foot deep and 18 inches across

at least. These pans should have a layer of broken brick and some clay about 4 inches thick at the bottom, and be filled with stiff pond mud, or strong yellow loam, fit for growing melons, and the surface of the mud should be covered with stone and broken brick. The pans should be sunk, not less than one foot nor more than three, below the surface. Some species must not be more than six inches under, but most of the strong growing ones, from two to three feet. I should leave them always under water unless experience shewed, that any species perished in winter, which I do not think probable, unless it were *Nelumbium speciosum*, but I suspect this, which is difficult to keep elsewhere, would survive in such a situation.

The waste water should run off by a siphon from the bottom of the tank, so as always to draw off the coldest water, and if the heat was found too great for the plants in winter, when they die down, the waste might then be allowed to flow off at the top, so that the bottom water in which the plants were sunk might be coldest.

The species I should recommend for the experiment are *Nymphaea Lotus*, *N. rubra*, *N. cœrulea*, *Nelumbium speciosum*, *Euryale ferox*, *Pontederia crassipes*, and *Limnocharis Humboldtii*, but particularly the five first, which are strong growing plants. *Nymphaea Lotus* grew almost like a weed with me last year. The best season to put them in would be March, as the offsets abound most at that time, and some would flower in May. Some gold and silver fish, in the same place would be highly ornamental, and consume the filth of the engine.

Of course the plants will not succeed if the boiler of the steam engine is of copper, or if the temperature of the tank ever much exceeds 90°, but by proportioning its surface to the supply, this might easily be managed. If the glass case be high enough probably many *Orchidea* would succeed suspended over the water in the same place. One might be constructed to cover a small reservoir. I hope the above will meet the eye of some one able to make the experiment, and who will communicate his success.

ARTICLE II.—REMARKS ON THEORY AND PRACTISE,

With some Observations on the Food of Plants, &c.

BY JOSEPH HAYWARD, ESQ., LIME REGIS, DORSETSHIRE.

YOUR *Floricultural Cabinet* I think well calculated to make a valuable work if you adhere to the proper principle, and it appears to me you have it in view, which is, to diffuse a knowledge of the cultivation of Plants deduced from practice. The object of every cultivator is to produce certain effects; and when people undertake to produce any effect, who do not know the cause, they generally form some supposition of what the cause is; such supposition forms Theory, which may be true or false, and as the latter is too often the case, the students of every art, are apt to treat Theory with contempt, and to depend upon the

knowledge to be required, by imitating a practitioner ; but the knowledge to be obtained from mere practise, however successful, is little to be relied upon ; for although the cause of success may assist, the practitioner may be ignorant of it, and therefore, although the same practice may be followed in another situation, it may fall altogether, because the cause is not there established. If it be an axiom, that every production of nature and of art, is the effect of some cause—it must follow, that before any effect can be produced, the cause must be established ; and before any effect can be effectually prevented, the cause must be removed ; and consequently, before any person can establish or remove a cause, they must know what it is. Then how is a knowledge of the causes of effects to be obtained ? Certainly by no other means than by first forming a Theory, and then putting it to the test of practical demonstration, to ascertain its truth or falsehood. If a theory be thus proved to be true, the knowledge of it is science. I consider the causes of all effects to be certain elementary principles established in nature, and which are brought into action or rest, and made to exist in a separate or combined state, and to undergo certain changes in form and duration of their existence, by certain immutable laws of nature. My efforts have long been directed to the ascertaining the true causes of the different effects it is desirable to produce by the cultivation of plants ; as well as the true causes of those effects, it is desired to prevent ; and for this purpose, I have not only put my own Theories to the test of repeated practical experiment, but also most of the Theories of the celebrated Physiologists and Chemists, and practical Professors of Horticulture. And in this, all who have done me the honour to visit my garden, admit, that I have established many important principles of practice : my practical elucidations are more particularly exhibited in the training and feeding of fruit-trees ; I say *feeding*, because it is an obvious fact, not only that plants require food, to sustain them, as much as animals do, but that their growth and productions are determined by the quality and the quantity of the food they are supplied with. As to give such an explanation of the nature and properties of different soils, and of different manures, or the elements of the food of plants, would occupy more of your pages than you can afford, you will probably allow me to refer such as wish to make a minute enquiry into those subjects, to a little work I have lately published, “On the Causes of the Barrenness and Fruitfulness of Plants and Trees.” I will, however, beg leave now to offer the 9th law of nature, in my arrangement, for the immediate consideration of your readers, and shall be ready to give any further information in my power : the 9th law “The leaves form the excretory Organs of a Plant or Tree ; and whether the supply of food be great or small, a plant or tree cannot attain, nor sustain itself in, a perfect state of fructification, until it is furnished with a surface of leaves duly proportioned to the sap supplied by the roots. To enable them to perform their functions, it is

also necessary that the leaves should be duly exposed to the action of light, and to the influence of the sun and the air." Now according to this law, it must be obvious that the cutting back and shortening the branches and lessening the quantity of leaves, must obstruct and retard, rather than forward the production of flowers, seeds, and fruit; and yet this is a general practice. It generally happens, that when a plant grows luxuriantly to leaves, branches, and stalk, it is but little inclined to produce blossoms; we may therefore justly conclude, that in such cases there is a greater supply of food than the leaves are equal to; and that although we cannot enlarge their powers, we can relieve them in their duties, by lessening the supply of food, and thus promote fructification.

Lime Regis, Dorset, January 10th, 1837.

(We feel assured our readers, will with us, be much obliged by any further remarks of Mr. Hayward's.)—CONDUCTOR.

ARTICLE III.—ON A LIST AND TEMPLE OF ROSES.

BY S. W. E. SMITH, LEAMINGTON, HANTS.

A Correspondent, Pedro, requested a list of Climbing Roses, a very superior list is given in this month's *Cabinet*. I have in my own garden a Temple of Roses, it consists of eight posts, ten feet high, connected at the top by iron rods. To each post are two climbers, most of which have grown to the top within six months. They are the White Banksia, Yellow ditto, Rosa Ruga, Rosa Russelliana, White Boursault, Purple ditto, Grevillii or seven sisters, Rubra, sweet scented Red Multiflora and White ditto, Rosa Clair, White Noisette, Pink ditto, Purple Grevillii, Dark double China, Pale ditto.

The centre of the bed is a rich mould, and manure is now laid plentifully on it, which will be forked in next spring, and then I shall cover the bed again with moss; all sorts of dwarf Roses are planted in the centre, a border of wild camomile I have been recommended to keep round the edge, to prevent the aphis, but my children carry all the lady birds they can find to the temple, and I have no doubt I shall keep the trees clean and healthy.

ARTICLE IV.—ON THE CULTURE OF THE PANSY.

BY PENSEE.

By following the method recommended in your December *Cabinet* by Mr. Todd, for propagating the Heartsease, I think it would be found that by taking off the young suckers as they appear breaking through the ground, you would rob yourself of your finest blooms, to say nothing of the trouble of making each cutting as taken off, and the chance of an unsuccessful strike.

I therefore offer to your readers the plan I have adopted, and with much success. When the plant begins to spread, which is about June, I throw into the centre of each a double handful of rich and finely

sifted mould, thus inducing the plant to form roots near the surface. Early in September I take up the plant, *wash* the root from the dirt, and divide it, seldom obtaining less than two dozen plants from each, and often many more. These I plant about three inches apart, where they remain until wanted for the late Autumn or Spring planting, having found it necessary to plant at both these seasons, to procure fine blooms for exhibition both in April, May, and June. I should also recommend a much richer compost than Mr. Todd thinks necessary, and not to attempt to bloom plants a second year.

I must also join issue with Mr. Todd in his recommendation of removing as much earth as will adhere to the roots, when transplanting from his nursery into the blooming bed, as possible; because I have found the very reverse to succeed best. I have given each way a fair trial, and I now always wash and shorten the roots before planting.

(Continued from page 10.)

ARTICLE V.—CULTURE OF PELARGONIUMS.

BY MR. APPLEBY.

THIRD Section.—Species that have been hybridized.—This section of Pelargoniums is the most numerous, not so much in plants that have specific botanical distinctions, as in varieties raised from seed obtained from plants, the pollen of which has been mixed with others; these varieties are almost endless, and are produced annually, chiefly by nurserymen near London.

On account of their easy culture, they are in great request for the greenhouse, flower garden, and windows, both of the cottager and his more opulent neighbour, and as this class of flowers affords a cheap, lasting, and innocent pleasure to so many individuals, I hope I shall be pardoned by my intelligent brethren, whom, of course, I do not presume to instruct, if I am rather particular in directions in the culture of these charming flowers.

As this section is cultivated both for the greenhouse, and flower garden to plant out in beds, I shall divide the culture into

1. Propagation.
2. Greenhouse management.
3. Flower Garden management.

1. *Propagation by Cuttings.*—The best cuttings are the young tops, taken off at the third or fourth joint, and the two lowest leaves pared clean off with a sharp knife, if the kind to be increased is scarce, cuttings of any one year old wood may be struck, provided they have two joints, one to be put in the soil, and the other to grow, but such cuttings do not make such neat bushy plants. Cuttings of the roots also will grow, if taken off in pretty large pieces, with some small fibres attached to them. The soil for cuttings I have found to do the best, is pure loam mixed with fine sand, which insure closeness round the cuttings without any fermenting substance to rot the young and

tender wood. For choice kinds I use the smaller 60 pots, and put one cutting in each pot, by which plan I run no risk in potting. For commoner kinds, when a cutting or two is no object, I use 36 pots, putting five or six cuttings in each, round the edge of the pot; and when fairly struck I pot them off into small pots, and put them into a frame and shade until fresh rooted.

The best season to put in cuttings, undoubtedly, is the month of March; cuttings made at that season and plunged out rather deep in their small pots in the open ground in June, and taken up and repotted before the frost sets in in Autumn, makes the best plants; they are stiff, bushy, dwarfish, healthy plants, and flower admirably the following spring. The month of July, however, is the season when cuttings are most plentiful, on account of the flowering season in the greenhouse being over, and many of the plants requiring cutting down. Cuttings made in July I pot off when struck, in pure loam in small pots, and plunge them up to the rims of the pots in coal ashes at the back of some low hedge or paling, shading them from the sun.

The best situation in which to strike the cuttings, is a small frame set upon a moderate hotbed, the dung to be covered with some sand or coal ashes three or four inches thick, and the cutting pots set upon them, shading with a thick mat during sunshine, and kept close for ten days or a fortnight, unless steam arises when the lights are propped up an inch or two in a morning. As soon as I judge they have formed their callosities, (a swelling at the bottom of the cuttings,) I gradually inure them to the full sun. I water very moderately until they are struck, when those that are in single pot I place in a shady part of the greenhouse, to harden a little previous to plunging out of doors.

When a large supply is wanted for the flower garden and I am short of room or convenience, I take of as many cuttings as I judge needful in the month of September, and keep them in the cutting pots until March, when I pot them single, and grow them in a pit or frame until the planting season.

Propagation by Seed.—When the seed is ripe I gather it and keep it dry until February or March, when I take 36 pots filled with a compost of rotten leaves, peat earth, and loam, in equal parts, well drained, the compost I press down pretty firm, and sow the seed rather thin, covering it with the same soil very lightly, placing them in the frame with the cuttings. When they have come up and have made their second leaves, I pot them off into 60 pots, and replace them in the frame until they are well established, when I take them into the greenhouse near the glass, gradually inuring them to the open air, and then I plunge them out, as I manage the cuttings in single pots above mentioned.

Both cuttings and seedlings when about four inches high should have the top buds nipped off, which makes them branch out three or

four shoots, and of course so many more heads of flowers the following season.

2. *Greenhouse Management.*—The season to take Geraniums into the greenhouse depends upon the weather, and as all Cape plants are much healthier, and flower more freely the more they are exposed, to the full air, so long as frost keeps off I delay the taking them in, in fact this last season, I did not house them generally until the middle of October. Choice kinds I had covered up with mats or large sheets of canvass elevated on stakes, on such nights as were likely to be frosty. A few that shewed plenty of bloom buds I had taken up, potted, and placed into the greenhouse in September, and they are now in as fine flower, as to size and colour, as ever I had them in June instead of December.

Perhaps no months in the whole year are so unhealthy for Geraniums as November and December, for the weather generally is dark, damp, and rainy, and the plants being full of sappy green leaves, and having received a check from new potting, are often shedding leaves which I constantly remove, or they would become mouldy and give out a bad smell, offensive both to the owners and the plants themselves. At all times during the day I give as much air as possible, by opening the doors, windows, ventilators, &c. In the mornings I have made a fire to dry up damp, but allow it go out before the house is shut up or the remedy would be worse than the disease; close heat at this season being most injurious.

During the severity of winter, fire is necessary to keep out the frost, (when very severe both night and day,) but I am careful not to create damp by watering more than is absolutely necessary. It often happens on frosty days the sun shines clear and bright, and though the air is frosty, I always give air to lower the temperature of the house to admit fresh in and to dry up damps.

In January, I scrape off the top soil of the pots, and have them washed that are green with moss, picking all decayed leaves, trimming off any awkward branches on large plants, and tying up all that require it; then having at hand some light rich soil, I fill up the pots, and finally give a good watering. While they are off the stage, I have it cleaned down, and the house cleaned out, operations which are all conducive to the health, not only of Geraniums, but also of every other family of plants under glass, with the exception of succulents.

As the season advances they will generally begin to show flower buds, and as soon as I observe that, I consider they require potting, especially those in the small pots struck in July; this will mostly happen about the middle or end of March, but such as do not show flower, I do not repot, as that would encourage growth rather than flowering.

I may here state what I conceive to be the best soil or compost

for those plants to flower in; I have found the following to answer admirably: fresh loam from a pasture, cow dung and rotten leaves in equal parts, well mixed and turned over for twelve months. If heath mould is plentiful, I use about one-eighth in addition, which improves the colour of the flowers; in potting, I take care to drain them well, and do not fill the pots quite full, which enables me to water them more effectually in the warm drying days of May and June.

In the spring months too much air cannot be given, and in consequence more water is required, which I bestow very liberally, frequently syringing over the whole plants, which refreshes them and prevents insects injuring them, though no kind of insects particularly affects the Geranium, if I except the green fly, which is easily destroyed by tobacco smoke. When the flowering season is over, and I do not want the plants for the flower garden, I cut them down, and as the sap will flow out of the wounds no water is given until the bleeding stops. If they are in too large pots I shake them out, cut off part of the roots, and pot them into less pots which is a sort of renewal of the plants. I take them out of doors as soon as I think the frosts are over to some place sheltered from the sun and west winds, setting them thinly upon a bed of coarse coal ashes two or three inches thick, which prevent worms getting into the pots. During summer I give water when it is required, and keep them clear of weeds, and when I observe they make roots through the holes at the bottom of the pots, I shift them into a fresh place, which is all the care they require until the autumn arrives, when they are sheltered from the frost in the greenhouse or in pits.

3. *Flower Garden Management.*—Part of the operations of this section has necessarily been described in the two former sections, the propagation and management through the winter being much the same, but as more plants are wanted of particular kinds for the flower garden than for the greenhouse, I find it necessary to preserve a quantity through the cold season in pits; we have here some pits covered with wooden shutters without any glass, which answers very well. On fine mild days the covers are quite removed, but little water is given, and all decayed leaves are removed as they occur, though they do not look quite so fresh and green as those in the greenhouse, yet sufficiently so to be fit to plant out when the proper season arrives. Some are preserved in ashes in the sheds and others hung up in a cool cellar. All these soon recover their verdure when planted out in summer, and those methods may be made use of by such amateurs as may not have the convenience of a greenhouse or pit.

The best season to plant out is about the first week in June, the frost generally being quite over by that time. In planting them out no preparation of the soil is necessary, as they grow quite fast

enough in any kind of soil however poor. In fact they flower much better if they are cramped at their roots, hence I put them out in their pots, plunging them two or three inches deeper than the rims of the pots. During very dry weather they will require watering about every other day, evening being the best time unless frosts in autumn are apprehended.

In arranging them in the beds I find small beds all of one kind look much better than an indiscriminate mixture: not but such an arrangement looks very well, and in some cases is desirable. At the front of the entrance of Sheaf House there is a large plot of ground surrounded on the west side with hardy evergreens, this I fill during summer with geraniums, the largest I plant at the back and gradually lessen to the front. I plant these in a mixture, and certainly they are allowed by every one who has seen them to be very ornamental. During the time they require shelter the place is occupied by hardy evergreens kept in pots for that purpose. No kind of geraniums show better in beds than the old scarlet horse-shoe and its varieties which as they are all nearly of one colour and habit I plant them altogether, and they flower all the summer if kept well watered during dry weather. It perhaps would be desirable to some of your readers to give a few names of such as I have found to do well in the flower garden as bed plants.

Macranthon, a white ground, with pink stripes, flowers all the summer and autumn.

Daneyanum, a crimson, dark striped, flowers all through the season. This beautiful variety was raised by the late Mr. Daney, a florist, near London. It was one of the finest, if not the very finest, of those beautiful hybrid now so common. I have been credibly informed that, after he had bloomed it, Mr. Daney did not sell one until he had increased his stock of it to 200 plants, and then he sold it at 5 guineas a plant, thus realizing 1000 guineas by this still fine variety.

Moor's Victory, shaded scarlet, a good kind both for foliage and flowers.

Flagrans, or *Lord Yarborough*, a crimson shade, flowers freely all the year.

Humeii, A good kind for beds, flowers well all the year, I have it now in flower very fine.

Yeatmanianum grandiflorum, dark blotch, a good kind but rather small foliage, flowers well.

Grandissima, rose, dark spot, a large flower, makes large trusses and flowers all the year, a truly fine variety.

All these may be had of any respectable nurseryman from 6d. to 1s. each.

I have now described to you my method of cultivating Pelargoniums. Perhaps some of your readers may think me tedious, and

unnecessarily particular, but, to such, I shall only say that if you wish to succeed, you must take pains, and in proportion to the pains bestowed will be the success. To those who may think proper to adopt my plan as far as circumstances will allow, I will say persevere and you will succeed as I have done. My employers are satisfied, I obtained last year a great number of prizes at the Sheffield Horticultural Society.

ARTICLE VI.—ON THE CULTURE OF CYCLAMENS.

BY C. B. B.

If by the sweet-scented Cyclamen (F. C. 1837, page 20,) Alpha means, the common Cyclamen Persicum, white with a crimson eye, it is so easily cultivated, that the wonder rather is, how he can have so mis-managed, without killing it, as to prevent it from flowering for three years. To grow it in perfection, the root should be placed just on the surface of a compost of equal parts of sandy loam, leaf mould and rotten cow dung, in a well drained pot, which diameter is nearly double that of the root itself, and placed in a light and airy situation, where it has little more than protection from frost. When it dies down, about June, the plant should be set aside in a cool place without water, till the end of August, when it may be replanted as above. I have found the following plan, recommended by Mr. Paxton, effective, though the reason for it is not obvious. Soon after the plants die down, I turned them into the open border, and allowed them to remain, until the nights began to be chilly, towards the end of September. By this time they had made both leaves and flowers buds, which soon expanded, when the roots were taken up, and potted as above. If the plants are kept in a close damp, or dark place, they will never flower.

The directions above apply nearly to all the genus, except that *C. coam* requires peat, and *C. repandum* is always difficult to keep when dormant. The common sweet scented Cyclamen, of South Europe, a rose coloured species, prefers more sandy leaf mould, and will bear any thing except frost, and a wet soil. It grows profusely in the Italian Islands, on the mossy banks which bound the vineyards.

ARTICLE VII.—ON FRAXINELLA, OR WHITE DITTANY.

BY A FLORIST.

Fraxinella is a living plant, that multiplies by its roots, as well as by its seed. We sow it in September, in naked earth, or in beds: if in naked ground, we take the precaution to choose a proper place, which is always at the end of a plot well loosened, and tractable, and covered with mould to the depth of an inch. There we sow it, either all over the surface of that narrow space, or in traces drawn by the line, at the distance of three inches from one another; then we cover it up with the same mould, as even as we can.

When the plant thus sown, comes up, if the season be very cold, cover the young sprouts with big straw, or dry dung. When it is good fair weather, uncover them in the day-time, and cover them up at nights.

When the Spring comes, water them, and weed them, as you see occasion; and when they are big enough to be set in their proper places, take them gently out of the ground, towards the end of March; carry them to the places appointed for them, and plant them according to art; remembering always the directions I gave above, of the way of planting Flowers of the large kind. Take care to guard their roots well with earth; water them, and after that, water and weed, as you see occasion; and, in the proper season, the flower will answer all expectations.

Fraxinella is a plant that shoots from its roots, stalks about two feet high, reddish, guarded with oblong leaves, ranged by pairs on one side, which terminates in one leaf. The summit of the stalks, bears flowers in the form of a spica, or ear; each of which consist of five leaves, of a purplish white colour, and variegated; in the middle of which, rises eight or ten purplis stamina, or therads.

After the flowers fall, there succeeds a fruit, composed of several grains, containing seeds pointed at one end, and of a shining black colour.

ARTICLE VIII.

A LIST AND DESCRIPTION OF GREENHOUSE AND HARDY CLIMBING PLANTS.

BY MR. JAMES BROWNE, DERSINGHAM, NORFOLK.

Having observed in the last number of the *Floricultural Cabinet*, a request of "Floras" to your correspondents, for a list of Greenhouse and Hardy Climbing Plants, I have endeavoured to comply, by sending the following for insertion, trusting that it will be found useful to your numerous readers:—

ABBREVIATIONS.

gh. greenhouse	climb. climbing, as Clematis.	decid. deciduous.	} whether shrubby or herbaceous
f. frame	twing: twining, as Ipomœa.	everg. evergreen	
.... the same			

<i>Systematic Name.</i>	<i>Specific character.</i>	<i>Medium ht. in feet.</i>	<i>Time of flowering</i>
Ampelopsis, class 5, order 1, natural order Ampelideæ.			
cordata	climb. deciduous	20	April, May
hederacea	.. ..	60	June, July
hirsuta	.. ..	60	April, May
Aristolochia, cl. 20, or. 3, Asarineæ.			
sipho	twining deciduous	30	June, July
tomentosa	.. ..	20	.. ..
Arkansa	.. ..	20	.. ..
Asparagus, cl. 6, or. 1, Asphodeleæ			
scandens	gh. twining	6	May, June
Astephanus, cl. 5, or. 2, Asclepiadeæ.			
triflorus	gh. twining	4	July, August
Atragene, cl. 13, or. 6, Ranunculaseæ.			
austriaca	climb. deciduous	8	June, July
americana	.. ..	12	May, June
ochotensis	.. ..	12	May, July
Bignonia, cl. 14, or. 2, Bignoniaceæ.			
capreolata	climb. evergreen	20	July, August
Billardiera, cl. 5, or. 1, Pittosporæ.			
scandens	gh. evergreen	12	June, August
longiflora	.. ..	15	June, September
fusiformis	.. ..	8	.. ..
Brunnichia, cl. 8, or. 3, Polygonæ.			
cirrhusa	gh. evergreen	6	June, July
Calampelis, (Eccremocarpus) cl. 14, or 2, Bignoniaceæ.			
scabra	climb. f. everg.	15	July, September
longiflorus	.. ..	12	.. ..
Caprifolium, cl. 5, or. 1, Caprifoliaceæ.			
italicum	twining decid.	12	May, June
etruscum	.. ..	20	.. ..
sempervirens	twining everg.	16	May, September
gratum	.. ..	20	June, August
pubescens	.. decid.	20	May, June
Periclymenum	.. ..	15	.. ..
japonicum	f. .. everg.	12	July, September
flexuosum	.... ..	20	.. ..
Douglasii	.. decid.	15	.. ..
longiflorum	.. ..	20	.. ..
occidentale	.. ..	20	June, August
Celastrus, cl. 5, or. 1, Celastrineæ.			
bullatus	climb. decid.	20	June, July
scandens	.. ..	15	May, June
punctatus	gh. evergreen	6	June, August
Clematis, cl. 13, or. 6, Ranunculaceæ.			
Flammula	climbing decid.	20	July, October
Massoniana	gh. .. everg.	16	June, September
glauc	.. decid.	12	April, May
chinensis	f. .. everg.	12	.. ..
australis	gh.	12	.. ..
Viorna	.. decid.	12	September
Simsii	.. ..	8	....
florida	f.	10	April, Sept.
Viticella	.. ..	20	September
cirrhusa	.. everg.	12	March, April
balearica	f.	12	February March
odorata	gh.	10	.. ..
Cobæa, cl. 5, or 1, Cobæceæ.			
scandens	gh. .. everg.	30	June, September
Convolvulus, cl. 5, or. 1, Convolvulaceæ.			
pannifolius	gh. twining everg.	15	June, September

<i>Colour of Flower.</i>	<i>Native Country.</i>	<i>Date of In- troduction.</i>	<i>Soil and Propagation.</i>
Green	N. America	1803	Cuttings
....	....	1629	....
....	....	1806	....
Yellowish	N. America	1763	Layers, sandy peat
Purple	....	1799	....
....	Arkansa	1824	.... peat and loam
Green	C. of G. Hope	1795	Cuttings of root, sand and peat
White	C. of G. Hope	1816	Division peat and loam
Blue and Yell.	Austria	1792	Layers, sandy loam
Purple	N. America	1797	....
White	Siberia	1818	....
Scarlet	N. America	1710	Cuttings, peat and loam
Crimson	N. S. Wales	1790	Seed or cuttings, sandy peat
....	Van D.'s Land	1810	....
Blue	....	1823	....
Pink	Carolina	1787	Cuttings, loam and peat
Orange	Chili	1824	Cuttings or seed, loam and peat
Yellow	Peru	1825	....
R. Yellow	England		Cuttings
Orange	Italy		....
Scarlet	N. America	1656	.... loam and peat
Red	....	1730	....
Yellow	Canada	1822	....
R. Yellow	Britain		....
Red	China	1806	.... peat and loam
Orange	....	....	....
....	N. America	1824	....
Yell. and white	China	1826	.... loam and peat
Orange	Ft. Vancouvre	1824	.... peat and loam
White	Virginia	1759	Layers, peat and loam
Yellow	N. America	1736	....
Whitish	Japan	1837	Cuttings
White	France	1596	Layers
....	C. of G. Hope		.... sandy peat
Whitish	Siberia		....
....	China	1820	....
White	N. Holland	1821	.... peat and loam
Purple	N. America	1730	....
....	....	1812	....
Whitish	Japan	1776	....
Purple	Spain	1569	Seed
Whitish	....	1596	Layers
....	Minorca	1783	....
Purplish	E. Indies	1831	Seed, loam and peat
Purple	Mexico	1792	Seed, cuttings, peat and loam
Blue	Canaries	1805	Division of root, peat and loam

<i>Systematic Name.</i>	<i>Specific character</i>	<i>Medium ht. in feet.</i>	<i>Time of flowering.</i>
<i>Convolvulus farinosus</i>	.. .. .	10	May, June
<i>Hermannia</i>	.. .. .	6	August, Sept.
<i>Decumaria</i> , cl. 11, or. 1, <i>Myrtaceæ</i> .			
<i>sarmentosa</i>	twining decid.	30	July, August
<i>Dumasia</i> , cl. 17, or. 4, <i>Leguminosæ</i> .			
<i>pubescens</i>	gh. twining everg.	6	August, Dec.
<i>Eustrephus</i> , cl. 6, or. 1, <i>Asphodeleæ</i> .			
<i>angustifolius</i>	gh. twining everg.	4	June, July
<i>latifolius</i>	.. .. .	4	.. ..
<i>Gelsemium</i> , (<i>Bignonia</i>) cl. 5, or. 1, <i>Apocynææ</i> .			
<i>sempervirens</i>	climbing everg.	6	June, July
<i>Hedera</i> , cl. 5, or. 1, <i>Araliaceæ</i> .			
<i>helix</i>	climbing everg.	20	October, Nov.
<i>canariensis</i>	.. .. .	15	.. ..
<i>Hibbertia</i> , cl. 13, or. 3, <i>Dilleniaceæ</i> .			
<i>volubilis</i>	gh. twining everg.	8	May, October
<i>grossulariæfolia</i>	.. .. .	6	March, August
<i>Ipomæa</i> , cl. 5, or. 1, <i>Convolvulaceæ</i> .			
<i>sinuata</i>	gh. twining everg.	6	July, August
<i>carolina</i>	.. .. annual	10	.. ..
<i>cærulea</i>	.. .. .	9	.. ..
<i>coccinea</i>	.. .. .	10	.. ..
<i>purpurea</i>	.. .. .	12	.. ..
<i>Jasminum</i> , cl. 2, or. 1, <i>Jasmineæ</i> .			
<i>azoricum</i>	gh. climb. everg.	6	April, August
<i>revolutum</i>	.. .. .	12	.. ..
<i>officinale</i>	climb. decid.	20	.. ..
<i>grandiflorum</i>	gh. . . everg.	12	June, October
<i>Kennedia</i> , cl. 17, or. 4, <i>Leguminosæ</i> .			
<i>rubicunda</i>	gh. twining everg.	10	March, August
<i>coccinea</i>	.. .. .	12	.. ..
<i>comptoniana</i>	.. .. .	10	.. ..
<i>Lophospermum</i> , cl. 14, or. 2, <i>Scrophularineæ</i> .			
<i>erubescens</i>	f. climbing	12	June, October
<i>rhodochiton</i>	.. .. .	15	.. ..
<i>Menispermum</i> , cl. 22, or. 10, <i>Menispermeæ</i> .			
<i>canadense</i>	twining	10	June, July
<i>Lyonii</i>	climbing	10	.. ..
<i>Passiflora</i> , cl. 16, or. 2, <i>Passifloreæ</i> .			
<i>cærulea</i>	twining everg.	30	June, October
<i>maculata</i>	f. . . .	4	.. ..
<i>incarnata</i>	.... ..	20	.. ..
<i>Periploca</i> , cl. 5, or. 2, <i>Asclepiddeæ</i> .			
<i>græca</i>	twining decid.	12	July, August
<i>Petunia</i> , cl. 5, or. 1, <i>Solaneæ</i> .			
<i>phaenicea</i>	f. climbing	6	June, October
<i>Sollya</i> , cl. 5, or. 1, <i>Pittosporææ</i> .			
<i>heterophylla</i>	f. climbing	8	June, September
<i>Tecoma</i> , (<i>Bignonia</i>) cl. 14, or. 2, <i>Bignoniaceæ</i> .			
<i>australis</i>	f. climb. everg.	10	April, July
<i>radicans</i>	.. .. decid.	30	July, August
<i>grandiflora</i>	gh. . . everg.	20	.. ..
<i>capensis</i>	f. . . .	10	.. ..
<i>Vitis</i> , cl. 5, or. 1, <i>Ampelideæ</i> .			
<i>dentata</i>	climb. decid.	10	June
<i>cordifolia</i>	.. .. .	12	.. ..
<i>Wistaria</i> , (<i>Glycine</i>) cl. 17, or. 4, <i>Leguminosææ</i> .			
<i>frutescens</i>	twining decid.	10	June, September
<i>Consequana</i>	.. .. .	15	.. ..

<i>Colour of Flower.</i>	<i>Native Country.</i>	<i>Date of In- troduction.</i>	<i>Soil and Propagation.</i>
Pink	Maderia	1777	.....
White	Peru	1799	..... rich earth
White	Carolina	1758	Layers, peat and loam
Yellow	Nepal	1824	Cuttings, sandy loam
Red	New S. Wales	1820	Cuttings, sandy peat
..	....	1800	.....
Yellow	N. America	1540	Cuttings, peat and loam
Green	Britain		Layers
....	Canaries		.....
Yellow	New S. Wales	1600	Cuttings, sandy peat
...	New Holland	1803	.....
White	Florida	1817	Seed, sandy loam
Purple	Carolina	1732	.....
Blue	E. Indies	1818	.....
Scarlet	W. Indies	1713	.....
Purple	S. America	1699	.....
Yellow	Madeira	1724	Cuttings, rich loam
...	E. Indies	1812	.....
White	...	1548	.....
..	...	1629	.....
Brown	New S. Wales	1788	Cuttings, sandy peat
Scarlet	N. Holland	1803	.....
Blue	....	1803	.....
Rose	Ialapa	1820	Cuttings, Seed, rich loam
Dark Purple	Mexico	1833	..... peat and loam
Green	N. America	1691	Division of root, peat
White	....	1823	.....
Blue	Brazil	1699	Cuttings, sandy loam
Spotted	N. America	1812	.....
Pink	....	1629	.....
Brown	Syria	1597	Division of root, sandy loam
Purple	Rio de la Plata	1831	Cuttings, seed, peat and loam
Blue	N. Holland	1832	Cuttings, seed, loam and peat
Orange	New S. Wales	1795	Cuttings sandy peat
...	N. America	1640	Division of root, sandy peat
...	China	1800	Cuttings, rich loam
...	C. of G. Hope	1823	.....
Green		1820	Cuttings, rich loam
...	N. America	1806	.....
Purple	N. America	1724	Layers, sandy peat
Blue	China	1818	..... rich loam

PART II.

LIST OF NEW AND RARE PLANTS,

Noticed since our last.

1. *CRATÆGUS FLAVA*, Var. *Lobata*. Rough barked 'Thorn, single fruited variety. (Bot. Reg. 1932.) Natural Order, *Roseaceæ*; Class, *Icosandria*; Order, *Pentagynia*. The original species produces its fruit in clusters, but in the present variety they are solitary. They are of a greenish-yellow, slightly tinged with pale red at the end. The plant forms a compact spreading head. The bark splits very much like that of an elm tree. *Cratægus*, from *Kratos*, strength, alluding to the density of the wood.

2. *CRATÆGUS OXYACANTHA*, Var. *Oliveriana*. Hairy-leaved Black Hawthorn. This variety of the common Hawthorn very much resembles the original species. Its berries are produced in large clusters, but are of a sloe-black colour, producing a pretty appearance. It is stated that the plant is a native of Asia Minor.

3. *GAILLARDIA BICOLOR*, Var. *Drummondii integerrima*. Two coloured Gaillardia. Drummond's entire leaved variety. (Bot. Mag. 3551.) *Compositæ*; *Syngenesia*; *Frustranea*. This variety appears identical with *Gaillardia picta*, excepting all the leaves being entire. The fine large blossoms, more than two inches across, the large crimson disk, surrounded by a ray of fine yellow, produces a very showy appearance, and renders the plant well deserving a place in every flower garden. *Gaillardia*, in compliment to M. Gaillard de Marentonneau, an amateur botanist.

4. *HIPPEASTRUM BREVIFLORUM*. Short flowered Knight's-Star Lily. (Bot. Mag. 3549.) *Amaryllidææ*; *Hexandria*; *Monogynia*. Mr. Tweedie found this very distinct species in the neighbourhood of Buenos Ayres. The scape rises about three feet high, bearing an umbel of six handsome flowers. Each flower is about four inches across, white striated with red, and down the middle of the petal, at its lower part, is a stripe of yellow. It is a very handsome species, and well merits a place in every collection of liliaceous stove plants. It has bloomed at the Glasgow Botanic Garden.

5. *LACHENALIA GLAUCINA*. Glaucoous flowered. (Bot. Mag. 3552.) *Asphodelææ*; *Hexandria*; *Monogynia*. This very handsome species has been sent by Baron Ludwig from Cape of Good Hope to the Glasgow Botanic Garden. The scape rises near a foot high, producing a spike of numerous flowers. They are at first of a palish blue, changing, however, as they become older, to a rosy-lilac. The perianth (calyx) is also coloured, and prettily spotted with blue. There are two varieties of this plant, one having pale blue flowers, and plain leaves; the other having lilac or rose coloured flowers, and spotted leaves. *Lachenalia*, in compliment to W. de la Chenal, a botanical Author.

6. *LIMNANTHUS DOUGLASSII*. Mr. Douglas's Limnanthes (Bot. Mag. 3554.) *Limnanthææ*; *Decandria*; *Monogynia*. A native of California, from whence it was sent by Mr. Douglas. The plant is annual, quite hardy, decumbent, stems growing ten or twelve inches long. The ends are crowded with numerous fragrant flowers, each about an inch across, much resembling in size and form the *Nemophila grandiflora*. A large portion of the flower is a deep yellow, the extremities of the petals being white. It blooms from June to August. *Limnanthes*, from *lumen*, a lake; and *anthos*, a flower. The plant, probably, in its native habits growing by the sides of lakes, rivers, &c.

7. *LOBELIA CARDINALIS*; var. *MILLERI*. Mr. Miller's *Lobelia*. (Brit. Flow. Gard. 372.) *Lobeliaceæ*. *Pentandria*; *Monogynia*. A very handsome flowering variety, raised by Mr. Evans, gardener to Mrs. Batt, Newhall, Salisbury, Wiltshire. It is an hybrid between *L. cardinalis*, and *L. syphilitica*. The plant is perennial, quite hardy, blooming from July to the end of the summer season. The stem rises three feet high, having a long raceme of flowers, of a lively purple colour, darker up the centre of the petals. The plant deserves a place in every collection. Plants may be had at the public Nurseries. A number of very fine flowering hybrid *Lobelias* have recently been raised, and will be offered to the public this spring. (See Messrs. Godwin's Advertisement in February *Cabinet*.) They are highly ornamental, and great acquisitions to the

flower-garden. *Lobelia*, in compliment to M. Lobel, a celebrated botanical Author and Physician: he died in 1616.

8. *LOBELIA POLYPHYLLA*. Many-leaved. (Bot. Mag. 3550.) A native of Valparaiso, from whence it has been recently sent to this country, and bloomed in the Glasgow Botanic Garden. Mr. Knight of Chelsea also possesses plants of this species. The plant is perennial, suffruticose, growing a foot high, branching, each producing a terminal raceme of flowers, of a deep blood purple colour, producing a beautiful appearance. The plant ought to be in every flower-garden.

9. *MENONVILLEA FILIFOLIA*, Thread-leaved. (Brit. Flow. Gard. 371.) Crucifera. Tetradymania; Siliculosa. A hardy annual plant, a native of Chile, from whence it appears to have been sent to the Imperial Botanic Garden, at St. Petersburg, and from thence sent to A. B. Lambert, Esq. Boyton-House, Wiltshire, where it bloomed the last summer. The stems grow erect, about a foot high, each terminating in a longish raceme of flowers. The flowers are small, having very narrow petals, white. There are several other species of this genus, all natives of Chile. *Menonvillea*, in compliment to M. Thierry Menonville, an enterprising Naturalist of France.

10. *MUSCARIA COMMUTATUM*. Dark Purple Flowered Grape Hyacinth.—(Brit. Flow. Gard. 369.) A native of Italy and Sicily, where it grows frequent in the meadows. The flowers are produced in dense racemes about twenty in each, of a dark purple colour. It is grown in the gardens of the Honourable W. T. H. Fox, Strangways, Abbotsbury Castle in Dorsetshire. The plant blooms in March and April. The flowers are scentless. *Muscaria*, from *moschos*, alluding to the order of the type.

11. *NEPENTHUS DISTILLATORIA*. Distilling Pitcher Plant. Pax. Mag. Bot.) This very singular plant is a native of the East Indies, and was introduced into this country in 1789. It was subsequently lost, but the late Dr. Carey gathered seeds of it near Bengal, on the Ciréar Mountains, who sent some to Mr. Cooper, of Wentworth. A very fine plant is now growing in the stove at Chatsworth, which has near fifty pitchers upon it. The plant has bloomed for eighteen months past. The flowers, which are numerous, are produced upon a raceme of eight or nine inches long.

12. *ONCIDIUM LUNATUM*, Crescent-lipped. (Bot. Reg. 1929.) Orchidaceæ Gyandria; Monandria. This very neat flowering species bloomed in the collection of Messrs. Loddiges', during the last summer. It is a native of Demerara. The spike rises about nine inches high. The flowers very much resemble those of *O. Harrisoneanum*. Each is about three quarters of an inch across. The labellum is white striped, with dark blood colour. The other portion of the flower is yellow, spotted with brownish-red.

13. *PERESKIA ACULEATA*. West India Gooseberry. (Bot. Reg. 1928.) Cactaceæ; Icсандia; Monogynia; Synonym, *Cactus Pereskia*. This plant is an old inhabitant of our hot-houses, but seldom seen in bloom, often used as a stock, on which other kinds are inarched or grafted. The plant produces its flowers in a panicle of ten or more upon each. They are white, rather more than an inch across, and make a very pretty appearance. A fruit is produced much like a soft mellow Gooseberry. *Pereskia* from N. F. Peireskin's, an Amateur Botanist.

14. *SPIRANTHUS BRICHTEOSA*. Long Bracted Lady's Traces. Orchidaceæ Gynandria; Monandria. (Bot. Reg. 1934.) A stove herbaceous species of Orchidææ, belonging to the division Neottieæ. It was sent to Messrs. Loddiges' from St. Catharines. The scape rises about a foot high, terminating in a spike of flowers. They are very small, of a pale yellow colour. *Spiranthes*, alluding to the spiral manner that the flowers are produced in.

15. *TROPÆOLUM BRACHYSERAS*. Short Spurred Indian Cross. (Brit. Flow. Gard., 370.) We have already given some particulars respecting this pretty little plant, under the specific name, *Brachysema*, which, by some mistake, we had so inserted it. It appears the proper specific title is as now given. We introduce it in this place to correct the mistake.

16. *TULBAGHIA VIOLACEA*. Violet-flowered. (Bot. Mag., 3555.) Liliacæ; Hexandria; Monogynia. A native of Southern Africa. The scape rises about a foot high, producing an umbel of eight or nine flowers, of a bright shining purple colour. Each flower is about three quarters of an inch across. *Tulbaghia*, in compliment to M. Tulbagh, a Dutch Governor.

PART III.

MISCELLANEOUS INTELLIGENCE.

QUERIES.

A LIST OF THE BEST HARDY EVERGREEN AND DECIDUOUS SHRUBS.—I shall be much obliged by a list of the best Hardy Evergreen and Deciduous Shrubs, to include the Camellias, Magnolias, and those shrubs which have been introduced for the last few years, fit for small gardens; and if the height, time of flowering, and prices would be given, it would be very acceptable to myself as well as others. The list of plants given in November, by Mr. Brown, was a very excellent one, and wanted the prices only to make it complete. A similar list for the greenhouse would be equally acceptable. PEDRO.

London, January 25th, 1836.

SUPERIOR PANSIES.—A reader of the *Cabinet* would be much obliged by a list, and description of colours, of forty of the best kinds of Pansies most suited for cultivating for prize flowers, to be exhibited at the Floricultural Meetings. An early attention to this request, by a connoisseur of Pansies, will be a very great favour conferred on AN OLD SUBSCRIBER.

Brompton, Jan. 20, 1836.

A LIST OF ONE HUNDRED FLOWERS &c.—A new Subscriber will be particularly obliged, if some Correspondent, will insert in as early a number as possible of the *Cabinet*, a list of flowers, &c., suitable for a garden 100 feet by 21, in rather an open situation, with a south aspect, and northern side of London. The list to contain only those flowers that a mere novice can attend to, with as good a succession of flowers as possible. A NEW SUBSCRIBER.

Jan. 23rd, 1837.

The garden is in some places shaded by fruit trees—please to say, therefore, what will grow under them.

DOUBLE FLOWERED CLARKIA.—Seeds of a double variety of this pretty plant are advertised in the *Cabinet*, for sale by Mr. Kernan. I have never heard of it before, but certainly it must be an acquisition to the flower garden, well deserving a place in all. Can any reader of the *Cabinet* inform me where it has been raised, and if it has bloomed in this country. J. KING.

Blackheath.

ROSA HARDII.—I have been informed that a new Hybrid Rose, raised in Germany, and named Rosa Hardii, produces golden coloured flowers, having a dark purple eye. I should be glad to be informed by any reader of the *Cabinet* who may have seen the flower, whether it be a double or single flowering variety, and where, in this country, plants may be purchased. ROSA.

Cheltenham Feb. 6th, 1837.

We refer our Correspondent to apply, immediately, to Messers. Wood and Son, Maresfield, near Uckfield, Sussex, for the kind, if it be wished to have the plant for blooming the coming season. (See their list in the *Cabinet* for February.) CONDUCTOR.

THE DOUBLE BLOSSOMED CHINESE PRIMROSE.—Information has recently been given me, (but I have entirely forget by whom) of a double blossomed Chinese Primrose. If some Correspondent of the *Cabinet* will inform me where it can be procured, and the price per plant, it will very much oblige.

Bath, Feb. 7th, 1837.

A LADY.

Mr. Henderson, nephew of Mr. Henderson Nurseryman, Pine Apple Place Edgeware Road, London, succeeded in raising a double flowering variety, having fringed petals. We understand plants are offered for sale at the above named nursery. CONDUCTOR.

ANSWERS.

ON HEATING BY HOT WATER IN GLASS TUBES, 1836, p. 215.—R. must be under some mistake respecting glass tubes, employed in hot water appearance as is statement that they give out heat quicker, and retain it longer is self-contradictory, to say nothing about the affording a higher temperature. The subject was most accurately investigated by Mr. T. Tredgold, some years ago. The result was, that water in a glass tube gives off its heat rather more slowly than in an iron one—in the ratio of 155, 180, where the iron is covered with rust, as hot water pipes generally are—consequently iron pipes give out heat quicker, and under equal areas of external surface, produce a higher temperature than glass would, and of course the heat contained in them is more rapidly expended. With respect to glass tubes, the difficulty and expense of joining them, would probably prove an insuperable objection to their use, if their brittleness were not a sufficient one.

ON THE HEAT OF A FURNACE, &c., 1836, p. 137.—I see a Correspondent at Canterbury, is incredulous as to the time which the little furnace mentioned in page 46, continues to burn. The fact, however, was as stated, and since that time, another furnace smaller than the former, as having rather less diameter and conical, has remained alight without any attention an equal time. Whenever it is filled with fuel and regulated, it burns untouched, twelve hours, and only requires stirring up to put it to work in the morning. It must, however, be observed, that the combustion for a great part of this time is so slow as to produce very little heat.

ON GROWING CAPE BULBS IN THE OPEN GROUND, page 1836, p. 137.—I may be glad to be informed, that notwithstanding all that is said about growing Cape Bulbs in the open ground, those who attempt generally lose their plants, or if they succeed, the flowers are so indifferent as ill to reward the trouble. A few strong species succeed, but the wet of our autumns destroys most kinds, and the frosts cut up those which survive. If he will try, he must drain his beds well, raise them high, and protect them from all rain after October begins.

C. B. B.

REMARKS.

A LIST OF FIFTY EXCELLENT SORTS OF DAHLIAS.—I forward you the requested list of Fifty Dahlias, together with a few others which are spoken of in the highest manner, but not having seen them, I have omitted them in my list; those to come out this season, and which I have placed amongst the fifty, I have seen, and can highly recommend. Quilled Perfection must be considered a first-rate flower, and Sir H. Fletcher, Dodds's Mary, and Jones's Sulphuria Elegans, unequalled. I speak thus favourably of the latter, from the bloom exhibited at Salt Hill last year, which was splendid. Addison must also be in every collection, and will, I think, find itself a place in every good stand of blooms. I should remind growers that this is Granta's year, it having been generally remarked that this splendid flower is in perfection only every other

ON SPOTTED LEAVES OF ORCHIDÆ.—A Correspondent in one of your late numbers, complains of spots in the leaves of his Orchidæ, which do not appear to be caused by insects. As I have found that cold, especially during the night, when there is moisture on the leaves, affects many tender stove plants in the way he describes. I think it is possible his Orchidæ have suffered from that cause—a temperature much below 65 degrees, especially during summer, when the heat by day is great, will generally cause spots. C.B.B.

TO DESTROY SLUGS, WOODLICE, EARWIGS, &c.—Take some cabbage leaves, and either put them in a warm oven, or hold them before a fire, until they are soft, then rub them with salted butter, or any kind of fresh dripping, and lay in the places infested. JACOBUS.

season. In 1835 it was in every stand; last year, I do not remember seeing a good bloom. In my list I may, perhaps, have excepted several flowers which I have admitted; indeed, I see that the Editor of the *Gardeners' Gazette* condemns *Ariel* and *Glory*, declaring them hardly worthy of admittance amongst an 100, but as this gentleman seems rather eccentric in his likes and dislikes, I am not inclined to pay particular attention to him.

PENSEE.

Dodd's Mary	Calypso
Springfield Rival	Metropolitan Roselle
Sir H. Fletcher, Richardson's	Piltown Rival
Quilled Perfection, Brown's	Ariadne, Brown's
Addison	Warminster Rival, Wheeler's
Countess of Sheffield	Venosa, do.
Sulphuria Elegans, Jones's	Dr. Halley
Perfection, Widnall's	Glory
Granta, do.	Ariel
Corinne, Brown's	Yellow Perfection, Stones's
Triumphant, Jefferies'	Blue Beard
Countess of Moreton	Lydia, Brown's
Mary Queen of Scot's, Leod's	Queen of Dahlias
Metropolitan Blush	Ada Byron
Mrs. Wilkinson	Countess of Liverpool
Napoleon, Smith's	Fisherton Rival
Purple Perfection, Squibb's	Pink Perfection
Diadem of Flora	Burgundy
King Otho	
Beauty of Camberwell	Girling's Ruby
Angelina	Suffolk Hero
Sir E. Sugden	Madonna
Polyphemus, Elphinston's	Mrs. Broadwood
Lilac Perfection	Lady of Oulton
Hermione	Surpass Polyphemus
The Gem, Brown's	Nulli Secundus
Beauty of Dulwich	Beauty, Brown's
Perfection, Sutton's	St. Leonard's Rival
Royal Adelaide, Clark's	Countess of Jersey
Metropolitan Perfection	King of Beauties
Hon. Mrs. Harris, Squibb's	Conqueror of Europe
Aurora, Maule's	

ON THE AROMA OF FLOWERS.—Before R. T. W. can expect an answer to his query, December Number, 1836, page 292, concerning "aroma of flowers," he must explain its meaning.

C. B. B.

ON THE GERMINATION OF OLD SEEDS.—The germination of seed, supposed to have lost their vegetative principle, may be greatly accelerated by immersing them in Oxalic Acid, or putting them in a cloth moistened with the acid. They are not to remain in the cloth any longer after the germination has commenced. By attending to the foregoing, seeds have vegetated after being kept thirty years.

Jan. 25th.

JACOBUS.

EUPHORBIA JACQUINIFLORA.—In December last year, I had the pleasure of walking through the superior collections of Exotics in the nursery of Mr. Lowe, of Clapton, and one plant particularly arrested my attention, viz. *Euphorbia Jacquinni*. It produces a large head of scarlet bractææ, that may be termed its flowers, which are splendid and showy. It deserves a place in every hothouse in the country. The season of its blooming, length of time I was informed it bloomed, several months, alike contribute to make the plant desirable.

Ealing, Jan. 3d, 1837.

J. A. SMITH.

ON THE PASSION FLOWER.—As you expressed a wish to receive my small communications, I forward them in time, I hope, for the February number. I am much obliged for your answer respecting the *Billiardiera Melocarpa*, and hope always to receive so speedy a reply.—"The name *Passion Flower* is derived from

the Latin, "flos passionis," originally given to the plant by the Spaniards, from its supposed resemblance to the instruments of the Crucifixion of our Saviour. When they first discovered America, and found a flower seeming to represent so closely circumstances of so sacred a nature, they attached the most superstitious ideas to it. I have read that, in old botanical works, very curious prints are to be met with, in which the flowers seem to be composed of the things themselves, being evidently portrayed from the exaggerated accounts of the first discoverers, who saw in the five anthers, our Saviour's five wounds; in the three styles, the nails by which he was fixed to the cross; in the column which rises from the base of the flower, the pillar to which he was bound. The resemblance appeared to the Roman Catholics so strong, that the name of Passion Flower was bestowed on it; and it is now held in such veneration in South America, that the Nuns train it with very reverential feelings round the windows of their little dormitories."—I copied this out of a very nice little book for beginners in Botany, by C. A. Halstead, which seems to me much the clearest and nicest work of the sort I have ever seen, and I should recommend it to any beginner in the science. If you think this worth inserting for the amusement of your readers,

You will much oblige,

Dec. 30th, 1836.

KALMIA.

A LIST OF FIFTY EXCELLENT KINDS OF DAHLIAS.—With this I send you a list of fifty superior Dahlias. I saw blooms of them at the various exhibitions around London and in the country, during the last season. The plants may not all be the best bloomers, as to quantity produced. I had not an opportunity of seeing some of them grow, but I can vouch for the superior form of the blooms, which I saw at the first-rate exhibitions, all of which obtained many prizes. I would furnish a list for the *Cabinet*, how many times I saw each sort in the winning stands, but fear it be too lengthy an article.

Marquis of Northampton, Elphinstone's	Bristol Perfection
Duke of Devonshire, Widnall's	Middlesex Rival, Pamplin's
Sir Edward Sugden	Quill'd Perfection, Brown's
Countess of Orkney	Piltown Rival, Mitchell's
Ada, Gaines's	Rival Sussex
Mary, Dodds's	Countess of Jersey, Gaines's
Roso Superba, Elphinstone's	Elis
Conqueror of Europe, do.	Scarlet Perfection
Paragon, Marsh's	Miss Georgiana
Goldfinder, Dray's	Queen's Superba, Wilmer's
Malibran, Kington's	Queen of Trumps, Elphinstone's
Mrs. Broadwood, Elphinstone's	Lady Dartmouth, Widnall's
Sulphurea Elegans, Jones's	Penelope, Chubb's
Ruby, Girling's	New Scarlet Perfection, Holman's
King Harold, Dray's	Mrs. Wilkinson, Penny's
Shakespear, Girling's	Napoleon, Smith's
Lord Lyndhurst, Forsyth's	Countess of Sheffield, Mantel's
Purple Perfection, Elphinstone's	Lilac Perfection
Warminster Rival, Squibb's	St. Leonard's Rival, Stanford's
Maid of Judah, Kington's	Alexander the Great, do.
Enterprize	Victorious, Kington's
Salter, Mitchell's	Paris, Widnall's
Sir H. Fletcher	Magnet, Kington's
Champion, Wells's	Ipswich Beauty
Incomparable White	Madonna, Stanford's

In the above list will be found high-priced kinds, if all be offered for sale this season, which I am not aware of, not having looked through the published lists. To those persons who wish for superior kinds, at a lower cost, the catalogues published give a pretty correct statement of sorts. What I saw were exhibited at Bristol, Bath, Cheltenham, Vauxhall, Salt Hill, Cambridge, Twickenham, and a few other minor exhibitions.

Near London, Feb., 1837.

A CLERGYMAN, J. . S.

SEEDLING DAHLIAS,

RAISED BY J. KINGTON, STOWELL, NEAR CORSHAM, WILTS.

INCOMPARABLE WHITE.—Good show flower, and can be depended always to come good; it obtained the 1st prize for seedlings at the Bath Show, Sept. 15th, and the 1st for seedlings at the Rodborough Show, Sept. 23rd, 1836.

MALIBRAN.—Fine white edged with rosy pink, obtained the 1st prize for seedlings of any colour at the Clippenham Show, Sept. 9th; and the 1st for edged seedlings at the Hungerford Show, Sept. 30th, 1836.

MAGNET.—Dark crimson, striped with light, fine cup petals, extra good shape; took the 1st prize for striped seedlings at the Hungerford Show, Sept. 30th.

ROSEBUD.—Beautiful shaped, rose cupped petals, obtained the 1st prize for Sells, at the Hungerford Show, Sept. 30th, 1836.

MOON-RAKER.—Fine purple, good show flower.

NIMROD.—Good rosy bronse, fine cup petals, show-flower.

KINGTON'S VICTORIOUS.—Beautiful light rose, extra good shape, cup petals; this variety obtained the 1st prize for selfs at the Salisbury Grand Show, Sept. 21st and 22nd for any colour at the Rodborough Show, Sept. 23rd, 1836.

MAID OF JUDAH.—Fine cream and buff excellent show-flower, every flower come perfect.

VICTOR HUGO.—Fine dark purple, good shape.

VATHEK.—Dark purple, Springfield shape.

December, 1836.

J. KINGTON.

 The above kinds are offered for sale by C. W. HARRISON. (See List Advertized.)

MEETING OF BOTANICAL SOCIETY, FEB. 2nd.

J. E. GRAY, Esq., F.R.S., President, in the Chair.—A paper was read from Mr Freeman, being hints on the importance and practicability of adopting a more systematic method, in describing and arranging species of plants. In his preliminary observations the writer complained that descriptions were generally without systematic arrangements, except where the species belonging to a genus are so very numerous as to be divided into groups; and that no proper account is taken of the relative value of characters, which are left to the judgment and experience of the describer. After describing the characters of the several species of *Thalictrum* and *Anemone*, which he selected as examples, he proposed their arrangements in a tabular form, as less liable to objections and more easy of reference. A continuation of a description by Mr. J. E. Dennes, of the plants in the neighbourhood of Deal, Walmer, Sandwich, and Dover, was also read. In one day Mr. Dennes recognized 84 genera, and 120 species; but has no doubt that on a fine day in July, this number would be materially increased. There were, on the table, some specimens of *Lycopodium circinatum*, of Humboldt, from South America, placed in water, in order to shew the development of the leaves.

ATHENÆUM.

BLUE AND WHITE FLOWERED PYRAMIDAL CAMPANULAS.—This plant when grown to a degree of vigour it is capable of, by a rich soil, and plenty of pot room, with one or more shiftings into larger as required, I find to grow nine feet high, with numerous subordinate spikes, and during some months at the end of summer to make one of the most showy plants in cultivation. The season to take in plants for potting being the present, and as they may be purchased at five shillings per dozen, induces me to send this small notice of the plant, that the readers of the *Cabinet* may be enabled to provide, and cultivate this truly sweet and splendid flowering plant. When grown in pots, it forms one of the most ornamental plants for a greenhouse-room, or to be placed in a vase on the lawn, or in a flower-garden. Or if grown in the open border in a deep and rich soil, it merits a place in all. I have found that by placing one of the blue flowered kinds in a shady place in the greenhouse or room, the flowers become paler and are of a most beautiful French lilac colour, most strikingly handsome.

London, Feb. 10th, 1837.

AN AMATEUR OF THE METROPOLIS.

ON *NERIUM SPLENDENS*, &c.—During the past summer, I flowered a few dwarf plants of *Nerium Splendens*, by the following method:—In April I looked over my old plants, and discovered those shoots which had a leading bud of blossom; I then took a small garden-pot, knocked the bottom out, and carefully drew the shoot through, at about six inches below its crown; I notched the stem like a Carnation, putting a bit of soil to keep the tongue open. I then tied a piece of sheet-lead under the pot, to enable me to fill it with fine rich soil. I pressed the soil tight, and placed the plant in a greenhouse for a month; the layers rooted speedily. I then cut it off the parent, repotted into a larger pot, kept in the hot a fortnight longer, which was then the first week in June, and a most beautiful bloom succeeded upon all the plants, and they not more than a foot high. A free supply of water was given, whilst striking root, as well as subsequently. I beg to assure the readers of the *Cabinet*, that the plan is worth trying. I should be glad for this to be inserted in the March Number. (Too late for the first sheet of the work.—CONDUCTOR.)

Honiton, Feb. 13th, 1836.

J. P. CLARK.

N.B. The same treatment with *Nerium Oleander* would doubtless be equally successful.

ALLSPICE OR PIMENTA,—is the dried berry of a West Indian species of myrtle (*Myrtus pimenta*), which grows to the height of twenty feet and upwards, and has somewhat oval leaves about four inches long, of a deep shining green colour, and numerous branches of white flowers, each with four small petals. In the whole vegetable kingdom there is scarcely any tree more beautiful or more fragrant than a young *Pimenta* tree about the month of July, branched on all sides, richly clad with deep green leaves, which are relieved with an exuberance of white and richly aromatic flowers; it attracts the notice of all who approach it. *Pimenta* trees grow spontaneously, and in great abundance, in many parts of Jamaica; but they cannot be propagated, without great difficulty. The usual mode of making a *Pimenta* walk, or plantation, is to appropriate for this purpose a piece of woody ground in the neighbourhood of an already existing walk, or in a part of the country where the scattered trees are found in a native state. The other trees are cut down, and, in a year or two, young *Pimenta* plants are found to spring up in all parts, supposed to have been produced from berries dropped there by birds, which eagerly devours them. About the month of September, and not long after the blossoms have fallen, the berries are in a fit state to be gathered. At this time, though not quite ripe, they are full grown, and about the size of pepper-corns. They are gathered by the hand; and one labourer on a tree will strip them off so quickly, as to employ three below to gather them up; and an industrious picker will fill a bag of seventy pounds weight in a day. The berries are then spread on a terrace, in the sun, to be dried; but this is an operation which requires great care, from the necessity of keeping them entirely free from moisture. By the drying they lose their green colour, and become of a reddish brown; the process is known to be completed by their change of colour, and by the rotting of the seeds within the berries. They are then packed into bags or hogsheads for the market. When the berries are quite ripe, they are of a dark purple colour, and filled with a sweet pulp. *Pimenta* is thought to resemble nutmegs and cloves, whence it has obtained the name of all-spice. It is also employed in medicine, as an agreeable aromatic, and forms the basis of distilled water, a spirit, and essential oil. The leaves of the *Pimenta* trees yield, in distillation, an odoriferous oil, which is not unfrequently used in medicine preparations instead of the oil of cloves.

LONDON HORTICULTURAL SOCIETY MEETINGS, FEB. 7TH.—Dr. Henderson V. P. in the chair. Several books were announced. Lord O'Neill, Sir P. G. Egerton, Mr. Richard Forest, G. Coode, Esq., and Christopher Rawson, Esq., were elected Fellows of the Society. Dr. Lindley read a letter from Mr. Buchan, gardener to Lord Bagot, Blichfield, Staffordshire, forwarding therewith, forty seeds of the true Cinnamon Tree, from a tree which was imported into this country. The fruit much resembles acorns hanging in clusters of two or three, and it is considered that the plant would well bear exposure to the air in winter, in most seasons, and without much protection. Specimens had been

sent to many Botanical and Horticultural Societies, in districts where it is considered that the plant would thrive better than in Staffordshire. The flowers exhibited were, of *Echeveria gibbiflora* (Crassulaceæ) Gibbons flowered, continuing in high flower and perfection. It is a greenhouse plant flowering freely at a season when very desirable. It is of easy culture, and very suitable for either the greenhouse or sitting room. Its yellow and pinkish flowers being very showy. *Helleborus odorus*, a plant having a pleasant aromatic odour, but difficult to increase. *Eulophia lurida* (Orchideæ.) These were from the garden of the society. *Epacris pungens*; *E. impressa*; *E. campanulata alba* from Mr. Glenny; *Boronia pimata*; *Veltheimia viridiflora*; *Poinsettia pulcherrima*; and six kinds of *Camellias* from Mrs. Marryatt; *Oncidium carthaginense*, the flowers of which were in high perfection, of an olive colour, although the plant had been kept in a drawing room in London for the last month. *Brassia maculata*, bearing yellow and red flowers. *Bilbergia iridifolia*, bearing crimson flowers; and *Thalia grandiflorus* (canneæ.)

ATHENÆUM.

REFERENCE TO PLATE.

Bignonia Venusta.—This very splendid flowering hothouse climber well deserves a place in every stove; scarcely any flower can equal its beauty and comeliness when in bloom. It is of easy cultivation. If planted in the corner of a bark pit, and its roots allowed to extend in the bark, it grows vigorously, extending thirty feet or more in a season. If the plant was allowed plenty of root room by being planted into an open border in the stove, it would doubtless succeed equally as well, provided some due proportion of warmth was communicated to the soil by being near a flue, &c.; or grown in a large tub would probably answer well. Our plant is grown in the bark pit. A plant growing in the stove of the Misses Trevor, Tingworth, near Woburn, in three years covered a surface of 500 feet, and blooms most profusely. Manure water is given at Tingworth to promote its vigour. The truss we have given has only about one half the usual quantity of flowers in it—our space not admitting more. It blooms from November till February, during which time it has a most enchanting appearance. Plants may easily be obtained at a low cost. Cuttings readily strike root, inserting young shoots of about six inches long, into a sandy loamy soil, and placing them in a moist temperature.

Catceolaries.—These very splendid *shrubby kinds*, have recently been raised, by the persons whose name is attached to each. In order to give our subscribers as much as possible, in each plate, consistent with a proper representation of the flower, we have only given a single blossom of each, aware that our readers would readily judge what additional show would be given by any increased quantity produced upon a plant, and thus give eight kinds instead of one or two, if large specimens were figured.

No. 1, 2, and 5, are seedlings raised by Mr. Barratt, St. John's Botanic Gardens, Wakefield. We saw them in splendid bloom last season, in his fine collection.

No. 3. This most striking dark flowered variety with its white cap, we received a specimen from Mr. Atkins, Nurseryman, Northampton—along with a number more of very superior kinds which had been raised in the establishment of Mr. Atkins; we had only space at present for this very handsome kind. Others we purpose giving during the season.

No. 4, 7, and 8. These most strikingly handsome kinds were raised by Mr. Plant, Florist, Cheadle, Staffordshire. We visited the place during blooming season, and took drawings of forty, or more, of the most superb kinds, which Mr. Plant had been so very successful in raising. To have obtained the beautiful spotting upon shrubby kinds, was a new feature in the genus, for which Mr. Plant deserves the thanks of every admirer of this handsome family flowers.

No. 6 is *C. Majoriana. superba*. A most superior kind, raised by Mr. Major, landscape gardener, Knostrop, near Leeds. The present variety is of a brighter and lighter scarlet than *C. Majoriana*. We saw plants of it in exquisite bloom.

We have a plate in preparation of a number of other splendid kinds raised by each of the above gentleman. We hope each of the parties will meet with that encouragement they so deservedly merit, for their trouble, by an extensive sale of plants.





Sparocis
arvensis



Sparocis
arvensis



Sparocis
arvensis

THE
FLORICULTURAL CABINET,

APRIL 1ST, 1837.

PART I,
ORIGINAL COMMUNICATIONS.

ARTICLE I.

OBSERVATIONS ON AN APPARATUS FOR HEATING A PIT.

BY C. C. B.

HAVING sent you some months ago an account of a little apparatus which I had employed for heating a pit, I now send you the result of my experiments, which I can venture to recommend for general adoption. To those who may not in the mean time have contrived any thing better for themselves I am the more anxious to do so, because I find that my previous suggestion has been acted upon in several quarters, and I fear that some disappointment may have arisen to those who adopted it as an effective instrument which was little more than an essay towards one. For those who may have been so disappointed, I just mention that by using from eighteen to twenty-four feet of three-inch pipe, instead of nine feet, and substituting a small cistern holding two or three gallons instead of the funnel, the apparatus may be effective; and by this last expedient of a cistern, my original apparatus was worked efficiently for more than seven months. The boiler, however, which I am about to describe, possesses so many advantages, over the former, that I should not recommend any one putting up a new apparatus to follow the former model.

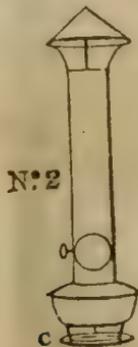
The annexed sketches will explain both the form of the boiler, and the mode of applying it.

No. 1. represents the boiler, a double cone of copper or tin, nearly resembling a loaf of sugar with the top cut off. The boiler containing a shell of water about one inch, or one inch and a half thick surrounds

the fire, the fuel for which is introduced as before: At the top *a* and *b* are two pipes with union joints, giving opening to the boiler at top and bottom.

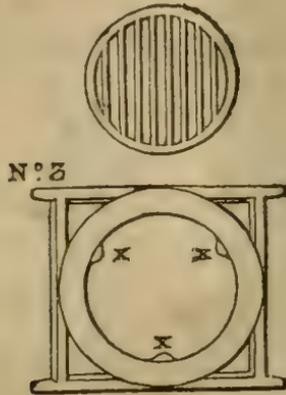


No. 2. is the chimney detached from the furnace, its only peculiarities, being a circle of iron, *c*, nearly as large as the top of the furnace, suspended over the fire, causing the flame to play against the boiler, the draft taking place all round it, and a rim of iron in form like an inverted cone attached at its upper edge to the lid, but leaving a space of about one inch and a half between itself and the circular damper, through which space the draught plays, as shewn by the arrows in No. 1. These two are essential to the working of the furnace with nough of fuel.

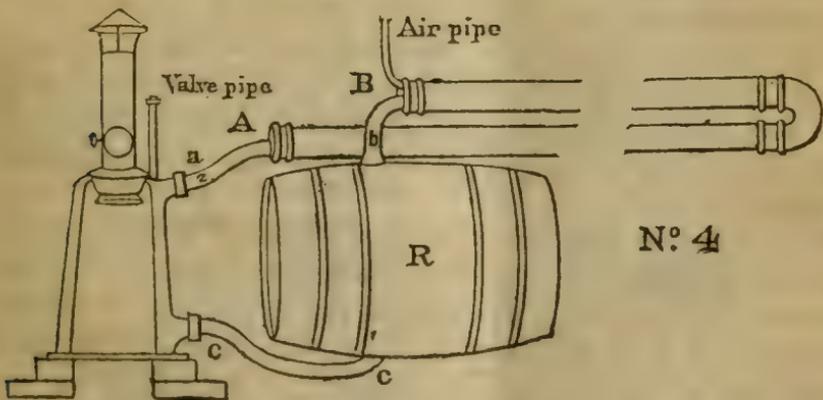


No. 3. is a ring of iron as broad as the boiler on which it rests, and which is attached to a square iron frame, by which it is fixed in the brick-work which supports it. The grate *G*. may either rest on the

three brackets, xxx, and be thrown down by a little rod with a hook, or be fixed on two pivots, and secured by a catch, so as to turn over and allow the clinkers to fall out when required.



No. 4. Exhibits the apparatus complete; the lead pipe *a* from the top of the boiler enters the lower side of the cast iron pipe *A*, while from *B*. the other extremity of the range of iron pipes, the lead pipe *b*, enters the top of this reservoir *R*. a strong cask answers the purpose perhaps as well as any thing. From the lower side of this reservoir, a lead pipe *c*, communicates with the union joint at the bottom of the boiler. A supply cistern placed so that its bottom is higher than the highest part of the iron pipe, and communicating with the bottom of the reservoir, and a valve not lower than the top of the supply cistern, with an air pipe on the highest point of the iron pipes, complete the apparatus.



The fire being lighted in the furnace, the heated water flows into the iron pipe and thence into the reservoir, till all be heated. When

the fire goes out, a counter current takes place, till the water in the reservoir is all cold again.

The following particulars may prove useful to those who wish to employ such apparatus.

PROPORTIONS IN INCHES FOR BOILERS OF DIFFERENT SIZES.

	FURNACE. Upper. Diameter of	Lower diameter.	Height perpendicular.	Boiler thickness.	Diameter of union joints or communication pipes.	Will produce about	Size of chimney. Diameter.
(1)	6. inch.	9.	18	1 $\frac{1}{4}$ inch	1 $\frac{1}{4}$		3 inches.
(2)	6.	10.	20	1 $\frac{1}{2}$	1 $\frac{1}{2}$		3 $\frac{1}{2}$
(3)	6.	12.	22	1 $\frac{1}{2}$	1 $\frac{3}{4}$		4 $\frac{3}{4}$
(4)	6.	14.	24	1 $\frac{3}{4}$	2		4

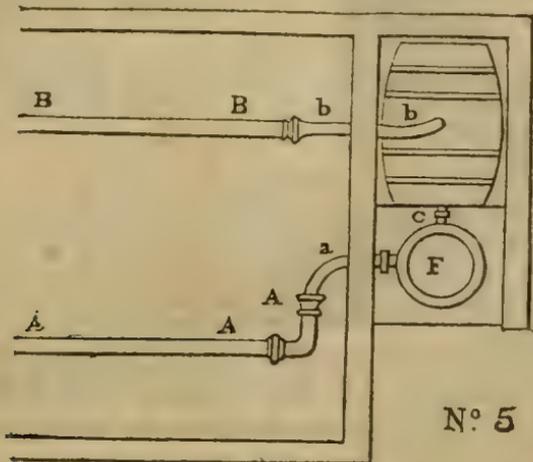
The first of these, will be sufficient for a pit containing from an hundred to an hundred and fifty square feet of glass, the last probably sufficient for a greenhouse of from six hundred to eight hundred or more. The reservoir should contain *not less* than three times as much as the pipes.

The expence of the smallest boiler is about six pounds; in tin, conical not curvilinear, about one pound fifteen shillings. The larger boiler in copper, may be each about one pound to one pound five shillings dearer than the other.

The expence of setting, from the small size of the boiler is very trifling. The best plan is a slight case, either of wood, slate, or brick work, packed with saw dust, and covered from the wet. The reservoir also should be similarly packed in saw dust, that no heat may be wasted.

Fig. 5. The annexed sketch exhibits the mode of arranging the apparatus as applied to a pit. F. is the furnace surrounded by the boiler a, the lead delivery pipe from the top of the boiler to the cast iron pipe A; B B the other cast iron pipe; b b the return lead pipe communicating with the top of the reservoir; c the return from the bottom of the reservoir to the boiler. The boiler and reservoir are outside the pit, enclosed in a small chamber of four and a half inch brickwork. The lowest point of A' A viz. A' must be higher than the

top of the boiler, and the pipe must incline upwards the whole way from A' to B' about one-third of an inch in nine feet, so that B' is the highest point of the iron pipe, here the air pipe is placed. From B to the top of the reservoir must be an uniform fall; one-sixteenth or one-twentieth of an inch in every foot is sufficient.



N° 5

The principal advantages of the apparatus are, that it is applicable on a much smaller scale than any other boiler now in use. That it occupies less room, is less expensive; for though its cost in copper, equals or exceeds a common cast iron boiler, yet when the furnace doors and bars, and the expensive setting, and chimney necessary for the latter are taken into account, the economy of this will be apparent. It consumes much less fuel, and requires much less attendance, as it may safely be left for three or four hours; if once filled with fuel.

In conclusion, it is perhaps well to observe that any material deviations from the proportions given above, will probably be found disadvantageous. All cylindrical boilers, with vertical furnaces, which I have hitherto seen, have been so much too large in proportion to their height, that half the heat of the fire went up the chimney; it will be seen this defect is cautiously, and I believe effectually guarded against. A further caution also against a common error may not be misplaced, the lowest point of the iron pipe, must be above the boiler and they must incline *upwards from the point* at which they *receive* the hot water *to the point* at which they deliver it to the *reservoir*. The only case in which I should be tempted to deviate from this, would be, where the pipes exceeded one hundred feet in length, when the air-pipe may be placed at the end of it furthest from the boiler; and both iron pipes incline equally from that point towards the boiler and reservoir. The

sizes of boilers, as given above, will be found somewhat more than equal to the work assigned to them, and by using coke entirely instead of cinders, or a mixture of them in different proportions, increased power may be obtained.

With respect to pipes, I have not sufficient experience to offer much, but for those who have no better information, the following may be useful.

It will be found that in a pit from seven to eight feet broad :

2. 2-inch pipes, are sufficient to produce greenhouse temperature.
2. 3-inch, for common stove plants.
2. 4-inch, for Orchidece, and plants requiring the extremest heat that can be produced.

The results also of the following experiments may be useful as some sort of guide.

1. A boiler rather less than No. 1. filled with coal and cinders, varied 30 gallons, 55 degrees in 1 hour and 20 minutes, and boiled that quantity in about four hours.

2. Boiler No 2, raised 40 gallons, 50 degrees per hour, and boiled that quantity in three hours and twenty minutes, the temperature being at 54°.

C. C. B.

ARTICLE II.

ON THE CULTURE OF THE PINK.

BY MR. THOMAS IBBETT, MOUNT PLEASANT, BULL FIELDS, WOOLWICH.

Having in a former number of the Cabinet mentioned that there was great room for improvement in the cultivation of pinks, I therefore beg to send you my mode of cultivating that beautiful flower, which you would have received before, but circumstances of a domestic nature prevented my attending to it sooner; in perusing your number for January 1837, I find the culture of pinks has been laid down by some one calling himself a *practical* gardener, and so he may be, and I have known very good practical gardeners possess very little knowledge of growing flowers, and I regret that the observations which have been made, are of little or no use to those, who wish to study the cultivation of pinks. As it seems to me a query if the Practical Gardener has ever seen a good bed of pinks, or he would not have written as he has done on the subject.

Having been a cultivator of pinks nearly thirty years, induces me to send you the method I adopt, for the propagation of that flower, which is by *piping*, being the most safe and *expeditious* plan that I know of. About the third or fourth week in June, I begin piping, choosing a southern aspect in the most airy part of my garden, and I always choose my mould of an open texture, worked finely with the spade for the first four inches, and for the next two inches I sift some mould-through a fine sieve, with one-fifth of drift or river sand laid on the top of the above, I then take a straight edged board, and level it all over; the length and breadth of the bed, to be regulated according to the quantity to be piped; since I have been a dahlia-grower, I have struck my pipings where I have struck my dahlias; having removed the frame I take off the top surface until I come to the dung, I then take a fork and shake as much of the dung as will cause a gentle heat, I afterwards lay a piece of old matting on the top, to prevent the worms from working up, covering it over with the mould as above described, the next object being to select the most rare and new sorts, which I pipe first, covering them with glasses varying in size from four to twenty-two inches square, using the small ones for the best sorts, I generally take the grass or side shoot from the plants with the number stuck to them, keeping each sort separate, I then proceed to cut off the pipings, stripping the leaves to the second joint, and with a sharp knife cut them close under the joint, taking care not to injure it. In those sorts; in which the joints are shorter, I cut the third or fourth joint, I then shorten the tops as close as possible to the heart without injuring it, and as I cut them I place them in small pans of water to stiffen, which causes them to enter the ground more freely, taking care to keep each sort separate, I then take the glasses and make a print in the mould with them, I next proceed to take each piping singly and stick them into the mould up to the first joint, three quarters of an inch apart, after having filled the space I proceeded to give them a gentle watering, taking care not to put the glass down close until they are dried, or it will cause them to damp off: I proceeded in this manner until I have gone through the whole of my collection, being particularly careful to shade them from the mid-day sun, which I do by placing hoops a-cross the piping place, covering them with matting from eight in the morning till five in the evening, giving them the full benefit of the morning sun till eight o'clock: in the course of three weeks many of the glasses may be taken off, and at the end of six weeks most of them will be fit for planting out into the bed which should be prepared ready to receive them, planting them three inches apart in the rows, and each row four

inches apart. In the middle of September I generally begin to make up my bed for blooming, having it four feet wide with border boards above the level, I take out one spit of earth from end to end, replacing it with a layer of horse or cow-dung quite rotten four or five inches thick all over the bed, I then cover it with about six inches of earth, keeping it three inches higher in the centre, gradually sloping to the edge, after which I mark out the bed and plant the pinks seven inches apart: about the latter end of March I top dress them with some old rotten horse-dung worked into the mould with a small fork between each plant: in the beginning of May they will spindle up for bloom, I then take off all the side shoots that show for bloom, not having more than two of the main stems to bloom, and in many cases not more than one, and also all the side shoots that show for bloom, leaving only the main pod to bloom: about the latter end of the month many of the pods will begin to open, care must then be taken to keep the pods from bursting, to prevent which, they should be tied with a piece of soft bass matting round the middle of the pod in a tight knot, and should they be inclined to run down on one side, they should be eased on the opposite side down to the bass, which will give freedom to the petals to expand equally, and when they begin to drop their guard leaves, cards should be placed on them, laying the guard leaves even and round to allow the others to fall in regular succession, then the shade should be placed over them from the sun.

I now beg to make some remarks from what has fallen from the pen of the Practical Gardener, relative to the raising of pinks from seed which he states is the first principle of all vegetables, so far I admit he is correct, I wish I could say so in other respects. He observes you should *always* have a good stock of pink seed—but I should like to know how it is to be obtained; there has been many seasons that I have not been able to get as much seed from one thousand five hundred plants, as would raise one dozen, it is true some seasons are more favourable than others, and a greater quantity of seed may be obtained, and there are many sorts that I have not been able to save a single pod in the period of twenty years.

The Practical Gardener also recommends *the laying of pinks*, I would ask what person of any experience, or practice in piping, would attempt so tedious a method as laying, as piping of any description is better than layers, and it is my decided opinion that if carnations and picotees would strike as free as pinks, very few florists would lay either.

The time I would recommend for the sowing of pink seed, is the latter end of March, or the beginning of April, which I perform in the

following manner; I take a flower-pot No, 12, and fill it with finely sifted mould, drawing a flat piece of board over the top to make the surface even, I then lay on the seed and cover it over with very fine mould, and give them a gentle watering, covering the pot with a glass, and about the beginning of June they will be fit for planting in the natural ground and will bloom the following year.

It is a great error among the cultivators of this flower, in not getting the sorts they require in due time; I have frequently received orders as late as the middle of November after all the best plants are disposed of, the plants so late obtained cannot be expected to be so fine as those planted out in September, which gets better hold of the ground and are better able to stand the winter.

Since writing the above I have seen the second part of the Practical Gardener's remarks, and I beg to state, I have the same opinion of the second part as I had of the first, at the same time I beg to thank him for his information concerning *rats*, he states there is no animal so dangerous to pinks as *rats*, therefore you should be very watchful that they do them no mischief, I can assure him, I have a great many *rats* in my garden and its neighbourhood, and they must be all very kind ones, as I have never known them to destroy any of my pinks, *but* there is a little animal, or insect called a *grub*, which has done more mischief in *one night* than all the *rats* have done in *twenty* years, and when I find any of my pinks bit off, I work round the stem of the plant with my finger in the earth, and I generally find them about one inch under the surface, and not being quite so nimble as the *rats*, I can more easily catch them, and I show them no more quarter than I would the vermin before alluded to. In giving my opinion of the pink I beg to observe I consider it a most beautiful flower, and worthy a place in the garden of every florist, I have frequently been highly gratified during the twenty years that I have been a grower of that delightful flower, to observe after a long winter, my pinks looking beautiful when there was scarce any thing else green in the garden.

The pink is the poor man's flower, and has been exhibited for show more than any other flower until the introduction of the dahlia, which the poor man has little chance with, it requiring considerable room to grow any quantity: I consider the pink also very little inferior to the carnation or piccotee: take and place the following twelve blooms in a stand viz. Dryden's Earl of Uxbridge—Hopkins's one in the Ring—Ownsworth's Omega, Bexly beauty—Westlake's Hero—Bray's Invincible—Mans, Dr. Summers—Stevens's George Cook—Clark's Matilda—Barret's Conqueror—Seal's Miss, Austin, and Ibbet's Triumphant; and

I think it would be a difficult matter to beat them, with the assistance of the Practical Gardener to boot.

Mr. Editor I have placed the above remarks in your hands for insertion in your Cabinet, if you think them worthy a place in that publication, and rest assured should opportunity occur, I should feel proud in forwarding any communication that would assist the amateur or others in the culture of flowers generally.

ARTICLE III.

ON THE CULTURE OF THE CHRYSANTHEMUM INDICUM.

BY S. R. P. GREENWICH.

I AM so much a debtor to your Floricultural Cabinet for the pleasure and instruction I have derived from its pages that I am anxious to offer any contribution under the hope that I may assist in affording to others a reciprocal pleasure.

There are few late flowering plants, that surpass in beauty the *Chrysanthemum Indicum*, its varied, and increasing colours, are daily adding fresh splendour to the floral world, and whether it be in the conservatory, the sitting room, or the flower garden, I know not a more desirable autumnal plant. Much has appeared already on the cultivation of this pretty flower; but as I last year produced a method of treating it as a dwarf pot plant, that notwithstanding the disadvantages of the late ungenial season, more than answered my anticipations, I am induced to submit my mode of culture.

Early in the spring I took from the old plants rooted young shoots planted then singly, in number sixty, and promoted their growth and strength as rapidly as possible, by placing them in a cold frame, and supplying them occasionally with liquid manure. When the pots were full of roots they were shifted into 48^s., and placed in an open situation, and watered as before; by the latter end of June the tall growing sorts, had nearly reached three feet high, and the more dwarf in proportion; they were then turned out of the pots, and suffered to get a little flaccid, the mould was partly shook from them, and their roots slightly reduced. They were next potted in 32^s. as follows, some pieces of broken pots, as usual, and about two inches of compost being put into the pot, the plants, with the aid of a second person to fill up the mould, was coiled round the inside of the pot; the top of

the stem, which was left about five inches above the surface of the earth, was, by a more sudden turn, brought to the centre of the pot and there fastened upright to a stick. Should the stem crack in this operation, it will not effect the plant, if it be not severed.

The plants were placed in a shady situation; when the tops have shot a little, they were pinched off to about four inches: as soon as the laterals had started, the pots were exposed to the full sun; at the latter end of August, they were shifted into 24", the pots placed a foot apart and constantly kept moist with water or liquid manure. Thus treated they averaged from fourteen to twenty inches, and clothed with a fine healthy foliage down to the pots. They were placed in the greenhouse and sitting rooms, and produced the finest bloom I ever saw.

This may appear a lengthy process; but when it is considered, that we take more trouble to produce a fine balsam or cockscomb; surely, it will not be thought too much pains to bestow upon this delightful flower that cheers the last ray of departing autumn "when all fair things are passing away."

ARTICLE IV.

ON THE CULTURE OF IPOMOPSIS ELEGANS.

BY J. M., ESQ. HANTS,

IF Medicus does not obtain better advice relative to preserving the *Ipomopsis Elegans* than what follows, even this may prove acceptable. I pot the plants in light soil, with about an inch of small drainage at the bottom, over which I place a tuft of moss; when obliged to shift them, I am very careful not to disturb or injure any of the young roots, and sometimes (when plants were scarce) I have broken the pot, as the safer way. In planting I always elevate the plant (as it were on a little hill) in the middle of the pot, such as heaths are served; and I take care in giving water, which requires to be done moderately, but often, not on any account to let it touch the stem of the plant. Let Medicus do this, and keep them in a light and airy situation in the greenhouse, or turn them out if he wishes them to grow more luxuriantly, into the border in the spring, (the border being composed of light and open mould) and though I do not say he will not lose one or more plants without being able to account for their dying, yet I think I may confidently assert that the majority of his patients will do credit to his cause provided he attends them after the manner I have prescribed.

ARTICLE V.—ALIST AND DESCRIPTION OF PLANTS WHOSE
FLOWERS INDICATE THE HOUR OF THE DAY.

BY MR. JAMES BROWNE, DERSINGHAM, NORFOLK.

I TAKE the liberty of sending the following extract for the use of your readers if you think it worthy a place in the cabinet.

“ Among curious collections, it may be desirable to assemble the dial plants, or such as indicate the hour of the day by closing or opening; a list has already, been given by Linnæus in the *Philosophia Botanica*: but the following are plants generally known and easily procured, and are sufficient to form a botanist’s dial in Britain.

NAME OF PLANTS	Opens in the morning.		Shuts from Noon to night	
	Hour.	Min.	Hour	Min.
<i>Tragopogon pratensis</i>	3	5	9	10
<i>Leontodon serolinus</i>	4	0	12	1
<i>Helmenthia echioides</i>	4	5	12	0
<i>Borkhausia alpina</i>	4	5	12	0
<i>Cichorium Intybus</i>	4	5	8	9
<i>Papaver nudicaule</i>	5	0	7	0
<i>Hemerocallis fulva</i>	5	0	7	8
<i>Sonchus lœvis</i>	5	0	11	12
<i>Agathyrus alpinus</i>	5	0	12	0
<i>Convolvulus arvensis</i>	5	6	4	5
<i>Lapsana communis</i>	5	6	10	0
<i>Leontodon taraxacum</i>	5	6	8	9
<i>Achyrophorus maculatus</i> ...	6	7	4	5
<i>Nymphæa alba</i>	7	0	5	0
<i>Lactuca sativa</i>	7	0	10	0
<i>Tagetes erecta</i>	7	0	3	4
<i>Anagalis arvensis</i>	7	8	2	3
<i>Hieracium pilosella</i>	8	0	2	0
<i>Dianthus prolifer</i>	8	0	1	0
<i>Calendula arvensis</i>	9	0	3	0
<i>Arenarea purpurea</i>	9	10	2	3
<i>Portulaca oleracea</i>	9	10	12	12
<i>Malva Carolinians</i>	9	10	19	1
<i>Stellaria media</i>	9	10		10

The above might be planted in a department by themselves, and would form an object of great interest to all lovers of Nature,

While I have pen in hand, I must express my disapprobation of botanists continually changing the names of plants, names that have been transmitted to us by our forefathers. Our old favorites have now

new names, and many of them nothing near so appropriate as the old. It appears to me that the meddling parties, either do it, to render new articles necessary, or to (ridiculously) immortalize themselves by a display of their supposed ability above their predecessors. I will just quote a few of them as examples, *Coreopsis tinctoria*, to *Calliopsis bicolor*. *Dahlia superflua*, to *Georgina variabilis*. *Colutea frutescens*, to *Sutherlandia frutescens*. *Celsia acutifolia*, *incisifolia*, &c. to *Alonsoa*, with many others.

I find too there has been an attempt made to divide our old favorite *Tropæolum* to two or more genera, I trust that such alterations of the names of plants (excepting with good reason) will never meet with support from the true lovers of Flora. I have two or three other articles in course of preparation which shall be forwarded as soon as my avocations will allow me time to finish them.

ARTICLE VI.—ON THE CULTURE OF ORCHIDEOUS EPIPHYTES.

BY A THREE-YEARS PRACTITIONER.

In the summer of 1833, a number of plants in bloom of this singular and interesting tribe, came under my notice in the collection of Messrs. Loddiges of Hackney Nursery, which at once determined me on commencing their culture, having a great deal of glass. I purchased one hundred pounds worth of plants to begin with, and had them placed upon a back flue in a vinery, at eight feet from the glass. The period of the vines being in leaf, the plants had the advantage of a partial shade; in this situation they did well in the summer of 1834, but when the winter approached I found them declining in vigour and looking unhealthy, with all the attention I could give them, following the direction of Messrs Loddiges, and Mr. Cooper of Wentworth. I immediately had a house erected to grow them in, I have it heated on the hot water system, three feet above the pipes going round the house, I have a ribbed trellis three feet broad, upon which I have a quantity of plants, they flourish amazingly. At the centre of the house, I had a pit constructed with a wall three feet high, the breadth of the pit is eight feet, and length thirty six, two hot water pipes are laid up the centre, and a floor one foot above, where the top pipe is laid it is of tiles. On this floor I laid one foot of moss, and upon the moss I placed my plants, growing in pots, wicker baskets, &c., they flourish amazingly too. Since I commenced growing this tribe of plants, I have had considerable opportunities of trying experiments on their culture, as well as ascer-

taining the practice of most of the celebrated cultivators. I now possess eight hundred and forty six specimens. Most of them I have purchased, and in consequence I have carefully examined the soil in which I have received the plants. The following system of management is what I practise in general with all the kinds, and none can boast of more healthy, or finer specimens for the period I have had them.

In the specimens I have had from Messrs. Rollinson's of the Tooting Nursery, I found a small garden pot inversely placed inside the pot in which the plant was growing, of course it was a much smaller pot than the pot which held the plant, around this small pot was placed two inches deep of small broken potsherds. This forms a very efficient draining, which is of great importance to a successful culture of the plants; the plants are grown in two parts of broken potsherd, with one of peat. I have followed the same system of management as to potting, excepting substituting one portion of sphagnum moss for one of the broken potsherds. I find the plant thrive better in this, than in that which Messrs. Rollinson's plants were retained in. I observed that Messrs. Rollinson's mode of potting had been as follows. A small inverted pot, around which were a good portion of largish potsherds, upon those a few smaller, then a layer of peat in peices near an inch square, on the top of this a layer of small potsherds, and so proceeding till the pot was filled, finishing with the potsherds at the surface. Messrs. Rollinson's plants look very healthy and grow vigorously.

In heating by hot water there is the advantage of a moist atmosphere; I have two open tanks from which is considerable évaporation. In addition, I water the mossy surface between the plants twice a day, and sprinkle them over the tops twice a day, during the season the plants are in a growing condition, that is from February to November. I do this with water that is warm, I do not give as much in these sprinklings as to wet the soil, but only to moisten the foliage. I keep the temperature for the above named period, at seventy degrees by night, and from seventy to eighty by day. At the season of rest, I keep the temperature at sixty two by night, sixty eight by day. I have a quantity of plants in baskets made of sticks, nailed together at the corners, allowing spaces between the sticks, the roots protude through them. The plants flourish well by this mode of treatment.

I have grown for two seasons, several plants of *Dendrobiums*, *Oncidiums*, and *Epidendrums*, secured to pieces of sycamore wood branches, about five or six inches in diameter, I placed a quantity of sphagnum moss against the wood, then the roots of the plant, and over them more of the sphagnum, the whole secured by metallic wire. Some of them I have

suspended in the house, others I placed in the pit where the wood becomes warm, the latter have hitherto done best; a few of those growing best, I placed upon an end in a deep pot, and then filled around the wood with pots, peat and sphagnum, since which, they have grown very vigorously. In hot sunny days I have a close meshed net thrown over the glass roof. My house is double-roofed, admitting a great deal of light, which renders the covering very necessary in hot weather.

ARTICLE VII.

ON THE CULTURE OF MESEMBRY ANTHEMUMS, IN THE OPEN AIR.

BY MR. JAMES HALL, GARDENER, HARTLEPOOL LODGE, THIRSK, YORKSHIRE.

This very showy following tribe of plants is not cultivated in general as I am sure its merits demand. I therefore send these few remarks more with a view to bring the plants into notice, by growing them in the open air, than describing any new mode of culture as to soil, &c.; during the last season I had a most brilliant show from early in May to October.

Having a considerable number of plants which I had cultivated in the greenhouse, and cool frame for two or three years; on May 1st, I planted them out in the open air, turning them out of the pots with balls entire. I selected a situation under a south wall, where there was a flower border four feet wide. I planted four rows of twenty-five plants in a row, at one foot six inches apart in the rows, placing them alternately. The taller growing kinds in the back row, gradually declining to the post one which consisted of the very dwarf growing kinds. The border was made about a foot deep and filled with the following kind of compost, fresh loamy soil, well rotted cow-dung, and a good addition of lime rubbish and river sand. This compost was well incorporated and mixed up for two months, before I put it in the border. When I planted out the plants I gave them a good watering to settle the soil to the balls, and carefully attended to this through the season. They required a plentiful supply when they had began to root anew in the border, the dwarf kinds I find require less than the vigorous sorts, the subsoil of the border is rock, and being dry, I think it more suited to the growth of the plants. I beg to assure the readers of the Cabinet, who have cultivated this tribe of plants that it is well deserving their attention. The flowers only expand when the sun is upon them, so that it is re-

quisite to have them grown in a situation possessing such advantage. On November first, I took up the plants, and re-potted them, keeping their heads entire, and placed them in the greenhouse and cool frame for winter protection. During the winter I give the plants a scanty supply of water, never allowing them to be saturated at the roots, but when quite dry to give them as much as will moisten all the soil in the pot.

I have a rock-work twenty eight yards long, with a ten feet depth of frontage, having a full south aspect, well protected on the north by a thick holly hedge, upon this rockery, I planted sixty good strong plants. The taller kinds I placed in hollows, out of which the heads rose some distance: the dwarf and trailing kinds to spread and hang over the surface of the stones. I used a compost for them to grow in same as for the border. In this situation they flowered most profusely, producing a very pretty effect: they required a good supply of water, almost every day, but they amply repaid for all attention. I judged that in consequence of the plants on the rockery being dry at the roots, and screened on the north, that I might safely allow them to stand out through the winter which they would survive, but on examining them yesterday, (February 23rd,) I find nearly all the tops are killed. It is probable the roots of some may be alive, but if they push shoots, they will be so late in the season, and perhaps not more than two or three shoots to a plant, that little show would be produced, (if any) by them. For the future I propose taking up my plants from the rockery, and giving winter protection in a dry, cool, frame.

To have a good show, established plants of two or more years growth is necessary. Small plants make but little show, unless planted closely together; they are easily raised from slips or cuttings, put off from ripened shoots of the young wood. The cuttings must be inserted in a dryish soil, and be kept so till the cuttings begin to wither, when if water be moderately supplied, they will immediately strike root. A gentle heat in a cutting house or frame, assists to strike more certainly. Thus in two years a good stock of plants may be obtained to turn out which will produce effect.

PART II.

LIST OF NEW AND RARE PLANTS.

Noticed since our last.

1. *BEGONIA OCTOPETALA*, eight petaled, (Bot. Mag. 3559.) Natural order, Begoniaceæ. Linnæan class Monœcia. Order, Polyandriæ. This is by far the finest flowering species that has yet been introduced into this country, the flowers are as large as those of a single Anemone; it was sent from Lima in 1835, by J. McLean, Esq. to the Botanic Garden, at Glasgow, where, in the hot-house, it bloomed in October and November, of 1836. It requires a very high temperature to bloom well. The root is tuberous, the plant does not produce a stem. The leaves are upon long foot-stalks a foot and a half long, the leaf is eight or ten inches long, cordate. The flowers are produced in corymbs, of a greenish-white colour: the male blossoms are larger than the female: each of the former are two inches, or more across. *Begonia*, in compliment to M. Begon, a French promoter of Botany.

2. *BOLBOPHYLLUM BARBIFERUM*. Bearded flowered. (Bot. Reg. 1942.) Orchidaceæ. Gynandria Monandria. A most singularly pretty flowering Orchideous Epiphyte Plant, which has bloomed in the collection of Messrs. Loddiges, at Hackney, in whose collection it bloomed during the last year; it was introduced from Sierra Leone. The flowers are produced upon a raceme of six inches in length, upon each are from sixteen to twenty flowers; the petals are very minute, scarcely perceptible; the lip is long, narrow, flexuose, closely covered with a yellow felt, within its point there is a deep purple beard of very fine hairs, and on the under side is another such beard of fine hairs; at the end of the lip there is a purple brush of threads, which by a current of air, waving about, to produce a graceful and pretty effect; the lip, with its yellow felt, purple brushes, and two beards, is jointed so delicately that a very slight breath produces a rocking movement, which makes it appear as if some animal nature was possessed by the plant: the flower is a most extraordinary production. Messrs. Loddiges have another species of similarly curious habits. The plant has something of the appearance of a small kind of *Oncidium*. *Bolbophyllum*, from *bolbos*, a bulb, and *phyllum*, a leaf; alluding to the leaves arising from a bulb-like stem.

3. *CRATÆGUS FLAVA*, Rough-barked Thorn, Roseaceæ. Icosandria Pentagynia. (Bot. Reg. 1939.) The single fruited variety was noticed last month, the present species bears its fruit in clusters of three or four berries upon each, they are of a greenish-yellow.

4. *CHYSIS AUREA*, Golden-flowered. Orchidaceæ. Gynandria Monandria. (Bot. Reg. 1937.) Another splendid flowering species of Orchideous Epiphyte, which has been introduced into this country by Mr. Lowe, of Clapton, in 1835; it was collected by Mr. Henchman, in the valley of Cumancoa, in Venezuela. Mr. H. describes it as growing suspended by long fibrous roots, from the lateral branches of trees, so that its pseudo-bulbs hanging pendulous wave in the wind, and produces a spike of ten flowers. Mr. Bateman of Knypersley, has a plant of it which has grown very rapidly suspended from a rafter in a pot, planted in turfy-peat and broken potsherds. The stems are in structure very like those of a *Cyrtopodium* or *Catasetum*, but its real affinity is to the genus *Epidendrum* and its section. The flowers are very showy, each about an inch and a half across, the sepals are white at the lower part of a golden-yellow. Labellum, white with deep red veined stripes.—Petals same colour as the

sepals. *Chysis* from *chysis* a melting. The pollen masses being as it were fused together.

5. *DELPHINIUM MONTANUM*. Mounta in Larkspur. Ranunculaceæ. Polyandria Trigynia. (Bot. Reg. 1936.) Synonym. *D. elatum*. *D. hirsutum*. One of the handsomest flowering species, a native of the Alps of Europe. It is a hardy perennial, flowering from August to October; growing from five to seven feet high. The plant is covered with soft green down, and the flowers are of a pale sky-blue, slightly tinged with purple. This is an old inhabitant of our gardens, but, we have given these particulars in order, that our readers who may possess the kind and not know its real name, may be able to do so.—

6. *DAVIESIA ULICINA*. Furze-like. Leguminosæ. Decandria Monogynia (Pax. Mag. of Bot.) A very neat and handsome flowering greenhouse plant, a native of New Holland, it well deserves a place in every collection. The plant forms a very neat bush; the flowers are produced in vast profusion, and are very neat and pretty, much resembling, but a little larger, than those of the *Eutaxia myrtifolia*. They are produced from April to June, and they are of a bright yellow with red centre. *Daviesia* so named in compliment to Rev. Hugh Davies, F. L. S., a celebrated Botanist in Wales.

7. *EPIDENDRUM CHLOROLUCEUM*, Green and White flowered. Orchidaceæ. Gynandria Monandria. This new species has bloomed in the collection of John Allcard, Esq., in September, 1836, and by that gentleman imported from Demerara; the flowers are rather uninteresting in appearance; they are produced on a raceme of eight or ten upon each, about three quarters of an inch across; they are without scent; sepals and petals green; lip white. *Epidendrum*, from *epi*, upon; and *dendron*, a tree.

8. *EUPHORBIA FULGENS*, Fulgent flowered Euphorbiaceæ. Dodecandria Prigynia. (Pax. Mag. Bot.) This very neat and handsome flowering plant is a native of Mexico, and has recently been introduced into this country. It has bloomed in the select collection of Lucombe, Price, &c., Exeter Nursery. It is an elegant ornamental Stove Plant; branched upright, leafy, growing freely, and blooming profusely; the leaves at the ends of the shoots are of a pinkish purple colour at the underside, and of a dark green above; the older leaves wholly of a green colour; the flowers are produced in groups of three or four together in constant succession along the shoots; each flower is near half an inch across, of a bright red colour with a small yellow tube. The brilliancy of the flowers, their vast profusion, and elegance of the plant, renders it a very desirable, and which ought to be in every collection of hot house plants. It propagates very easily, and grows rapidly. *Euphorbia*, so named in compliment to Euphorbus, a physician to Juba, King of Mauritania, and who is said to have first used the plant in medicine.

9. *GESNERIA SELLOWI*, Dr. Sellow's Gesneira, Gesneriæ. Didynamia. Angiospermia. This very elegant flowering stove plant has been introduced into this country from the Brazils, and has been specifically named after Mr. Sellow, a collector of plants, employed by the Prussian Government. It well deserves to be in every collection of hot house plants. The flowers are produced in a raceme, numerous upon each; of a fine scarlet colour. Each flower is about three inches long. *Gesneria* in honour of Conrad Gesner, a famous botanist of Zurich.

10. *LISSOCHILUS SPECIOSUS* Mr. Griffin's Showy Lissochilus. Orchidaceæ. Gynandria Monandria. (Pax. Mag. Bot.) A native of the Cape of Good Hope, from whence it was imported by Mr. Griffin, of South Lambeth, London, in whose collection it has bloomed.—It is one of the terrestrial Orchideæ, which flowers freely from May to August; a hot house of moderate temperature appears to suit the plant best. The flowers are produced upon a scape rising two feet high, of a fine yellow colour. Each flower is upwards of two inches across. Like this tribe of orchideous plants, the present delights in a rich loamy soil, mixed with peat and sand, the pot to have a good proportion of drainage, care being taken not to have too large a pot.

11. *MORNA NITIDA*. The beautiful Morna. Asteraceæ. Syngensia Polygamia æqualis. (Bot. Reg. 1941) Sir James Stirling introduced this neat and pretty flowering plant into this country in 1835, from the Swan River, Australia; where it is found to inhabit the dry parts of the country. It has bloomed in the very select and extensive collection of R Mangles Esqr. Whitmore Lodge, Sunning Hill, Berkshire. That gentleman exhibited it at the Horticultural Societies' Show, at Cheswick in 1836, and a medal was awarded for it.

It is a neat and delicate plant, producing cymose heads of numerous flowers, each about three quarters of an inch across, of a fine yellow colour. They resemble the flowers of *Elichrysum bracteatum*, but are smaller, and very superior in delicacy and richness. It is a perennial plant, well meriting a place in every collection of herbaceous plants. Morna, so named after *Morna* one of the heroines of the northern romances.

12. *NEMOPHILA ATOMARIA*. Speckled flowered. Hydrophyllaceæ. Pentandria monogynia. (Bot. Reg. 1940.) An hardy annual, probably from California. It was introduced into this country the last year. The flowers are about half an inch across, white, with a slight tinge of blue at the centre, and spotted with small lead coloured spots. When put in contrast with *N insignis*, it is an uninteresting species. *Nemophila* from *nemo* a grave; and *philo* I love, referring to its native habitation.

13. *NUTTALLIA CORDATA*, Heart-leaved. (Bot. Reg. 1938.) Malvaceæ, Monadelphia Polyandria. A native of North America, where it had been collected by the late Mr. Drummond; and it appears forwarded to the Glasgow Botanic Garden. It is another pretty addition to this handsome genus. The flowers are of a pretty blush colour, each an inch and a half across. It well deserves a place in every flower border, *Nuttallia*, in compliment to Mr. Thomas Nuttall, a writer on Botany, in North America.

14. *PETUNIA VIOLACEA: HYBRIDA*. Purple Petunia, hybrid varieties. Solanaceæ Pentandria Monogynia, (Bot. Mag.) 3556.) The impregnation of *P violaceæ* and *P nyctaginiflora*, has produced several very charming varieties, such as, *Pale Pink* with a dark centre; *Sulphur* with dark centre; *White* with dark centre, and others streaked and veined with dark. The size of the flowers of some of these hybrids has been much increased, some being three inches across. All the tribe merit a place in every collection of greenhouse, or border plants for summer, being highly ornamental in either situation. *Petunia*, from *Petun* the Brazilian name,

15. *PHYCELLA BREVITUBA*, Short-tubed. Amaryllidaceæ. Hexandria Monogynia. (Bot. Reg. 1943) A neat and pretty species, which it appears will flourish out of doors if planted in a dry and warm situation. The Honourable and Reverend Mr. Herbert has grown it successfully in this way, and in his treatise on Amaryllidaceæ, to be published this month, some instructions upon their treatment will be given, which being the result of many years observation and practical experience will be very valuable. *Phycella* from *phykos* red alkanet colour.

16. *RYTIDOPHYLLUM AURICULATUM* Gesneriaceæ. Didynamia Angiosperma. (Bot. Mag. 3562) Recently introduced into this country to the Glasgow Botanic Garden, its native country is not known, but it is probable from the West Indies consequently (if so) will require a hot house treatment. The stem rises several feet high producing cymes of flowers of a fine yellow, spotted with red inside, and a yellowish green outside. The tube is near an inch long, and the five parted monophyllous corolla is near three quarters of an inch across. *Rytidophyllum*, from *rutis*, *idos*, wrinkle: and *phullum* 2 leaf.

PART III.

MISCELLANEOUS INTELLIGENCE.

QUERIES.

ON IPOMOPSIS ELEGANS.—I hoped some reply would have appeared in the Cabinet this month, to the observations of Medicus in your February Number on the Ipomopsis Elegans. Like him I have raised plants that have grown well till they appeared ready for flowering, and then they have withered and died. I have tried them in the borders and in pots, in the open air and under shelter, but have not succeeded in any way, the soil of my garden is very light, and all the species of Gilia succeed remarkably well in it. I am a great admirer of the varieties Zinnia Elegans, and have cultivated them with great success, but I frequently find that when they are growing luxuriantly, without any apparent cause, the main stem withers, and they die. This occurs at all stages, from seedlings an inch high, to plants in full bloom. If you, or any of your correspondents can point out a successful method of cultivating the above plants, you will oblige
LOLOTTE.

I am uncertain how to address you, I wish you would state in your next Number of the Cabinet, which I have taken in from its commencement, and find it highly useful.

12th March, 1837.

ON CLEARING A GARDEN OF FROGS.—I shall be much obliged if you, or any of your Correspondents can inform me of the best method of clearing a garden of young frogs, which are very abundant, as there is a large pond on the premises, though it is far from being damp. Should I not succeed in destroying them, have I reason to fear they will still be injurious as well as disagreeable? When will Rosa continue her remarks on budding roses, for I have been unable to find them, since the March Number, though she promised then to continue them in the May or June Number. I hope this may not be too late for insertion in the August Number, in time to destroy the frogs when young.
KALMIA.

ON DOUBLE CLARKIA.—I see in the last month's Cabinet J. King enquires about the double Rose Clarkia. I never heard of such a flower before. I should be obliged if Mr. Kerban would give an explanation. Is not Clarkia Elegans Rosea, and Double Rose Clarkia the same?

March 15th 1837.

PELARGONIUM

ANSWERS.

BEST FIFTY SORTS OF DAHLIAS.—I herewith send you a list of what I consider the best fifty sorts of Dahlias of last year's cultivation. Not living near the metropolis, I have not had an opportunity of seeing the flowers of the new sorts of Dahlias, but I doubt not but "Pensee," in last month's Cabinet has already described the best fifty sorts that will come out this year.

Acme, Harris's
Agenoria
Alpine Shepherdess.

Aurora
Angelina
Adelia

Apollo	Lovely Ann
Ariel	Madona
Ariadne	Madame Vestris
Beauty of Teffont	Magnum Bonum
Blue Beard	Micans
Brigand Chief	Miss Penfold
Chamelion	Mrs. General Grosvenor
Caluisflora	Napoleon
Conqueror, Harris's	Newich Rival
Criterion	Perfection Yellow
Dodd's Mary	Perfection, Holman's, Scarlet
Duchess of Buccleugh	Queen Elizabeth
Dr. Halley	Sterling Gold, Rendle's
Enterprize	Rose Incomparable
Glory	Rose Pink
Gutatata Perfecta	Springfield Rival
Honorable Mrs. Harris	The Gem, Brown's
King of the Fairies	The Rival
Lady Lacelles	Vandyke
Lavinia	Veus
Lilac Perfection	Village Maid
Lord Nelson	Vulcan

P. S. The prices can be seen by referring to the Dahlia Catalogue at the end.

AN ADMIRER OF DAHLIAS.

March 6th 1837.

FORTY SUPERB SORTS OF HEARTSEASE.—Seeing a request in the Cabinet for March that some Connoisseur of Heartsease would send a list of the best forty sorts, I have taken the liberty of forwarding the annexed selection of names; your correspondent wishes also for a description of the colours, &c., but that, I must beg to believe as a Pancey is far more difficult to describe than a Dahlia, or indeed any other florist flower, for although the colours and pencilling are very different to observe, I am afraid a written description would make them appear very similar.

I can however recommend all I have quoted as first-rate sorts.

R. S. MOUNTJOY.

Ealing, Middlesex, March 15th, 1836,

Thomson's King	Mountjoy's Cedo Nulli
Thomas's Anne	Mountjoy's Beauty of Ealing
Thomson's Lord Glamis	Mountjoy's Blucher
Thomson's Lilac Perfection	Mountjoy's Cupid
Thomson's Enterprize	Mountjoy's Van Tromp
Thomson's Desdemona	Mountjoy's Sir John Seabright
Thomson's Gem	Mountjoy's Duke of Sussex
Thomson's Sir John Broughton	Mountjoy's Ealing Rival
Thomson's Ponomia	Mountjoy's Black-eyed Susan
Thomson's Nonpareil	Mountjoy's Harriet
Rogers's John Bull	Mountjoy's Madamselle Grise
Rogers's Minerva	Mountjoy's Maid of Judah
Lane's Lucifer	Mountjoy's Forbisher
Lane's Countess of Bridgwater	Mountjoy's Flora
Page's Hornsey Hero	Mountjoy's Sophia
Marshall's Reform	Mountjoy's Jessey
Brennon's Hector	Mountjoy's Matilda
Mountjoy's Hecuba	Mountjoy's Cream
Mountjoy's Magnum Bonum	Mountjoy's Voluna
Mountjoy's Andromache	Mountjoy's Evelina
Mountjoy's Xantippe	

A few of them are not yet ready for sale.

REMARKS.

A LIST OF SUPERIOR GERANIUMS.

Geranium— <i>Amabile Splendens</i> of African.		£	s.	d.		£	s.	d.	
Alecia	- - - - -	3	0	0	Mennon	- - - - -	0	7	6
Ariadne	- - - - -	1	1	0	Lady Denbigh	- - - - -	0	7	6
Arbaces	- - - - -	1	1	0	Touchstone	- - - - -	1	1	0
Bellissima	- - - - -	1	1	0	Mar's	- - - - -	1	1	0
Beauty of Ware	- - - - -	1	1	0	Queen of trumps	- - - - -	1	1	0
Courtes of Jersey	- - - - -	2	2	0	Lady Ashley	- - - - -	1	1	0
Don Jaune	- - - - -	1	1	0	Maid of Artois	- - - - -	1	1	0
Diomede	- - - - -	0	5	0	Lydia	- - - - -	1	1	0
Francesco	- - - - -	1	1	0	Mussidora	- - - - -	2	2	0
Grand Sultan	- - - - -	1	1	0	Incarnation	- - - - -	1	1	0
Compactum Rubicum	- - - - -	1	1	0	Louis	- - - - -	1	1	0
Diadematum Rubescence	- - - - -	0	7	6	Maid of Athens	- - - - -	0	13	0
Rouge et Noir	- - - - -	1	1	0	Hector	- - - - -	0	5	0
Renbrant	- - - - -	1	1	0	Constance	- - - - -	0	5	0
Queen Bess	- - - - -	0	7	0	Duverrey	- - - - -	0	5	0
Miss Annesley	- - - - -	0	5	0	Miranda	- - - - -	0	5	0
					Hericatianum	- - - - -	0	5	0
					Pictum	- - - - -	1	1	0

Those I consider very fine flowers, and such as I can strongly recommend.
Surrey Lane Nursery, Battersea, London. N. GAINES.

ON DESTROYING ANTS.—I have at last hit on an expedient of destroying them, and that is merely anointing their runs with gas tar. We use large quantities of it here, for painting doors and fences. I have also found it useful in preserving the bark of fruit trees from hares and Rabbits. It should be put on very lightly with a paint brush.

MR. KERNAN'S LETTER.—THE DECEASE OF MR. SABINE.

DEAR SIR,

I got your letter, and mentioned to Mr. Sabine how his name was omitted as the author of the Article he had desired me to mention to you. He felt pleased at the acknowledgment of the obligations you were under to him.

But it is a painful truth to me to have to inform you of Mr. Sabine's sudden death. Never did I receive intelligence that more affected me, as he had been in my shop the week before, as he was in the habit of being once almost every week when in town. In his death I have sustained a great loss; from his kind and fatherly instruction and advice, and feeling always happy in giving me any information he thought would be of service to me, and the great interest he took in recommending me to his friends and their orders. Surely then I have reason to regret his loss, nor can his enemies say in his early encouragement of so humble and so young a man as myself he could have had any object, it was on his last visit I had talked of yourself and Mr. Marnock, and asked his advice on the following paragraph; I intend putting at the bottom of my Catalogue, as my advice on the blooming of Annuals.

"It may be questioned why I place some annuals (heretofore considered and placed in other Catalogues under the heading, Half Hardy,) in my present List—Under Hardy. I do so from practical observations, seeing those I have so removed to Hardy, when so treated, blooming to much greater perfection than when raised in a hot frame and afterwards transplanted.—One plant, raised in the open border, will generally grow to six times the size of one raised in heat and transplanted. In sowing Annuals in the open border that are rather tender, if the soil is not light and sandy, give a top dressing of pit sand and rotten manure: smooth this well with the rake—then draw very shallow drills from half an inch to one inch in depth, regulated by the size of the seeds—sow and cover in; if vermin or the season do not disturb them, you will not

require more than one plant in a hundred of those that come up; be careful to begin thinning when the plants are quite young. Do not sow delicate Annuals in the open borders until the end of April, or (which is better) make two sowings, one in the middle of April and the other in the beginning of May; these will succeed each other until October.

I would here advise my Friends to try the above plan with those marked [*], which will be found among the Half Hardy Annuals."

He told me I was quite right and that I should make it public if I did not care for being abused for a good intention. I said of those I had removed to hardy, were grown with that care and attention generally bestowed on them by ladies or clergymen, I very little feared the result. None but friends could envy his good advice to me, and his whole countenance would beam with satisfaction when he observed how I appreciated his council, and when he brought me an order he would put me to the test of my knowledge by putting up a certain quantity that would in my opinion make most show and follow best in succession, in making such selection I was almost always fortunate in meeting with his approbation.

That he had many old and inveterate enemies, I have often heard, but from what real cause I know not. But by principle I know he was a gentleman that disdained dishonour, and his zeal and devotedness to the advancement of the science of which he was an eminent member, had few, very few superiors; and whether he was considered in his private or public station as a Botanist, in my opinion, there never breathed a being less capable of exciting enmity against himself, or of offering even by implication an offence to others than Joseph Sabine, Esq. if he had a fault it was an error attributed to his noble nature, to be deceived rather than suspicious, and his remorseless enemies knowing such, made, or tried to make him their victim, but he lived to see the day that out lived them all, some of the calumnies it is thought preyed heavily upon him, though circulated too often by those who had just head enough to invent censure, but not heart sufficient to feel for its consequences.

Others there are who from the estimation he deservedly was held in, felt a sympathetic remorse, and would have been glad of his forgiveness, having seen their error; but who like a "certain medical tree yields not its healing balm, till it is once wounded," and though every abuse was heaped upon him, it should not have been forgot he was the founder, and laboured hard to establish the Horticultural Society, and encourager of every thing else where his assistance had any tendency in forwarding science; as Sir T. Ackland justly said, they ought to take into account the great good he had done, and not leave all the blame at his door. He who strike or main a man may remedy in a great way by medicine, but there is no herb, nor compound of herbs cultivated from Culpeper, to the present time, in any of our Botanic or Horticultural gardens that would cover or heal the wound inflicted by slander—but no power could stain the "unsunned" snow of a character and intentions as pure as his was. There are many young men to my knowledge, deeply indebted to his kindness and encouragement, none certainly more grateful, but many more competent to do greater justice to his memory than your

Humble and obedient Servant,

4, Great Russel Street, Covent Garden London,

J. KERNAN.

REFERENCE TO THE PLATE.

Sparaxis's.—The four figures are a *small portion* of a spike of each sort. They are hybrids, raised by a gentleman in Guernsey, who deserves the thanks of every cultivator of this lovely and interesting tribe of plants. We believe the gentleman would have pleasure in exchanging with any amateur or nurseryman for other plants; the address of the gentleman we can supply. We subjoin a portion of the remarks sent us at the time the drawings came.

Guernsey, Jan. 20th 1837

"In conformity to the offer I made you some weeks since, I now avail myself of a private hand to forward you the drawings of seventeen kinds of *Ixias*, *Sparaxs*'s and other Cape bulbous plants which I offered you, I grow all the kinds and the sketches were made for my own private use only, they are very faithful representations. Almost all the kinds ripen their seeds freely here in the open air, and grow and flower so much larger, stronger, and and brighter in colour in consequence of being so cultivated, that after two or three years, it is almost impossible to recognise the small pale flower received from England. Some *Ixias* raised here from seed, attain the height of three and a half, and even four feet, with spikes of flowers in proportion, and the bulbs themselves nearly the size of *Gladioli*. The double ring of black in the throat of some of the seedlings. *Sparaxis*'s is a new and very beautiful feature in those charming and interesting flowers. We have usually found this class of plants to succeed best when grown in a mixture of decayed leaves, sandy loam and peat; having the pots, or if in the open air, the border well drained." We hope the gentleman will favour us with the mode of culture, which has been so very successful. For although the climate be very congenial, some other exciting cause has contributed to such extraordinary large productions. The great beauty of *Sparaxis*'s and *Ixias* continuing in bloom in the open border from May to July, and some even to August, render them well deserving an attempt in every warm situation. We have seen them in this part of Yorkshire flourish amazingly in a border at the front of a vinery, peach-house, and greenhouse, and close to a south aspect or fruit wall. There is but little attention required in their management, and they most amply repay for any given them.

FLORICULTURAL CALENDAR FOR APRIL.

PLANT STOVE.—Still support the requisite degree of heat by fires at night as the plants will now begin to show their blossoms, which should be encouraged as much as possible at this season. Fresh air, when the weather is favourable, is very necessary, and should always be admitted when required; this will greatly assist their flowering, and cause the new shoots to be strong and healthy. This month is the most proper time to pot such plants as may require it, taking great care to use such compost as is congenial to them. Any that do not require shifting into larger pots may have the surface soil renewed with fresh compost, which will greatly invigorate them, and also add to their neatness. The same directions respecting watering and cleanliness may be observed, as given last month. Still propagate all kinds of exotics by means of seeds, cuttings, layers, or suckers, according to the nature of the different kinds; insert them in pots, and plunge them in hot-beds, which will promote their vegetation and rooting quickly and certainly.

GREENHOUSE.—These plants will now require large admissions of air at all times when the weather is mild, for as most of them will now be shooting freely, they must not be kept too close. The plants must now be looked over, to see when water is wanted, and let all the plants be properly supplied therewith, as this is now a very necessary article, particularly when they are in the house; be careful of the succulent kinds. Let no decayed leaves or shoots be allowed to remain, but let such be taken off as soon as perceived; and all shoots that are of a weak straggling growth must be pruned more or less, as appears necessary. Let no weed, moss, or litter, be seen on the tops of the pots and tubs; and if any foulness be contracted on the plants, let it be instantly removed. In arch shrubby exotics of any particular kinds—sow seeds in pots, placing them in a hot-bed; sow seeds of orange, lemon, &c. for stocks; also propagate by cuttings, layers, or otherwise, and if placed in a bark bed in the pine stove or hot bed, they will be greatly facilitated in their rooting.

HERBACEOUS PERENNIALS—should now be divided and re-planted; also biennials, as Sweet Williams, &c., should be planted for blooming this season.





*Burralls
near of Wakefield*

THE
FLORICULTURAL CABINET,

MAY 1st, 1837.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I.

ON A LIST OF PERENNIAL PLANTS.

BY R. T. W. T.

THE request of "A Collector of Herbaceous Plants," contained in the August Number of your valuable Periodical, not having as yet met with any attention from more experienced Florists, I venture to recommend the following list of hardy perennials, which I cultivate myself, and which your correspondent may readily procure at any of the principal nurseries. I purposely omit many plants that are suitable to rock-work, having already given a list in the June Number 1835.

BOTANIC NAME.	ENGLISH NAME.	FLOWERING MONTH.	COLOUR.	HEIGHT.
Achilloa ptarmica plena	sneeze-wort yarrow double	July to Sept.	milk white	3 feet
Achilloa millefolium	common yarrow, or milfoil	June August	reddish purple	3 feet
Allium - -	garlic	June	yellow	1 foot
Anthericum Liliago (a) -	grass leaved sa-voy spider wort or St. Bruna's lilly	July	white	2 ft. 6 in,
Astor alpinus	Alpine starwort	June July	purple	8 inches
— amellus	amellus	August Oct.	blue	2 feet
— spectabilis		Sept. Oct.	blue	2 feet
Antirrhinum majus	great snap dragon	July August	white with a large yellow palate white in front.	2 feet
.....	....	....	fine deep crimson	2 feet
Antirrhinum majus bicolor	....	....	crimson and white	2 feet

(a) Also called Phalangium Liliago.

BOTANIC NAME.	ENGLISH NAME.	FLOWERING MONTH.	COLOUR	HEIGHT
<i>Bellis hortensis</i>	garden daisy	May June	large double red	7 inches
— <i>variegatus</i>	variegated	....	white and red	7 inches
— <i>albidus</i>	white	....	white	7 inches
— <i>fistulosa</i>	quilled	....	white and crimson	7 inches
<i>Beton officinalis</i>	wood betony	July August	crimson	16 inches
<i>Calliopsis lanceolata</i>	spear-leaved tick-seed sun-flower	June Oct.	bright yellow	3 feet
<i>Calliopsis tenuifolia</i>	slender leaved	....	yellow	1 ft. 8 in.
<i>Campanula azura</i>	bell flower	June July	sky-blue	2 feet
— <i>Bononiensis</i>	....	July August	blue	4 feet
— <i>Carpatica</i>	— carpathion	June	blue	8 inches
— <i>Colina</i>	— sage-leaved	July August	blue	2 feet
— <i>glomerata</i>	— clustered	June	blue	10 inches
....	....	....	white	10 inches
— <i>ritida</i>	— smooth-leaved	July	blue	4 inches
— <i>speciosa</i>	— showy	June	purple	2 feet
— <i>urticifolia</i>	— nettle-leaved meadow ladies' flower	May to Oct.	white	2 feet
<i>Cardamine pratensis</i>	smock cuckoo-flower	April May	white	6 inches
<i>Centaurea (b) glastifolia</i>	wood-leaved century	July	yellow (b)	4 feet
<i>Centranthus ruber</i>	red valerian	June Sept.	rosy red	2 ft. 4 in.
<i>Chelone barbata</i>	bearded chelone	July August	orange	4 feet
<i>Chelone centranthifolia</i>	valerian-leaved chelone	June Nov.	bright scarlet	3 to 5 ft.
<i>Clematis erseita</i>	upright Virgin's bower	July	sulphur colour	4 ft. 6 in.
<i>Commelina tuberosa</i> or <i>coelestis</i>	tuberous-rooted commelina	June Oct.	sky-blue	1(c) to 2ft.
<i>Coronilla varia</i>	various coronilla	June July	purple	2 ft. 6 in.
<i>Dictamnus</i>	<i>Fraxinella</i>	June	red	2 ft. 6 in.
....	....	....	white	....
<i>Dodecatheon (d) Meadia</i>	common, or Mead's American cow-slip	May June	....	1 ft. 4 in.
<i>Doronicum pardaliches</i>	great leopard's bane	May June	yellow	2 to 3 ft.
<i>Epilobium spicatum</i>	willow herb	July	white	4 ft. 6 in.
<i>Genista sagittalis</i>	Dyers' green weed	May June	yellow	1 foot
<i>Gentiana Acaulis</i>	gentianella	March April	rich blue externally	3 inches
<i>Geranium phœum</i>	dusky crane's bill	May June	dark chocolate	1½ or 2 ft.
— <i>sanguineum</i>	bloody	June July	blood colour	1½ foot
— <i>striatum</i>	streaked	June July	white petals	1 foot
<i>Geum Quellion</i> , or <i>coccineum</i> or <i>Chiloense</i> , or <i>Chili</i>	avens	June July	bright scarlet	2 feet

(b) The scales of the calyx present a beautiful silvery appearance, and the veins of the leaves are prominent on both their sides.

(c) If raised from seed, but 3 feet if old roots are planted,

(d) Flowers best in the shade and pea soil

BOTANIC NAME	ENGLISH NAME.	FLOWERING MONTH.	COLOUR.	HEIGHT.
<i>Gnaphalium</i> (e) <i>arenarium</i>	sand everlasting, or cud-weed	June July	yellow	11 inches
<i>Hylianthus multi- florus</i>	many flowered perennial double sun-flower	Aug. Nov.	yellow	3 feet
<i>Hesperis Matro- nalis</i>	common dames' violet	June	white double	1 ft. 4 in.
— <i>purpurea</i>	.....	....	purple	..
<i>Lathyrus sylves- tris</i>	narrow-leaved everlasting pea	July August	corolla variegated	5 or 6 ft.
— <i>grandiflora</i>	large-flowered do.	June Sept.	rose	..
— <i>latifolius</i>	broad-leaved do.	July August	fine rose-colour	..
<i>Lithospermum purpureo-cœ- ruleum</i>	creeping or pur- ple grom-well	May June	violet blue	1 foot
<i>Lupinus polyphl- lus</i>	many-leaved lu- pine	June July	blue	2 feet
— <i>alba</i>	.....	.. .	white	..
<i>Lychnis chalie- donica</i>	lychnis or campion	July	scarlet	3 feet
— <i>plena</i>	.....	July Octr.	scarlet double	3 feet
— <i>dioica</i>	batchellor's but- tons	June	red	14 inches
— <i>Flos cuculi</i>	meadow lychnis ragged robin	June	rose colour	1 foot
— <i>Flos Jovis</i>	umbellate rose campion	July	rose	2 feet
— <i>Viscaria</i>	viscid, or rock ly- chnis	June	rose	18 inches
<i>Lysimachia vul- garis</i>	great yellow loose strife	July	yellow	3 or 4ft.
<i>Monarda didyma</i>	twin oswego tea	June Sept.	red and white	3 to 4 ft.
<i>Anothera pumila</i>	dwf. primrose	June	yellow	6 inches
— <i>macrocarpa</i>	long fruited ditto	June to Aug.	yellow	1 foot
— <i>speciosa</i>	showy ditto	July to Sept.	white	4 feet
— <i>taraxacifo- lia</i>	dandelion-leaved ditto	July to Oct.	large white	6 inches
<i>Pœonia albiflora</i>	edible-rooted pe- ony	June	white double	3 ft. 6 in.
— <i>Whitleyi</i>	rose peony	June July	rosy	3 ft. 9 in.
<i>Phlox crassifolia</i>	thick-leaved ly- chnidia	April	pink	4 inches
— <i>eximia</i>	choice	July August	rosy pink	2 ft. 8 in.
— <i>Lyonii</i>	.....	July August	dark lilac	3 feet
— <i>odorata</i>	sweet scented	June	rose lilac	3 feet
— <i>ovata</i>	oval-leaved	June	pink	6 inches
— <i>paniculata</i>	panicled	July August	lilac	4 ft. 6 in
— <i>reflexa</i>	reflexed leaves	July August	dark pink	3 feet
— <i>setacea</i>	bristly	May	pink	3 inches

(c) Called by the French "Immortelle," and used to decorate their graves. And here I would correct a mistake I made in my list of ROCK PLANTS, as the "*Gnaphalium Armarium*" I have given there is properly "*Antennaria Diocia*" which grows three inches high.

BOTANIC NAME	ENGLISH NAME.	FLOWERING MONTH.	COLOUR.	HEIGHT.
Phlox suaveolens	....	June Sept.	white	2 ft. 4 in.
— tardiflora, or longiflora	late-flowering	August	white	2 feet 2
Whelleriana	Wheeler's	June Sept.	pink purple	3 feet
Polemonium cæruleum	blue Jacob's ladder—Greek valerian	May June	blue	2 feet ;
— album	....	....	white	..
— Mexicanum	Mexican	....	blue and white	..
Potentilla formosa	handsome cinquefoil	June Sept.	rose	2 feet
— atrosanguinea	....	....	dark blood	..
— Russiliana	Russel's hybrid variety	....	crimson	..
— Hopwoodiana	hopwood's	....	white	• ..
Pulmonaria officinalis	common lungwort	April	White and blue	8 inches
Pyrethrum uliginosum	marsh feverfew.	July Sept.	white	3 feet
Rudbeckia fulgida	shining rudbeckia	July August	yellow & blackeye	2 feet
Rudbeckia hirta	hairy	....	yellow	5 feet
Ranunculus acris	upright crowfoot	May June	yellow	2 feet
— platanifolius	platanus-leaved (g)	May June	white	8 inches
— montanus	mountain	June	yellow	2 foot
Saxifraga aizoon	marginated saxifrage	May	white spotted	6 inches
— crassifolia	thick-leaved	April	pink	1 foot
— ceratophylla	shining calyxed	June	white	6 inches
Symphytum officinale var. Bohemicum	comfrey	May June	bright crimson	8 inches
Stenactis speciosa (h)	showy stenactis	July Oct.	dark violet	2 feet ;
Tetragonolobus siliquosus	square-podded winged pea	July Aug.	yellow	....
Tradescantia Virginica	Virginian spiderwort	June Sept.	bright purple	1 to 2 ft.
Trollius Europæus	European globe-flower	May June	yellow	2½ ft.
Veronica spicata	spiked speedwell	July Sept.	deep blue	4 to 8 in.
— urticifolia	nettle-leaved.			

Nov. 12th, 1836

R. T W. T.

(f) Divide the root in **SPRING ONLY** when it begins to vegetate, and plant in a warm situation.

(g) Or Fair Maid of France.

(h) Sædlings of the *Stenactis Speciosa* flower freely the first year, and perfect the seed, so that it may be treated as an annual.

ARTICLE II.

ON THE CULTURE OF THE AURICULA, WITH A LIST OF SUPERIOR KINDS.

BY G. R.

HAVING promised to send you a list of the most esteemed varieties of Auriculas which generally appear for competition at the different society-meetings in this neighbourhood, I now give you the name of a few which may be considered amongst the finest. They will, perhaps, assist some of your readers in selecting a few of the most choice-varieties; should any of them be about to commence a collection, and will give those who may be otherwise interested, an idea of the plants which are held in the greatest estimation in this quarter.

Many lists of choice Auriculas contain the names of several, the flowers of which have a great tendency to vary from the original colours, from unaccountable causes, and which, by florists, are termed sporting varieties. In the same list are found others which are liable to change colour a short time after they are fully expanded. Such flowers may occasionally be considered as fine, and might be presented for competition. Their general character however, not being such as to warrant their insertion in the following select list, I have omitted them. All Auriculas are subject in a great or less degree to present an ununiform appearance of bloom, their flowers in some seasons being much more perfect than in others. The following, when well grown, will be found to have less tendency to do so than most others. Some growers will, perhaps, find a few of those mentioned, classed differently from what they are accustomed to find the appearance of the plant when in bloom, which in some measure may be thus accounted for. Auricula-growers in general, adhere to a compost of their own in many cases differing considerably in its composition, and it therefore may naturally be supposed that the bloom of the plant, in some degree will vary accordingly. It being however a difficult matter to decide to what class they should belong, I have classed the following according to the colour of edging, which I have generally found them to present. Plants grow in very rich stimulating composts, for the purpose of obtaining large high-coloured flowers, certainly produce a beautiful green foliage, strong trusses, and large pips, but the bloom altogether is seldom fine, as being

very liable to run and become foul, by which is understood that either the ground-colour, edging, or eye, predominates, which entirely destroys the appearance of the flower: those grown in a more moderate soil generally produce a much finer and more regular flower, and beside; will have less tendency to impair the health and strength of the plant. Those persons who have grown Auriculas will not perhaps have remarked that green and grey-edged flowers are seldom so fine and true to their character when produced from a stem rising from the centre of the plant, as those produced from one rising from the side of it, and that white edges are the reverse: most perfect flowers generally being produced from a stem rising from the centre. Self-coloured flowers join with green and grey edge in this peculiarity. Shaded alpine are a class which seem to be little cultivated here, therefore I have not been able to add them to the list. There are a few plants here mentioned which as yet have but a limited circulation; they were raised in this neighbourhood by Mr. Smith, at Ellengowan, and Mr. McDonald, at Dunninald, both of whom have been very successful in raising fine varieties; several of these when well grown, have proved to be of very superior order, and, have obtained prizes at different shows in this quarter, competing against many of the finest flowers in cultivation.

Having for my own amusement grown Auriculas for several years with great success, of which my collection at present amount to two hundred and fifty strong healthy plants, comprising one hundred and forty of the finest varieties; it was my intention to have added my mode of cultivating and managing this favorite flower; but this appears to me unnecessary from the excellent articles which have appeared in several of the preceding numbers of the Cabinet, I shall therefore merely state that the compost I make use of consists of six parts of manure, at least three years old, gathered from pasture fields, and one part of white sand, and conclude by briefly mentioning the following principal points to be attended to in order to grow Auriculas in perfection.

Adhere to as simple and rich a soil as possible, avoiding all obnoxious and stimulating manures. Pay attention to good drainage at the bottom of each pot. Avoid too often reducing the fibrous roots of the plant, and examine occasionally, perhaps every three years the lower end of the main root, a part of which will require to be taken off. Do not delay making the examination, when you observe the leaves of a plant becoming spotted of a yellowish hue.

a certain sign of its being unhealthy, and the disease is often found to arise in the main root. Keep the plants during summer in a cool shaded situation during the day, giving them water occasionally. Be careful to keep them from being exposed for any length of time to heavy rains, or under the drip of trees. Place them under cover open towards the south by the beginning of November. Guard against damp by giving as much air as possible at all times. Let them have water very sparingly until February, when you may give it more freely. See that they are not exposed to any drip of water from any deficiency of the covering of the frame, whether of wood or glass. Keep the plants rather warm during the winter and spring months, which will add greatly to the expansion of the pips. Remove any damp decayed leaves from the plants, but suffer those leaves that are dry to remain until the time for top dressing. By the beginning of March add a little fresh soil to the surface of each pot: give water freely during this and the two following months. Protect well from severe frosts. Thin out pips, leaving from five to nine on each plant according to its strength. Allow but one flower stem to each plant. Contrive to give them all the air possible. Shade them from the sun when they are in full bloom by placing the front of the frame to the north.

LIST OF AURICULAS.

Green edge—Booth's freedom	Green edge.—Hedge's Britan-
Howard's Lord Nelson	nia
Mather's Brilliant	Pearson's Badajoz
Ryder's royal Sovereign	Page's Champion
Lee's Colonel Taylor	Vallington's Nottingham
Fletcher's ne plus ultra	hero
Smith's Lord John Rus-	Chillot's Britannia.
sell	Coldham's Blucher
Pollit's standard of Eng-	Clough's Dolittle
land	Barlow's King
Pollit's ruler of Eng-	Moore's Jubilee
land	Bearliss's superb
Dawson's George Can-	Streeche's Alexander
ning	
White edge.—Campbell's Ro-	Ditto Venus
bert Burns	Pott's Regulator
Lee's Earl Grosvenor	Taylor's glory
Hugh's pillar of Beauty	Ditto Princess Royal
M'Donald's Miss Arkley	Ditto favorite
Smith's Jupiter	Wood's delight
Ditto freedom	Lee's bright Venus

Grey-edge.—Smith's General Bolivar	Pearson's liberty
Ackerley's Alpine shepherdess	Ryder's Waterloo
Clegg's General Morillo	Syke's complete
Faulkener's ne plus ultra	Thompson's Bang up
Grime's Privateer	Ditto revenge
Hey's Lovely Ann	Ditto cottager
Kenyon's ringleader	Taylor's ploughboy
Oliver's lovely Ann	Waterhouse's conqueror of Europe.
	Warris's union
Selfs—Burrie's Lord Primate	Selfs—Martins's Eclipse.
Ditto Lord Lee	Netherwood's Othello
Campbell's Lord Byron	Redman's Metropolitan
Gorton's Stadtholder	Scholey's Ned Leed
Grime's Flora's flag	Fintu's Rosetta
Miller's Lord Howe	Whittaker's true blue
<i>Forfarshire, March 11th, 1837.</i>	

ARTICLE III.

ON THE SOIL PROPER FOR AURICULAS, AND THE CULTURE OF THE GENUS LUPINUS.

BY AMICUS FLORIBUS.

HAVING had a few of the most showy plants made a present to me, and they being, as I am told, of a superior description, I have long wished to get a recipe from your extensive, and well regulated Cabinet. I was perusing the number for February, in the present year, and felt myself very much gratified, to find some information on the culture of the above named plant. (by James Shepperd.) He gives very good remarks on the cultivation of the plants, but omits the preparation of the soil used; he recommends a light, rich, and sweet soil: now for an amateur, this appears rather complexed. He also says, he has for the last ten years, followed the plan laid down by Mr. Emerton, but loosing so many plants, he feels convinced, that his plan is not a good one. Would he be so kind as to favor me with his recipe, or if not, the compost used by Mr. Emerton, it would, I feel convinced, confer a great favor on many, besides one, who subscribes himself

AMICUS FLORIBUS.

P. S. Should this be accepted, I herewith send you a method of cultivation, which I adopted among that splendid variety of plants, the Lupinus. At a time when these plants were scarce, I was

fortunate enough to possess the *Lupinus Marshallianus*, but wishing to make the most of it, I adopted the following method for its cultivation; in the month of March I took some shoots off, (that is) when they had attained the height of an inch or two from the ground, I planted them in a stiff loamy soil, and copiously supplied them with water, and in four or five weeks, to my great surprise, they were rooted; I then transplanted them in my flower beds, and to my satisfaction, had them flower the same year, thus from one plant, I had five or six all blowing the same year. The reason of my sending this, is, on account of not having seen any thing of the kind in your valuable and extensive work, and thinking that those who possessed a choicer species would be able to propagate and have a more copious supply. If I have commented too largely on the subject, would you be so kind as to frame it in a more compact compass, to oblige one, who is, and whose friends are true patrons, and well wishers to your widely circulated Cabinet.

ARTICLE IV.

ON THE CULTURE OF THE DAHLIA.

BY S. R. P.

PERMIT me, at any convenient opportunity, the use of your widely circulating medium, the Floricultural Cabinet, to publish a method by which the disappointment so often experienced by amateur growers of Dahlias in the loss of their roots, during the winter, may be avoided, and by which simple means, I have preserved the tubes of these truly splendid flowers, through the dormant months, in the greatest perfection. Let any of the usual means be employed of propagating duplicates of the sorts required to be saved; but I will describe my own. I take from the growing plants the first lateral shoots, divide them with a sharp knife, under the third joint from the top, and cut off the two bottom leaves a little distance from the stem, without mutilating the eyes that will be seen in the axils of the leaves. These are planted so as to touch the side of the pot, which, if convenient, may be plunged in a little heat; as soon as they have made roots, they are planted singly in 60s. and finally repotted into 48s. every flower bud is removed, and the growth of the plant promoted till the middle of September,

when the supply of water is diminished, and at the end of the same month, all moisture is suspended: the tallies are firmly fixed, and the pots are set at rest, under the stage of the green-house (a cellar will do) where, by the close adhesion of the earth to the roots, occasioned by the pressure produced in the growth of the tubers, they are preserved in a perfectly plump, sound, and healthy state: not a root can be broken, or an eye disturbed; besides these advantages, I am led to believe, that their being set thus early at rest, according to a known law in vegetation, there is a tendency to push their buds at an earlier period, than by the usual mode of treatment.

S. R. P.

ARTICLE V.

BOTANICAL CURIOSITY OF THE HYACINTH.

BY W. BRIANT, GARDENER, UPPER GORE HOUSE, KENSINGTON.

I believe it has been asserted by Sir Humphrey Davy, that no species of plant will vegetate downwards. With every respect for that great man, I beg leave to tell you, and, through you the readers of the Cabinet, that such is not the fact, as I have in more than one instance proved. Curiosity induced me at the time of putting in my bulbs, (October) to plant four Hyacinth bulbs in the following manner; I am particularly fond of the single blue Hyacinth, and therefore singled these out for my object, after procuring my regular compost, which is a mixture of leaf mould, yellow loam, and white sand, I placed one Hyacinth bulb at the bottom of a 48 pot, with the crown through the draining hole, and commenced filling up my pot in the usual manner, and then planted one at the top, and taking it to the green-house, I cut a circular hole in the shelf, so as to admit the pot half-way down.

Both bulbs did vegetate freely, and seemed to vie with each other; before the flower expanded, I procured a long glass, such as confectioners has for show glasses, and placing the pot on the top of the glass, it seemed to give additional vigor to the flowers to expand, its appearance now, is strikingly beautiful, the natural fragrance of heir flowers, combined with the peculiarity of the

growth, would entitle them to true lustre on any lady's toilet, or drawing room table, and such is the deception, that I have been asked by several, if both flowers did not come from the same bulb.

ARTICLE VI.

ON GRAFTING THE ROSE.

BY ROSA.

The following method of cultivating the Rose by grafting, is very interesting, and successful, as well as having the advantage of economy, as you make use of the cuttings of the pruned trees, which would otherwise be lost. It must be remembered, however, that it should only be practised upon free well rooted stocks, as otherwise the delay in the rising of the sap, and the uncertainty of the supply, frequently defeat the purpose. Grafting, therefore, should succeed budding on the same stock, not precede it: as a bud failing on the stock, if the branch be not destroyed while the sap is up, leaves the stock still vigorous in the ground; if therefore you wish to try this mode it, should be upon stocks that have had a spring to root themselves.

The points to be desired, are, that the barks of scion and stock should be cut quite smooth, and not separated from the wood they grow upon—that neither should be bruised,—when they are put together they should fit close—a supply of sap should commence as soon as possible—that all sun, wind, and rain should be kept from the wound till healed, and that no ligament should be removed, nor shake given to the parts newly placed in contact, till they are perfectly healed; any jar to the scion when placed is likely to defeat the purpose.

GRAFTING.

If you have a good choice of shoots in March, from your trees, which you desire should not be wasted, examine your shoots after pruning each tree, select those which are the finest, and place their thickest ends (taking care that the produce of each tree be tied in a separate bundle and ticketed) in a lump of moist clay an inch deep, pinch the clay tight round them, and then put the lump of clay in a pot full of earth (leaving the shoots out) until ready for use,

It must be remembered at that the end of each shoot there will probably be one or more buds open; these must be carefully cut off from the shoot or they will infallibly exhaust the others.

Let the shoots remain for three weeks in an outhouse, or any place neither very dry nor very damp, where neither wind nor sun can come in contact with them.

During the first week in March, cut off your stock, (in which the sap should be beginning to rise,) horizontally; make a slit in it, straight downwards, of a couple of inches, or an inch and a half long, taking care not to injure the sides of the bark.

Take the shoot in the left hand, and leaving three buds upon it, or two if the stock be not large; cut the lower extremity of the shoot in the shape of a wedge, the back being rather the thinnest and the lowest bud about half an inch above the thick end of the wedge. In doing which, care must be taken that the bark be undisturbed, and each scion so cut that all the buds point outwards, or at any rate, be so placed that the shoots from them may not interfere with each other.

With the end of your budding-knife, or a little wooden or ivory wedge, open the slit in the stock on one side, and then place the scion, with the thickest part or front outwards, in the other, taking care that the edge of the inner bark or liber of the scion touches the edges of the inner bark of the stock, all the way down; pull out the wedge and enter another scion in its place, the slit being kept open by the first; if the size of the scion be half the size of the stock, you may leave a shoulder to the scion, and thus increase the chances of success.

Any number of scions may be inserted in the same stock, but from one to four are all that are desirable in the present case, to cover well over the head of the stock which is apt to receive much injury from the weather, if not carefully attended to.

The object of laying by the scions, is that the stock may be the forwardest, and be enabled to supply the sap, and force them forward at once, instead of lingering while they perish from exposure and want of nourishment. Whether this danger might be entirely removed by the following new mode of grafting I have not yet had an opportunity of trying.

Leave a small end to the scion, with bark, &c. upon it, and having finished your graft as above, turning the overplus outwards,

and below the clay, insert it in a small phial, kept constantly filled with water, in order to keep the scion fresh until the junction takes place. When well established, remove the phial and cut off the overplus close to the stock, covering it with cement.

When the shoots are on, tie up the whole with a bass ligament, to prevent the scions from ever shifting, and then cover the whole beneath the lowest bud, with grafting clay, taking care to exclude air, sun, and rain. If the clay crack, it must be renewed, not by shifting, but by filling up the crack.

In about six months, the clay may be removed; and the wound covered with mixture, this latter must on no account be omitted.

The choice of scions is regulated by the same rules as the choice of buds, only that in choosing scions some reference must also be had to the wood, which should have a sufficient thickness to keep it from getting dry easily, and to facilitate the operation of sloping the edges. The best buds are generally nearer the base of the shoot than the summit, but two or three scions may sometimes be got from a single shoot. No scion should be used when the buds upon it appear to have shrunk and lost their fulness, from having been laid by, and care should be taken on passing the bass ligament round the stock for the purpose of fixing the scions, that a piece of the bass be brought between the scions in such a manner as to protect the cleft in the centre of the stock from the clay, and to leave the vacuum to be filled up with sap.

Should any graft fail, which will be seen in a longer or shorter space of time, according to the weather, (*viz.* in moist, dull, growing weather it will soon show, in that which is dry, windy, or cold there will be delay,) you have still the resource of knocking off the clay and reserving for use the fresh buds which start from the stock, in which case, cut the stock off immediately above them, and bud in the following autumn as usual.

Grafting the rose, however, leaves a worse wound to heal over than budding, unless the scion be nearly the same size as the stock, or two or three scions of free-growing sorts be entered in the same graft: there is also this disadvantage, that the portion of the scion that is entered in the stock is smooth, and consequently does not from time to time furnish new wood, whereas in budded stocks, shoots occasionally spring from the inserted eye, (and that sometimes years after it has taken.) thus renewing the tree

by preventing it from straggling, as well as giving it a more perfect and handsome appearance.

The advantages of grafting, are, that it clears your garden of wild growing stocks, promises fair for instant success, especially when the scions are from hardy sorts, such as the Du roi, Maiden's blush, &c. and your work is complete and tree formed, and in some cases, flowers in a single season.

In the event of your having neglected to procure stocks, the operation of grafting may be performed equally well with budding upon plants in a neighbouring hedge, and those that succeed can be transferred to the garden at leisure.

ARTICLE VII.

ON THE CULTURE OF THE NELUMBIVM.

BY C. B. B.

HAVING suggested to your readers the experiment of growing tender aquatics in warm water tanks, and observing that the Horticultural Society have been distributing seeds of *Nelumbium Luteum*, I think a hint on the mode of raising that, and the East Indian *N. Speciosum* may not be amiss, as without such instruction, probably not one person in fifty of those who receive the seeds will rear the plant. For some reason or other, probably to preserve a seed which by sinking in deep water, or being buried in mud, is exposed to many casualties, the seeds of *Nelumbium*, are furnished with an exceeding hard coat, which as long as it remains uninjured resists all soaking, whether in cold or warm water. In order to induce them to vegetate in any reasonable time, it is necessary to file the blunt end of the seed, until it just yields to the pressure of the nail. Thus prepared, the seed should be thrown into a pan of water, the temperature of which is not above 70 degrees. When first sown it sinks, but in the course of forty-eight hours it will begin to push, and as soon as the seed-leaves have protruded a few inches, the young plant rises to the surface, where its leaves expand, and it floats. In a short time it throws down a runner, much like that of a strawberry, which descends to seek the mud. This runner throws out roots, and sends up a leaf and from its extremity a similar runner again descends, and

again another, each rooting and throwing up its leaf, until at length the plant reaches the mud, when it takes root, and begins to produce strong leaves. The best method is to sow the seed in a pan a foot or eighteen inches deep, having four or five inches of stiff mud at the bottom. It is useless, and probably would be injurious to cover the seed with earth, those which I tried to plant in this manner, invariably came up and floated, and if effectually buried, the seed would most likely decay; *Nelumbium Luteum*, seems to delight nearly in the same treatment as its East Indian relations, and the rich deep velvet green of its leaves, form a beautiful contrast to the bluish white of that species. I have not seen its flower, but understand that it resembles *N. Speciosum* in every thing but colour.

Whilst on the subject of aquatics, it may be well to mention that *Nymphæa Lotus* grows very freely from seeds, if they are allowed to seed themselves in the water when ripe, and this is the best way of preserving the species, they come up in the following spring, and flower in the summer. The old roots are very apt to perish. *Nelumbium Luteum*, and *Nymphæa Cœrulea* will probably prove the hardiest of all the tender water plants: but collectors must distinguish between the true *N. Cœrulea*, a very strong and luxuriant growing sweet scented species, and *N. Stellata* a small elegant plant much more tender. I fear, however, that this caution is almost needless, and that *N. Stellata* has disappeared from our collections. The remark may, nevertheless, induce some one who is fortunate enough to possess it, to cherish the delicate stranger, and give it the attention which its tropical nature requires. It is a native of Malabar. *N. Cœrulea* is, I believe, from the Cape of Good Hope.

C. B. B.

ARTICLE VIII.

A LIST AND DESCRIPTION OF CARNATIONS,

BY PENSEE.

I SEND you a list of Carnations with remarks on the merits and faults of each. Should it be considered worthy of a place in your Cabinet, I shall follow up this criticism with another paper,

or two on the same subject, and in like manner pass my opinion on Piccotees, Heartsease, Ranunculuses, and other Florists' flowers.

PENSEE.

[We shall feel grateful for the favour, such articles being very much wanted by the readers in general of the Cabinet, many applications have been made to us by subscribers—CONDUCTOR.]

CARTWRIGHT'S RAINBOW (*crimson bizard.*)

This flower is, perhaps, as well or better known than any other Carnation, can never become common from its shyness in producing grass and propensity to run from colour on the latter account, I have no doubt many plants are constantly thrown out, though in future I would recommend this never to be done, as I believe it possesses a property known in no other bizarse, viz. of returning to colour: two or three instances of this had come to my knowledge when I happened to mention it to one of our first growers, who stated that he had made the same remark, and added that if the flower did not run into a perfect self, he believed it invariably came into colour the following season. The Rainbow is a large flower, very fine in shape, good in each colour, and almost unequalled in the white.

FLETCHER'S DUCHESS OF DEVONSHIRE, (*scarlet bizard.*)

The only fault, and one which cannot but be admitted, is its want of size, in every other respect, in colour, in shape and substance of the petal (in my opinion, a great desideratum) and in the general shape of the flower, it is equal to any in its class: it is very generally grown and as generally admired

(WAKEFIELD'S PAUL PRY, C. B.)

This is a higher coloured flower than the Rainbow, but is seldom as large, though a general good bloomer, yet wanting the splendid guard leaves and size of the Rainbow, can never demand comparison.

WILSNES'S DEFIANCE, (*purple flake.*)

Is a large flower, good in colour, but occasionally deficient in the stripe, or rather the stripe is not equally spread over the bloom, one petal having too much, whilst another is wanting. Yet I have sometimes seen this flower so very fine, that I should consider a collection deficient without it

(*To be continued.*)

PART II.

LIST OF NEW AND RARE PLANTS,

Noticed since our last.

1. *ACROPERA LODDIGESII*, Mr. Loddiges' *Acropera*. (Bot. Mag. 3563.) Natural Order, Orchidaceæ. Linnæan Class, Gynandria; Order, Monandria. Synonym; *Maxillaria galeata*. The flowers of this plant are very singularly handsome: they are produced numerously in large pendant racemes, each flower is about an inch and a half across. Sepals of a pretty brownish-yellow. Lip of the same colour. Column, greenish-yellow spotted with red. The plant was introduced into this country by Mr. George Loddiges, from Xalapa of Mexico, and has bloomed in Mr. Loddiges' collection, and in that of the Glasgow Botanic Garden. It merits a place in every collection of Orchideous Epiphytes. *Acropera*, from *akros*, the extremity, and *pera*, beyond, alluding to the little saccate appendage at the tip of the Labellum.

2. *ANAGALLIS MONELLI*, Var. *Celacina*. Lilac flowered Italian Pimpernel. (Brit. Flow. Gard. 377.) Primulaceæ. Pentandria Monogynia. This very handsome flowering variety has been raised between A. Monelli and A. *Fruticosa*. It has flowered in the collection of the Hon. W. T. H. F. Strangways, Abbotsbury Castle, Dorsetshire. The flowers are of a rosy, lilac colour, about the size of *A. fruticosa*. It is a very pleasing variety, well meriting a place in every collection. This as well as its parents are very beautiful flowering plants for a bed in the flower garden during summer, where they make a most brilliant display. Botanists, in general, seem now agreed, that the *A. Monelli* and *A. Grandiflora* are nothing more than mere varieties. *Anagallis*, from *anageleo*, to laugh, applied by the ancient Greeks to a plant beneficial in diseases of the liver.

3. *BEGONIA MONOPTERA*. Single Winged. (Bot. Mag. 3564.) Begoniaceæ. Monœcia Polyandria. Mr. Otto, of the Royal Berlin Garden, has most obligingly sent over to this country several highly, interesting, and ornamental species of *Begonia*. The present species is very handsome. The flowers are white, produced numerously in a terminal raceme. The stems and leaf stalks are of a light red colour, as is the under side of the leaves. The plant is a native of Brazil, from whence it was sent by Mr. Deppe. *Begonia* in compliment to M. Begon.

4. *CEREUS SERPENTINUS*. Serpent-like. (Bot. Mag. 3566.) Cactææ. Icosandria, Monogynia. Mr. Mackay of the Norwich Nursery, purchased the very fine collection of succulents formerly belonging to Mr. Hitchin, and the present species has bloomed with Mr. Mackay. It is a night blooming species, the flowers remaining expanded about as long as *C. Grandiflorus*. The flowers are of a pale whitish flesh colour inside, and a reddish black colour outside. The tube is about four inches long. *Cereus*, from *cercus*, plant, alluding to the shoots.

5. *CEROPEGIA STAPELIIFORMIS*. Stapelia-like. (Bot. Mag. 3567.) Asclepiadeæ. Pentandria Digynia. This most curious flowering plant has bloomed in the Glasgow Botanic Garden, where it had been sent from Kew Gardens. It is thought to be a native of the East Indies, and requires a hot-house temperature. The stems very much resemble those of a *Stapelia*. The flowers are very singular. Corolla two inches long; tube curved, expanded upwards to form the limb, which is cut into five segments, they are dark purple outside, white and hairy within. The tube is of a greenish white, much spotted with deep purple. The five segments of the corolla curve backwards, and the sides reflexed, so that the upper side having the form of a sharp keel, presenting a most singular appearance. *Ceropegia*, from *keros*, wax, and *pege*, a fountain.

6. *CHRYSEIS COMPACTA*. Dwarf Chryseis. (Bot. Reg. 1948.) Papaveraceæ. Icosandria Tetragynia. Synonym. *Eschscholtzia*, compacta. The

present species differs from *C. crocea*, and *C. californica*, in being of a more dwarf habit, and very compact in growth. The flowers too are rather less; they are of a fine bright yellow, with a deep orange centre. The plant deserves a place in every flower garden. *Chryseis*, a celebrated Homeric beauty, the name alluding to the gold colour of the blossoms;

7. *CLARKIA GAUROIDES*. Guara like *Clarkia*. (Brit. Flow. Gard. 379.) *Onograria*. *Octandria Monogynia*. A hardy annual, sent by the late Mr. Douglas from California, to the London Horticultural Society, in whose garden it has bloomed. It is not near so handsome as either *C. palchella*, or *C. elegans*. The flowers are about an inch across, of a lilac-purple colour. They are produced on terminal racemes, but the blossoms are very distant from each other, much more so than in *C. elegans*. *Clarkia*, in compliment to captain Clark, who accompanied captain Lewis to Rocky Mountains.

8. *DATURA GUAYAQUILENSIS*. Guayaquil. Thorn Apple. (Brit. Flow. Gard. 380.) *Solanææ*. *Pentandria Monogynia*. Mr. Tweedie sent seeds of this species from Peru to Dr. Neill, in whose fine collection at Cannon Mills, near Edinburgh, it has bloomed. It had been grown in the stove. It appears that it blooms in February and March: in its native country, where it grows abundantly in moist places, on the shores of the Pacific, near Guayaquil. The plant is annual, growing three feet high. The flower, with its tube, is about six inches long; corolla, upper half white, lower part greenish. The mouth of the flower opens about two inches. It is very probable that good strong plants, planted out in the open border during summer, would bloom very freely.

9. *DELPHINIUM BARLOWII*. Mr. Barlows' Larkspur. *Ranunculaceæ*. *Polyandria Trigynia*. This very superior variety was raised by Mr. Barlow, near Manchester, some few years back. The splendour of its fine double blossoms, renders it a very desirable plant for every flower garden. It blooms during a greater part of summer, its fine blue flowers, tinged with a purplish hue at the centre, produce a most charming effect. The spikes rise from three to seven feet high. The plant may be had of most Nurserymen, or Florists. *Delphinium*, from *Delphin*, a Dolphin, the resemblance of the neck of the flower.

10. *ECHINOCACTAS SESSILIFLORUS*. Sessile-flowered. (Bot. Mat. 3569.) *Cactææ*. *Icosandria Monogynia*. Bloomed in the fine collection of Mr. Mackie of the Norwich Nursery. The spines are short and white; the plant blooms freely, producing several blossoms every year.—Mr. Mackie cultivates the *Echinocactus* tribe with great success. The plants are grown very near the glass, and in the summer time, in a very high temperature, by keeping the top sashes of the house closed. Strong light and heat are very necessary for the blossoms expanding in perfection. Some of the kinds close their blossoms immediately on being removed to a cooler place. It is very necessary to have the pots well drained, as the roots are liable to decay if the earth is at all sodden with moisture. All the kinds thrive best in a good encircled soil, well drained and planted in small pots.

11. *EPIDENDRUM DIFFUSUM*. Spreading *Epidendrum*. (Bot. Mag. 4565.) *Orchideæ*. *Gynandria Monandria*. A native of Jamaica, where it is a frequent inhabitant of the trunks of trees. It has bloomed in the collection at the Glasgow Botanic Garden. The flowers are pointed in terminal panicle, six to eight inches, or a foot long, very branched. The flowers are small, little more than half an inch across, very narrow petals, of a light greenish yellow colour. The flowers are rather uninteresting, *Epidendrum*, from *epi*, upon, and *dendrum*, a tree, growing upon.

12. *GESNERA LATERITA*. Brick-red. (Bot. Reg. 1970.) *Gesneraceæ*. *Dynamia Angyospermia*. The plant is a native of Brazil, and has bloomed in the stove in the garden of the London Horticultural Society. The flowers

are of a fine red colour, an inch and a half long. *Gesnera* in compliment to C. Gesner, a celebrated Botanist.

13. *LACHENALIA PALLIDA*, Var. *Cærulescens*. Blue-flowering pallid *Lachenalia*. (Bot. Reg. 1945.) A native of the Cape of Good Hope, where it occupies the situation as that of the blue-bells and squills of the European countries. The flower spike is about five inches long, each flower nearly as large as a common blue-bell, of a light-blue colour. *Lachenalia* from—

14. *LÆLIA ANCEPS*, Var. *Berkeriana*. Mr. Barker's variety. (Bot. Reg. 1947.) *Orchidaceæ*, *Gynandria Monandria*. It is a striking variety of *Lælia anceps*, it differs however in the petals being much narrower, but much the same size as the sepals. The middle lobe of the lip is narrower and sharper. The sepals and petals are of a beautiful lilac colour, much like *Cattleya labiata*. Each flower is about four inches across. The Labellum is of a dark crimson red colour, with the inside white and striped. The plant is a native of Mexico, imported by Messrs. Lowe, & Co., Clapton Nursery. It has bloomed in the collection of George Barker, Esq., Birmingham.

15. *LIMNANTHES DOUGLASSII*. Mr. Douglas's *Limnanthes*. (Brit. Flow. Gard. 378.) *Limnantheæ*. *Decandria Monogynia*. This family appears to hold an intermediate station between *Geraniaceæ*, and *Tropæoleæ*. It is a hardy annual, thriving best in a soil composed of peat and loam. The stem of the plant rises about nine inches high, branched, flowering freely, each blossom being about an inch and a half across. The lower half of the flower of a bright yellow, the upper half white. Altogether being pretty. *Limnanthes*, from *limen*, a lake, and *anthos* a flower. Alluding to its habits.

16. *MONOCHANTHI ET MYANTHI, ORISTATI PROLES BIFORMIS*. *Orchidææ*. *Gynandria Driandria*. A plant of the *Myanthus barbatus* flowered in the fine collection at Chatsworth, and it also produced a perfect spike of *Myanthus cristatus* at the same time. A vigorous state of culture has a tendency to favour the production of monstrous flowers. A gentleman, who resides in Demerara, states that a flower spike of *Gatasetum*, often has on it several distinct kinds of flowers. The spike of bloom at Chatsworth had seven flowers of *M. cristatus* at the upper part of the spike, and seven of *M. barbatus* below them. The flowers of the former are of a greenish-yellow colour, destitute of any spotting with darker. Those of the latter are green spotted with red. The lip has a number of fleshy teeth projecting from the sides and end. Dr. Lindley states in remarks on this sportiveness in *orchidææ*, that, "the necessary consequence of this in the case of *M. barbatus* and *cristatus* is, that the supposed genera *Myanthus* and *Monachanthus* must be restored to *cata-setum*." And Dr. Lindley further observes, that, he has no doubt that the genus *Mormodes* must share the same fate.

17. *ONCIDIUM CEBOLLETA*. Round-leaved. (Bot. Mag. 3568.) *Orchidææ*. *Gynandria Monandria*. Synonyms *Epidendrum Cabolleta*. *Epidendrum juncifolium*. *Orcidium juncifolium*. *Cymbidium juncifolium*. Dr. Sir W. J. Hooker observes, "that, I am not aware that the flowers had been seen in this country, till a fine panicle appeared in the stove of the Glasgow Botanic Garden, and another plant blooming in the collection of Charles Horsfall, Esq., Liverpool. The plant is a native of Trinidad. The flowers are produced numerously on a scape about two feet high, much branched and paniced. The flowers very much resemble those of *Orcidium flexuosum*. They are of a bright sulphur yellow colour, spotted with deep red, producing a very neat and pretty appearance. The plant deserves a place in every collection.

18. *PENTSTEMON CREVIFLORUS*. Short-flowered. (Bot Reg. 1946.) *Scrophularinæ*. *Didynamia*; *Angriospermia*. A native of California, from whence it was sent to this country by the late Mr. Douglas. It is a hardy perennial, of delicate habit. It produces a profusion of flowers which are small, of an orange red outside before expanding, afterwards of a white and purple

colour. Though not as showy as many of this tribe, yet it is an interesting and pretty plant.

19. *TRICHOCENTRUM FUSCUM*. Brown-flowered. (Bot. Reg. 1951.) Orchideæ. Gynandria; Monandria. Introduced into this country by Mr. Knight from Mexico, with whom it has bloomed in July last year: the flowers are small but pretty; green, white, red, and yellow intermixed. Neat and pretty.

REVIEW.

The science of Botany by Hugo Reid, 24mo. pp. 103. John Reed Glasgow, 1837. Contents, 1st, What is a plant. 2nd, Cells and tubes. 3rd, The root. 4th, The stem. 5th, Leaves. 6th, Appendages. 7th, Nutrition. 8th, The flower. 9th, The fruit and seed. 10th, Propagation of plants. 11. Linnæan method of arranging plants. 12. Natural system for classifying plants. This small and neat publication on the interesting science of Botany contains *multum in parva*. We think it well worth procuring—An extract will shew the nature of the work:

“THE STEM.—The stem is an organ possessed by most plants. It grows upwards from the root, gives support to the leaves, the flowers, and the fruit, and transmits to them the nutritious fluids absorbed in the earth.

“With respect to structure, stems may be divided into three great classes which correspond with the three natural classes into which vegetables are divided,—Cellular, Endogenous, and Exogenous Stems.

“CELLULAR STEMS,—These consist of a homogeneous mass of cellular vegetable matter, covered by a thin cuticle. Some of them are apparently of a fibrous texture, but are composed of elongated cells placed parallel to one another. Mushrooms (*Fungi*), Lichens, Sea-weeds, the lower orders of plants, make up this class, the leading character of which is to consist of cellular tissue alone. The Ferns, and one or two others, have certain kinds of vascular tissue, but resembling this class in other respects, have generally been included in it. Plants of this kind are *Flowerless* or *Cryptogamic* and are termed *Acrogenous*, growing only by addition at their external points.”

“ENDOGENOUS STEMS.—These consist of bundles of vessels irregularly dispersed through cellular tissue. The Sugar-cane, Solomon's Seal, the Lily, the Palm, and the Iris, have this kind of structure, the cellular and vascular tissues being blended together through the entire substance of the stem.

“Stems of this kind are called *Endogenous*, because the new matter by which they increase in diameter is added interiorly. Their growth is carried on by means of the thick cluster of leaves by which they are terminated superiorly. From them the new matter descends along the centre of the stem, and pushes outwards the parts first formed. The upper parts of the leaves perish having performed their functions; their bases remain, are pressed together, and form at the top the new external part of the stem. In the middle of the crown of leaves is the terminal bud, which is next to be developed, rise a little above the former, become a cluster of leaves, and in its turn be pushed outwards by a succeeding central bud.

“The oldest and hardest part of such stems is that nearest to the circumference. The more the external parts are pressed by the descent of the new matter, the more close and compact they become, the outer parts being soon incapable of being much farther pushed out, and the whole being thus compressed and condensed. The prickly Pole-palm is like whalebone externally, and some palms are so hard there as to resist the stroke of the axe—yet quite soft in the centre.

“From the mode of growth in this stem it never can attain a great thickness, the new matter having to force outwards all the previously formed matter, which is every season increasing in quantity and becoming harder.

“From the same cause they have no lateral buds—no branches. Buds (which produce branches) originate from the soft and juicy parts of the tree—but in endogenous trees this is surrounded by a thick hard compact casing through which the buds cannot penetrate. Their only branches are the splendid crown of leaves which proceeds from their one bud at the summit.

“Hence the peculiar form of the palm trees, which present so striking a feature in the scenery of tropical climes, and form such a contrast with the trees in more temperate latitudes; raising a narrow unbranched stem often to a height of about 150 feet, crowned by a magnificent cluster of leaves many feet in length bending elegantly outwards, and presenting altogether one of the most graceful objects which can adorn a landscape. From their great height, which renders them tottering, and their manner of growth, which causes them in time to become hard and compressed, even in the centre, so that they cannot transmit juices from the root, or new wood from the leaves—the age of Palms is limited—perhaps not exceeding two or three centuries at the utmost.

“Plants with endogenous stems have only one cotyledon (lobe) in the seed (hence called monocotyledonous,) and have leaves with veins proceeding in simple lines from the base to the summit, not forming a net-work as in the leaves of the Lime tree, Cabbage, Primrose, &c. Contrast, in this respect, the plants just mentioned with the grasses, onion or lilly tribe.

“EXOGENOUS STEMS.—The third class of stems consists of those in which are observed concentric layers of vascular tissue, arranged symmetrically round a central column of cellular tissue, intersected by rays of cellular tissue proceeding from the centre towards the circumference, and enclosed by a hollow cylinder of bark.

“*The Epidermis or Cuticle.*—The epidermis is a thin membrane, resembling much the cuticle of animals, and extending over the whole plant. It is described as consisting of a layer of fine membrane provided with pores, and covering a sort of cellular net-work. These pores open by an oval aperture, surrounded by a small prominence (which is supposed to open or shut the aperture as circumstances may require,) into the cellular net-work, in which the vessels terminate. On the leaf the cuticle is a very important organ.

“These pores or stomata give free passage to moisture. They are found only on parts exposed to the air, and which evaporate freely. Roots, fleshy, fruits, and seeds, and those parts of aquatic plants which are submersed, are destitute of stomata.

“The cuticle is supposed to protect the parts underneath from the too direct action of air and water, to prevent too great evaporation of the fluids. It affords little protection from heat or cold, except when covered by a thick hair or wool as in the Great Mullein. On the trunks of the Fir, the Plane, the Oak, and other trees, the office of the cuticle seems to be performed by dead layers of bark, or of herbaceous integument, which are pushed outwards, having performed the functions for which they were made.

“In forest trees and in the larger shrubs, the bodies of which are firm and of strong texture, it is of little importance, except in the young and tender state of the plant; but in the reeds, the grasses, canes, and the plants having hollow stalks, it is of great use, and is exceedingly strong; and by the microscope, seems to be composed of a grassy net-work, which is principally siliceous earth. This is the case in the Wheat, in the Oat, in different species of Equisetum, and above all in the Rattan, the epidermis of which contains a sufficient quantity of flint to give light when struck by steel. The siliceous epidermis serves as a support, protects the bark from the action of insects, and seems to perform a part in the economy of these feeble vegetable tribes, similar to that performed in the animal kingdom by the sell of the crustaceous insects. I have ascertained, by experiment, that siliceous earth generally exists in the epidermis of the hollow plants.

To be Continued,

PART III.

MISCELLANEOUS INTELLIGENCE.

QUERIES.

ON BOW'S SUWARROW PINK.—Could you or any of your pink growing friends inform me the best method of growing Bow's Suwarrow Pink in order to avoid disease, I selected it from different collections last year, and I have lost them all again; I may here remark that I have grown it in rich and poor soil, but I cannot keep it more than one year. J. F.

ON CANADIAN POPLAR AND DOLICHOS.—Can you or any of your correspondents, kindly inform me of the proper method and season for propagating the Canadian poplar, or what I consider such; a tall branching tree, having leaves, larger than a man's hand, and which produces no suckers.

Also how to produce flowers on a Dolichos (of which I am ignorant of the specific name,) the flowers are pink, and about the size of anthylis vulnaria, (lady's finger) which I raised from seed five or six years ago, and have kept in a pot. Does it require a rich soil, and will it bear to have the earth much shaken from the roots in repotting? F. S.

ON THE CULTIVATION OF THE GENUS PASSIFLORA.—I shall be much obliged if you or any of your correspondents can inform me of the best method of cultivating the genus Passiflora in their several departments, in order to ensure an early bloom from young plants, and also as regards their subsequent management. A CONSTANT READER.

ON THE FLOWERS OF THE CAMILLIA FALLING OFF BEFORE EXPANDING.—Having a number of plants which often going through the regular process generally recommended, such as potting, introducing into heat to moisten and to mature their buds, afterwards being set in a shady situation out of doors during the summer and autumn; when taken into the greenhouse, the buds keep frequently dropping off, so that at the time of flowering, instead of having several dozen blooms upon a plant, I am disappointed in not having more than one dozen, and in some cases, not one flower.—To be informed through the medium of the Cabinet in what part of the process I am deficient will greatly oblige an AMATEUR.

ON WISTERIA SINENSIS.—Having several plants of the Wisteria Sinensis planted in different situations in my garden which grow vigorously but do not blossom, I shall be glad to be informed through the pages of the Cabinet, by you or any of your correspondents of a successful method to make them bloom.—I shall very likely favour you with answers to these queries myself. A SUBSCRIBER.

ANSWERS.

ON DOUBLE FLOWERING CLARKIA.—Through you in answer to Mr. King of Black Heath, relative to the ANNUAL, Double flowering Rose coloured Clarkia which he notices in my advertisement in the Cabinet, I presume, more than Mr. K. having heard of it before I advertised it, though I have had it these last two years, it was imported and flowered at the Nursery of Messrs Rivers last summer, where it was very much, and in my humble opinion, justly admired, for being greatly superior to any of the other varieties in point of colour. The majority of plants, having had flowers, that were strictly speaking, double.

Being satisfied that even those that came single, were more beautiful than

the old varieties, I put "fine" after it in the Cabinet, which I would not have done for the sake of sale in preference to give an opinion on any thing which experience would not afterwards fully verify. As Mr. King anticipates it will be a very great acquisition to the flower garden; should Mr. King or any other of your readers require further information, I would refer them to Messrs. Rivers of Sawbridgeworth, who I think would give a better description of it, than your obedient servant,

J. KERNAN.

4, Great Russell Street, Covent Garden, London.

A LIST OF SUPERB GERANIUMS.—Thinking that a list of the best Geraniums might be useful to some of your readers, I herewith send you the annexed list of thirty of the best kinds that were let out last year.

Bella Donna	Miss Sophia
Bellissima	Miss Annesley
Coriolanus	Nosegay
Commemeration	Perfection
Constance	Pulcherimum Novum
Curate	Queen Bess
Diomede	Queen of Beauties
Emperor of the West	Queen of Pixies
General Washington	Rosinant
Indian Chief	Roxana
Lady Denbigh	Sir John Broughton
Lavingtoniensis	Speculum Mundi
Lord Hill	Squaw
Maid of Athens	The Gem
Miranda	The Wonder

The above may be purchased of any nurseryman either in town or coutry 5s to 21s. They are really good and might have an extensive cultivation.

March, 14th 1837.

A LOVER OF FLOWERS.

REMARKS.

ON ROSES, PINKS, &c.

Whenever Roses or any other shrubs are infested with blights, take sulphur and tobacco dust in equal proportions, and strew it over the trees in the morning, when the dew is on; and when the insects disapper then wash the tree with a decoction of Elder leaves.

Whenever you want to raise any plants from cuttings (except those that are perfectly hardy, let there be a mixture of drift sand in the mould, as this will assist their striking, always remembering that a hand-glass put over them will be more likely to ensure success. They should be shaded from the mid-day sun; but the mat should be removed when the sun is off, as they should have plenty of light.

To draw off any imperfect spots in Pinks or Carnations, put a small glass on the flower-stick which will remove them in a few days.

Before you plant Ranunculuses, the roots should be laid on a damp flannel to swell; and shake over the bulbs a little dry sand, before they are covered with the mould.

If Greenhouse plants, are in a room, and the weather is very severe, set a pail of water near them at night, or burning two or three rush lights will often preserve them from frost.

Double Colchicums and Crocuses should remain in the ground two years.

Old Pink roots best to save seed from.

To drive away rats, use sulphur steeped in water; and if they or worms infest gravel walks, strew the walks over with salt, and then water them.

To DESTROY SNAILS.—Place tiles about the garden in a hollow direction.

They will get under them in the night, and in the morning you may destroy them.

Remove Rose Trees in February, to make them blow late ; or cut some of the buds off, which will answer the same purpose.

To preserve the choice bulbs, cover them over, in severe weather, with old tan, or coal ashes.

When flowers are withering in a flower-pot, plunge about one-third of the stems into boiling water, and by the time the water is cold they will revive ; then cut off the ends and put them into cold water with a little nitre, and they will keep fresh for several days.

Sow all seeds shallow ; and if they are small, such as Poppies, Venus' looking-glass, &c. they should be sown very thin, or the plants will not thrive.

Hoe and sow in the dry, and plant in the wet ; this will generally ensure the crop, and what is planted out will be much more likely to grow.

Shrubs and Flowers should never be planted deep, as they will not thrive so well.

Never put plants in too large pots, as they generally run to roots and stalks, but seldom blow well.

It is a good method to put oyster-shells round the plants in pots in the summer, as they will not require so much water, and will keep the surface cool.

No Plants (but especially tender ones) should be watered when the sun is upon them, as it often turns the leaves yellow, and injures the plants.

Water in the evening from the latter end of May to the latter end of August, and afterwards in the morning, as we often have frosts the beginning of September.

In the winter plunge pots up to the rim in tan or ashes to preserve the plants from the frosts.

Hardy Greenhouse Plants should be kept chiefly in the shade during the summer months, but never under the droppings of trees. Air is of consequence to all plants, so that they should be placed where they can have plenty of it, though not so exposed as to be injured by high winds.

If you wish for Roses at Christmas, select from your Rose Trees such buds as are just ready to blow ; tie a piece of thread round the stalk of each. You must take care not to touch the bud with your hand, or even the stalk any more than you can avoid. Cut it carefully from the tree, with the stalk two or three inches in length. Melt some sealing-wax, and quickly apply it to the end of the stalk. The wax should be only as warm as to be ductile. Form a piece of paper into a cone-like shape, wherein place the Rose ; screw it up carefully, so as to exclude the air from it ; do so by each ; then put them all into a box, and the box into a drawer, all of which is intended to keep them from the air. On Christmas day, or any other day in winter take them out, and cut off the ends of the stalks, place them in a flower-pot with lukewarm water. In two or three hours they will blow as in summer, retaining all their grateful fragrance.

Whenever you want to transplant any Flower Roots in the summer season, make it a rule to do it in the cool of the evening, and give them all a little water ; if this plan is not adopted, the sun will spoil them.

To destroy Earwigs, place the bowls of tobacco pipes on the tops of the flower-sticks, and you will find them in the morning in the bowl ; turn them into a bason of water, and put the bowls on the sticks again.

A SUBSTITUTE FOR BOG EARTH.—Take a quantity of earth from a common about a foot deep with the turf ; mix this with rotten dung, part horse and part cow, with a portion of mould from a hollow tree, and a portion of drift sand ; let these materials be well mixed together, and lay for several months before it is used, turning it once a week or a fortnight.

The best soil for Carnations and Pinks is a large proportion of good rich loam, mixed well with an old melon bed, a little cow dung, and a small portion of drift sand.

Extracted from an useful Treatise on Flowers recently published by J. Willatts, Esq. (see review in Cabinet, for 1836.)



A



B



E



C



D



Handwritten signature or text, possibly 'L. R. ...'





Varieties of Ipomoea.

J. W. Parkin Sc.

THE
FLORICULTURAL CABINET,

JUNE 1st, 1837.

PART I.

ORIGINAL COMMUNICATIONS.

ARTICLE I.

REMARKS ON THE TREATMENT OF ORCHIDEOUS PLANTS,

BY EPIPHYTES.

I AM glad the subject of the culture of Orchideous Epiphytes has been again taken up in your Magazine, and being much pleased with the communication of "A Three Year's Practitioner," I hope he will take the trouble to enter into a little more detail. In the first place I would ask, does he consider that his plants suffered in the winter when in the vinery, on account of their distance from the glass, or was it not rather in consequence of the dry heat of the flue? It would be well if he would describe somewhat more at length the construction of the house he purposely erected for their reception, as to its height in front and back, and also at the ridge, and whether it stands east or west with a few particulars as to the size of pipes, boiler, and the total area of the heating surface, as a guide to those wishing to erect similar structures. Are we to understand that the pots of plants are only placed upon, and not placed amongst the moss, and that the soil in the pots is not watered, but left to imbibe moisture from it? From the latter part of the paper one would infer that bottom heat was of great advantage in the successful cultivation of these plants, and I should be glad to have your correspondent's thoughts on the subject and whether or not any particular species do better on the ribbed trellis, where, unless moisture is supplied by the pipes being open, they must be exposed to an

ascending current of dry hot air. An account of the mode of ventilation would be acceptable, and as the degree of moisture is a most essential point with the *Ochideæ*, any data furnished from observations, made both during the seasons of growth and repose, with either Leslie's (which is decidedly the best and least troublesome in gardening operations) or Daniel's hygrometer would contribute much to their successful treatment. In using the sphagnum is it mixed with the potsherds, or a layer of it placed in the pot? I should fear that the moss on or in which the pots are placed would greatly encourage those pests the onisci or wood-lice, which make such havock of the tender tips of the young roots, but perhaps some mode of remedying the evil has presented itself to the writer, as he does not allude to it at all. Would not sand or ashes be a good substitute for the moss, and afford less shelter to the onisci? Many other matters relative to the management of these plants will naturally suggest themselves to your correspondent, such as the season of re-potting, and the preparation of the plants for undergoing that operation, and by treating the subject more at length, I doubt not he will greatly oblige many of your readers besides.

EPIPHYTE.

ARTICLE II.

A LIST OF THE BEST NEW SORTS OF FLOWER SEEDS. &c. &c.

BY W. C. R.

It being now about the time for sowing or planting out all kinds of flower seeds, I herewith hand you a list of what in my opinion is the best of the new sorts of flower seeds, should you think it worthy insertion, I have no doubt but it will be of some service to amateur floriculturists and persons who are in the habit of buying all the new kinds of flower seeds. All the kinds I have quoted are real good sorts, and every one who grows flowers ought to have them forthwith (if they have not already got them.) All the sorts can be purchased of any respectable town or country nurseryman at from 6d. to 2s. 6d. per packet. Those sorts to which an asterisk is prefixed are either the newest, the dearest, the scarcest, or the best.

Adlumea scandens
Agrostemma coronaria

Amaranthus giganteus
Asclepias nivea

* <i>Battonia aurea</i>	* <i>Ipomopsis pecta</i>
<i>Blumenbactia insignis</i>	..... <i>elegans</i>
<i>Calendrina discolor</i>	<i>Jacobæa</i> , new, yellow
* <i>disticha</i>	* double white
<i>Campanula lorei</i>	* <i>Leptesiphon androsaceus</i>
* <i>Catananche bicolor</i>	* <i>densiflorus</i>
<i>Catulla aurea</i>	<i>Malope grandiflora</i>
..... <i>coronifolia</i>	* new <i>alba</i>
<i>Chelone diffusa</i>	<i>Nemophila insignis</i>
* <i>Clarkia elegans rosea</i>	..... <i>phacelloides</i>
..... <i>grandiflora</i>	..... <i>aurita</i>
<i>Clintonia elegans</i>	<i>Nolana atriplicitifolia</i>
<i>Collinsia bicolor</i>	<i>Phacelia tenacetifolia</i>
<i>Coreopsis elegans</i>	* <i>Phlox Drummondii</i>
* <i>bicolor</i>	<i>Platystemon californicum</i>
<i>Collomea coccinea</i>	<i>Podolepis gracillis alba</i>
* <i>Didiscus Cæruleus</i>	* <i>Rhodanthe manglesii</i>
<i>Dianthus atrorubens</i>	<i>Sanvitalia procumbens</i>
<i>Dolichos purpureus</i>	<i>Scabious</i> , new, mottled
* <i>Eutoca viscida</i>	* <i>Schizanthus Grahamii</i>
<i>Fumaria spicata</i>	* <i>priestii</i>
<i>Gilia tricolor</i>	..... <i>pinnata humilis</i>
..... new <i>alba</i>	* <i>vensustus</i>
.... <i>Achillæfolia</i>	<i>Streptocarpus rheaii</i>
* <i>Godetia rubicunda</i>	<i>Thunbergia alata</i>
<i>Heliophila araboides</i>	* <i>Trachymene Cærulea</i>
<i>Humea elegans</i>	<i>Tropæolum tricolor</i>
<i>Hunnemania fumarifolia</i>	..... <i>shillinghi</i>
<i>Isotoma acillaris</i>	<i>Wallflower</i> , new, French striped
<i>Iberis coronaria</i>	<i>Zoegea leptaura</i>

Some of the sorts as named above are not very new nor are they very old, but they are all considered first rate sorts. There are also a great many new varieties of some of the older flowers, such as *Clarkia*, *Anagallis*, *German Aster*, *Russian Stocks*, *Campanula*, *Centaurea*, *Delphinium*, *Franchoa*, *Lobelia*, *Lupinus*, *Nierembergia*, *Penstemon*, *Potentilla*, *Salpiglossus*, *Zimia*, &c. &c. which every amateur which has a good garden ought to have.

April 22d 1837.

W. C. R.

ARTICLE III.

ON A CHEAP AND USEFUL METHOD OF FUMIGATING PLANT-HOUSES. &c.

BY A YOUNG AMATEUR.

I beg to offer a few remarks on a cheap and useful method of fumigating houses, which I think will prove acceptable to some

of your readers. Some short time ago I was troubled very much with the green fly in my Geranium house, tobacco smoke being a very good thing to destroy them, I was at a loss how to use it, not having any fumigating bellows. However, in a few days, in lieu of this, I hit upon a successful method. I got a flower pot about three inches in diameter, and made a hole in the side of it about an inch from the bottom of the pot. I then filled the bottom of the pot with red hot cinders, upon which I put the tobacco, which of course lighted. To the hole in the side of the pot I applied the nose of a common pair of bellows, which caused the tobacco to burn equally as well, if not better, than with the fumigating bellows. In order to get a good volume of smoke, I make the tobacco quite damp, which the red hot cinders are sure to set on fire. The above experiments I have tried and found to answer exceedingly well.

ARTICLE IV.

ON PROPAGATING THE CAPE HEATHS (ERICAS) FROM SEEDS

BY A FOREMAN OF A LONDON NURSERY.

I AM glad to observe that this very highly interesting genus of plants is again becoming extensively cultivated. I think too upon a more successful system of management than was practised a dozen years back. I herewith forward the mode of management I have pursued, with the greatest success.

PROPAGATING ERICAS.—This very interesting and numerous genus is best cultivated in a house dedicated exclusively for themselves; and where such is the case, such house is known by the appellation of heath-house or heathery, and to be complete should contain from about two hundred and fifty to three hundred species, which will afford a considerable share of bloom throughout the year. Heaths are comparatively of late introduction for we find that in Miller's time, few were known, and those only of the hardy kinds: none of the Cape species being at that time introduced. To His late Majesty George the Third we are considerably indebted for the introduction of this charming genus of plants.

That monarch, at his private expence, sent Mr. Mason, a most assiduous collector, two voyages to Africa, for the almost express purpose, and by his exertions, the first collection of

Ericas in this country was formed. The late venerable Mr. James Lee, in company with Mr. Kennedy, of the Hammer-smith nursery, may be looked upon as the first professional characters who embarked in this speculation, and their collection was looked upon as unrivalled in Europe. These were not only the first commercial collections formed, but there also the mode of culture first devised, which has been the means of disseminating them throughout Europe, chiefly under the management and direction of our late ingenious, although unfortunate friend, Cushing. Subsequent collectors have added considerably to this genus; and although last but not least, that indefatigable young botanist, Bowie, who not only visited Africa with a view to discover new species, but also to draw conclusions from their natural habits, to enable us to improve their culture; and from the observations made by him, and freely communicated to us as well as to others, there is no doubt, that had he survived his second journey, this genus, which hitherto has been considered difficult to propagate and cultivate, would have been much improved by his valued observations. A genus so interesting, and we may say, so long fashionable, must necessarily have attracted the attention of home cultivators; and from the profusion of flowers which most of the species produce, and their parts of generation being for the most part so perfect, we need not be surprised at the many hybrides which the care or curiosity of the cultivator has produced. To the valuable exertions of the Hon. and Rev. W. Herbert, we are primarily indebted for many plants of this description; and from his paper on this subject, in the Transactions of the Horticultural Society, we are led to infer, that this promiscuous impregnation goes on to a considerable extent at the Cape, where millions of them must be in flower at the same time.

Heaths, like most other plants, propagate themselves from seed, although most of them cultivated in this country have hitherto been originated from cuttings; few from layers, and so far as we know, none have been propagated by grafting, or similar processes. A considerable portion of them ripen their seeds with us, and there are annual importations of seeds from the Cape. Those seeds ripened in this country vegetate most readily; whilst those imported are often too old, or sometimes injured, before they reach us. As those imported generally reach us in winter, they should be sown early in spring; indeed some

cultivators advise their being sown immediately after their arrival; but we have hitherto found, that if sown too soon, that is, in February or the beginning of March that they do not vegetate so quickly, and, in consequence, many of the seeds are rotted: for it is a maxim that should never be lost sight of in the culture of this tribe, which is, that artificial heat should never be employed, excepting in some cases of slow growing kinds, that may require a slight heat to draw the young shoots out to a sufficient length for the purpose of cutting; but even in this case, they seldom they are so excited, the better.

Artificial heat, therefore, is injurious to the process of originating heaths from seeds; we, therefore, in our own practice, as well as from observation of that of others, prefer the latter end of March or beginning of April for sowing these seeds; the natural warmth of the season then is sufficient to stimulate vegetation, and the young tender plants so originated have not the chance of being destroyed by damp cloudy weather, which we often experience in spring, and which would be of the utmost injury to them in their young state. Where extensive collections of plants are kept up, and in all large nurseries, there is generally a seed-house, that is, one expressly dedicated for the rearing of plants from seeds; such houses are generally low, having a northern aspect, as is the case in the Hammersmith and other nurseries.

Cultivators, who have but few seeds requiring such a structure, content themselves, therefore, with a good garden frame and glasses; and as such is portable, it can be placed where it is either shaded from the meridian sun, or great care taken in shading it artificially. The situation of such a frame should be both dry and airy, for damp would be extremely injurious to the young plants. Pots should be prepared for the seeds, of ordinary sizes, but those known as seed-pots are to be preferred; they are broad and shallow, which admits of a considerable surface for the seed to be sown on, and of being rendered perfectly dry at bottom. Great care should be taken in draining them, for although the surface will require to be kept pretty moist, still no impediment must be left whereby the superabundant moisture would be prevented from passing freely off. The directions given for draining cutting-pots will be, if acted upon, sufficient for this purpose. The mould upon which the seeds of heaths are sown, should be of the sort called peat-earth, having naturally a con-

siderable portion of fine white shining sand in it, or, if deficient in this material, it should be added to it by the cultivator.

As the seeds are very small, the mould for this purpose, to the thickness of an inch and a half, should be sifted very fine, and the surface of the mould in the pot rendered smooth and level with a small circular piece of wood, say of three inches diameter, having a nail driven into the centre of its upper surface, by which the operator can use it to much greater advantage. Upon the surface so prepared, the seeds should be thinly sown regularly all over it, and covered with the same kind of mould to the thickness of one-eighth of an inch, more or less, according to the size of the seeds, as some are larger than others. The pots so sown should be then placed upon the platform in the seed-house, or upon a floor (if in frames) of finely-sifted coal-ashes, and after being gently watered with a very fine rose watering-pot, be shaded from the sun. This shading must be continued constantly on during sun-shine, until the plants be from half an inch to an inch high; afterwards it must be gradually removed to harden them by degrees, to fit them for potting off into separate pots. Some cultivators place bell or hand-glasses over the seed-pots when sown, and when such can be spared, they may be with some propriety used. For five or six weeks, the surface of the mould must never be allowed to become dry, but be daily examined, at the end of which time, the seeds may be expected to have vegetated. When such is the case, the bell or hand-glasses should be gradually removed, first by being lifted up about a quarter of an inch, and in increasing this air, until entirely removed. Some seeds of course do not vegetate so soon as others, therefore the pots should be still carefully attended to; but if after three months, or little more, all hope of their vegetating may be given up. Plants, so originated, will be about the middle or end of September in a fit state to plant out into thumb or thimble pots, as they are called, and which are the smallest sizes that are made.

Heaths which ripen their seeds in this country, should be sown as soon as they are ripe, provided this does not occur after the first of September; such as ripen afterwards (and several do so) had better be kept packed up in paper till the following April, when they may be sown as above directed. Plants originated at this time will be sufficiently strong by autumn to pot off; and it is even better then to pot off such as are very small, than allow

them to stand in the seed-pots all winter. It is perhaps not easily accounted for, but plants stand the winter better when potted off in autumn in single pots, than if they were to remain in the seed or cutting-pots all winter; and the same rule holds good in regard to potting off cuttings propagated at any period of the year when quite young, that is, immediately after they have commenced making roots. This is not perhaps generally known, at least it is not always acted upon, as many persons, from an idea that the plants will become strong and better rooted, defer too long the process of potting off, and, in consequence, lose both time and many of their plants. It may, perhaps, not be quite out of place here to observe, that such seedlings or cuttings as have originated in the fine white sand of cultivators, should have their roots completely cleared of it before they are potted in their natural mould; for although most plants emit roots in that sand, it becomes injurious to many of them after they quit their cutting or seed state. Directions for propagating by cuttings have been already amply detailed, to render a recurrence to that process here unnecessary.

We may here however remark, that this family are less annoyed by insects than most other exotic plants, still they are not entirely exempt; for that destroying insect, the green fly of gardeners, sometimes attacks the heath, and as it is found impatient of the usual remedy, tobacco smoke, the best cultivators dip the plant, or parts infected, in a decoction of tobacco liquor. Mildew sometimes attacks the heath; but this, like the cause of its appearance in all other cases, must be owing to damp or stagnation of air. To remedy this evil, has not always been found an easy task; indeed, we recollect, about two years ago, to have seen nearly the whole collection of this family in the nursery of a cultivator, who is allowed to be one of the best in the neighbourhood of London, nearly destroyed by it. Free ventilation and a dry atmosphere seem the basis of a certain cure, and the application of flour of sulphur dusted on the plants, or put on them in form of paste, may be considered as effectual in removing the evil.



ARTICLE V.

ON THE CULTURE OF THE CAMELLIA.

BY CLERICUS.

THE Camellia, is justly esteemed one of the finest, if not actually the finest, of our exotics, and indeed, there are few of the beautiful denizens of the greenhouse and conservatory, that can lay equal claim to our attention. Unlike most of its compeers, this lovely genus, at all seasons, whether it be in blossom or not, excites our admiration. During the summer and early winter months, we are pleased with its bold and elegant form, and with the deep glossy hue of its beautiful foliage; whilst from Christmas to May, the various varieties delight and charm by their fine and showy flowers, of white, buff, striped, and red, of every shade, from the deep crimson to the soft tint of the maiden's blush. The Camellia may in truth be called, "the most beautiful of the beautiful," for what, in the whole range of our exotic flora, is more beautiful than a fine specimen of the Old Double White, having, perhaps, one or two dozens of splendid blossoms fully expanded? or what more delicate than the bloom of *C. sasánqua*, now called *C. maliflora*? The Old Single Red, *C. japónica* appears to have been introduced into England, in the year 1739; and according to Messrs. Chandler and Booth's *Camelliæ*, the Old Double White was brought to England in 1792, by Sir John Slater, of the East India House, and the Old Double Red, imported in 1794, by Sir Robert Preston, of Vallyfield; since which time many fine varieties have been imported from China, and many fine seedlings have also been raised in this country, within the last few years, more particularly at the Vauxhall Nursery. The names of one hundred and fifty, or one hundred and eighty varieties, might now be collected from the various catalogues of the London nurserymen, but nearly two-thirds are unworthy of notice, and many are mere repetitions of each other.

Stocks, upon which to inarch, graft, or bud, the double sorts, are obtained from cuttings of the Single Red: the cuttings may be taken at any period, after the wood of the present year is ripe. They should be planted in pots of fine white sand, about forty or fifty cuttings to a pot of eight inches in diameter; the pots should be well drained, being nearly half filled with pieces of broken pot. Two or three leaves should be left upon each cutting, at

least, no more must be removed than is absolutely necessary to allow of the cuttings being firmly fixed in the sand. After the pots are filled they should be placed in a shady part of the greenhouse for five or six weeks, and then, if convenient, they should be plunged in a gentle hotbed;—a bark bed will do, but not quite so well. By their, thus, having bottom heat, they will strike root in one half the time they would do, if left in the house. As soon as rooted they should be potted off into small pots, and afterwards kept, if possible, in a hotbed or hothouse, where they will make fine strong wood, and be fit for use in fifteen or eighteen months.

Inarching, or grafting by approach, is generally resorted to for the propagation of the Double Camellias, and not unfrequently, grafting or budding. The former is by far the safest, and may be performed during the summer and autumn, after the ripening of the wood, or early in spring, before the plants begin to grow. The scions may be cut from the parent plants in about eight weeks. There is no necessity to use clay in the operation of inarching, but if independent grafting be resorted to, clay must be used, and the wood must be quite ripe. The method called side-grafting is usually followed, but the tongue, if any, must be very small; in inarching, care must be taken not to cut the stock or scion too deep. The grafted and budded plants, as soon as the operations of insertion and claying are finished, should be kept under a hand-glass in the greenhouse, or in a cold frame, until the scion or bud has grown for the first time, and not till then, can the heads of the stocks be cut off, without great risk of failure, because an exuberance of sap is thus thrown into the scions or buds, before they are established to receive it without injury,—just as too great a supply of nutriment injures the infant of the human race. Nor should the ligatures or clay be removed before that time, (these and the foregoing remarks are also applicable to the young inarched plants) after which, all the plants should have their tops nipped off, to two or three buds, or they may be removed by inarching or grafting them, if it be wished to increase the stock of the variety; but unless one of these precautions be followed, the plants will very probably run up with a single stem, and instead of being bushy and pyramidal, will be loose and rambling, and must eventually be cut down. The young plants after being thus decapitated, should be treated if possible, in the same manner as recommended above for the young stocks, viz. to be

kept in a gentle hotbed, or kept in a cool part of the hothouse, they will soon become fine plants; but if any are still inclined to be of a straggling growth, their side-shoots should be shortened. No plant bears the knife better than the Camellia; and here I would recommend to those of your readers who have large and ugly grown plants, to prune them freely, repot them, and then place them in a little heat of some kind; and however old the wood may be which is left, it will soon be covered with young shoots.

The general management of the Camellia, is simple and easy; the chief points are to protect it from the scorching sun, and to prevent its roots from matting round the sides of the pot. Should it be exposed during the spring and summer, to the influence of the sun, the deep dark green of its foliage soon fades, and is followed by a sickly yellow hue, therefore I would recommend, that from the beginning of April to the middle of September, the plants should be wholly shaded from the sun, or at least, exposed only to the early morning sun;—if this recommendation be once followed, it will never afterwards be neglected. However, in recommending that the Camellia should be protected from the sun, I do not advise that it should be deprived of light; yet it is worthy of remark, that even during the winter months, this plant will thrive in the darkest parts of the greenhouse and conservatory, where most others would soon be destroyed. Except, during the growing season, when a liberal supply of water should be given, the Camellia requires to be kept rather dry; but if the roots are allowed to become matted, the water will run down the sides of the pot, and escape at the hole at the bottom, without penetrating the ball of the earth, the roots will be impoverished, and will not imbibe a sufficiency of moisture for the support of the plant, and the first symptoms of this will be the sudden dropping of the leaves and buds, although they appear green and healthy; the death of the patient soon follows, unless the remedy be instantly applied by pruning, repotting, and the application of artificial heat.

“Some cultivators grow the Camellia chiefly in peat. Messrs. Loddiges who have the most numerous collection of the genus, formerly used loam with a little sand and peat, and they are grown in similar soil, in the Hammersmith nursery. Of late Messrs. Loddiges, find light loam alone, to answer as well, if not better. In some establishments, rotten dung is mixed with loam

and peat. Sweet, recommends sandy loam and peat. Henderson of Woodhall, is one of the most successful growers of the *Camellia* in Scotland; his compost is as follows,—“take one part of light brown mould; one part of river sand, and one half part of rotten leaves; mix them well together.”—(Loudon’s “*Encyclopædia of Plants*,” London 1829.) For my own part I agree with Mr. Sweet, and use about one-third peat, and two-thirds sandy loam. The peat and loam should be turfy, and ought not to be sifted, but chopped together with a spade, and should be rather coarse and lumpy; this will secure a free circulation to the water, and prevent, in some measure, the mischief arising from the matting of the roots. Mr. Sweet, has justly observed, when the mould is sifted, it often bakes as hard as a brick, so that it is impossible for the roots to get through it.

The best time for shifting the *Camellia*, is during the month of February and the beginning of March; and if it be advisable not to give the plant a larger pot, it should, however, be turned out, and a little of the earth taken from the top, bottom, and sides of the ball, then returned, and the pot filled with a little fresh compost, having first put some broken pot at the bottom. The earth must be removed gently from the ball, with the fingers, not a root taken away, unless it be dead; no cutting and parting the ball with the pruning-knife. In potting, they must always be well drained. A top-dressing, would be of much benefit to the plants, if given at the time of fixing them in their domicils for the winter. The surface should be stirred with some instrument that will not injure the roots, this will keep the earth light, and prevent the moss from collecting.

A little artificial heat, during the growing season, would make the plants push strong and fine shoots; and if they are again put into a little heat in the month of November, it will greatly forward the blossoms, and they will expand finer and better than they might otherwise do; but in no case should the plants be kept in heat, during the flowering season: if so, the flowers will much sooner drop than they would do in the temperature of the greenhouse or conservatory, in which they would continue in full beauty for a considerable time.

The *Camellia*, like the Orange, but in a much less degree is subject to the scaly bug; the only effectual remedy, is to pick them off one by one with the nail, and rub the parts affected with a little soft soap. The green fly will sometimes attack the young

green wood; here immediate smoking with tobacco, is the remedy. By frequently syringing the leaves during the summer and washing them with a sponge, two or three times during the winter, the health of the plants will be improved, the attacks of the insects prevented, and the beauty of the foliage shown to more advantage.

I have now, Gentlemen, laid before you the results of my experience in the cultivation of this beautiful genus; and at the risk of being considered tedious, I have been rather minute; but in a communication of this kind, elegance and conciseness, should give way to simplicity and clearness of detail.

CLERICUS.

ARTICLE VI.

ON THE PROPAGATION OF BALSAMS BY CUTTINGS.

BY AN AMATEUR GARDENER,

In the month of April, 1831, I received a packet of seeds of the Balsam, from a scientific friend, whose son had produced them in the preceding year, at Madras, and forwarded to his father. the seeds were, to all appearance, most perfect in their texture, and state of maturation; and I believe, that of all I sowed, scarcely one failed to produce a lively and healthy plant. I sowed the seeds in a pot of light sandy earth; I plunged this pot in the earth of a melonry, which was a glazed pit, containing a bed of leaves, chiefly oak and beech. The pit was constructed, on three of its sides, of nine-inch brick work; the fourth, that to the south west, having a glazed sloping light. The bottom heat of the leaves, might be about 80 degrees: but as a stratum of melon earth, full fourteen inches thick, was placed on the leaves, the heat at the bottom of the pot scarcely exceeded 64 degrees.

The young plants rose, were potted out, re-potted, kept near the glass, and finally, kept in the open air, according to the customary routine; still however they evinced (with one exception only) not the slightest indication of producing blossom, although some had attained the height of three feet or more. At the close of the month of August I became impatient, and as I felt interested in the final result of my exertions, I determined to try how far I might be successful, in an endeavour to extend the period of the growth of my plants into a second year, by attempting to pro-

pagate them by cuttings. My direct object was, as it is stated, to convert one of the members of the plant into a perfect vegetable body, possessed of roots, and capable, under auspicious circumstances, of exerting its various vital functions throughout the winter, and finally, as I hoped, of producing perfect flowers and seeds in the ensuing spring. On referring to my diary, I find, that on the 28th of August 1831, one cutting was placed under a glass, such as a tumbler, or small bell-glass. This cutting was about three inches long; it was taken off at the axilla of a leaf, that is, at the angle formed between the foot-stalk of the leaf and the main, or other principal stem of the plant. The soil in the pot was composed of very light sandy loam and peat earth, and the pot was immersed in the mould of the melonry. This cutting evinced certain signs of the formation of perfect roots; on the 12th of September and on the 18th, four other cuttings were placed in a similar situation; all of them succeeded, and each became covered with blossoms, though it was scarcely four inches in height. On the 12th October the cutting, of August 28th, was eleven inches high; the stem was somewhat slender, and drawn up, owing to the absence of sunlight, but it was furnished with nine perfect semi-double flowers, the ground colour of which was a pale French-white, and this was beautifully striped with a deep pinkish scarlet. When I witnessed the unexpected result of my experiment, I communicated it in a paper addressed to the Horticultural Society, without delay.

It remains only to remark, that balsams may be forced into flower at the close of the autumn:—that the cuttings of the young shoots at the axillæ, or angles of the leaves, of the length of two, three, or four inches, will almost invariably produce rooted, flowering plants, provided they be placed singly, an inch deep, in small pots of rich light earth, and then plunged in a very gentle bottom heat, under glass. These are horticultural facts, which I believe to be decidedly established; and I also consider, that in all probability such plants, if every flower-bud be timely removed, can be preserved during the winter, in a dry stove, or well-aired and warm greenhouse. I am not, however, enabled to speak unhesitatingly on the latter particular, because I was not, prepared to afford the required shelter during November, and the early part of December, as my house was in an unfinished state, and the pit in which the young plants were placed, was far too much exposed to early damps and hoar frosts. I have fully succeeded,

however, in securing a succession of other tender herbaceous and annual plants, by cuttings taken off in September or October; among which I may mention particularly, one of the *Coreopsis tinctoria*: this is now as fine and healthy a young plant as I ever beheld. I only wait for a favourable opportunity of prosecuting my enquiries, in order to furnish that information which may enable other horticulturalists to extend their researches, which, if pursued with patience, and in a spirit of true philosophical investigation, may, at no remote period of time, lead to discoveries as interesting to the lovers of science, as they will be gratifying to those, whose chief object it is to add to or extend the beauties of the greenhouse and flower garden.

ARTICLE VI.

ON THE CULTURE OF DIFFERENT SPECIES OF ROSES.

BY AN AMATEUR

In the many excellent observations, on the cultivation of the rose which have appeared, I have frequently observed that the rules, though most excellent in themselves, as applied to many species of roses, have usually been too general, and have proceeded on the principle of considering most species as requiring the same modes of treatment, while the great difference in the habits, nature, places and manner of growth, seem to me to point out important variations in the soil, situation, and mode of cultivation required by many of the different species. I therefore would state some of the differences and places of growth, in a wild state, of some of the species, and the variations they seem to suggest in the culture. Though plants are greatly altered by culture yet they generally retain a considerable bias to the soil and situation for which, by nature, they are formed; and it is usually within a certain range only, of what I would call, their natural habits, that they are capable of improvement by cultivation.

In taking a cursory view of the difference, which there appears to me, to be among some of the species of roses, I shall, to make myself better understood, separate the genus into five divisions.

In the first division and place *Rosa spinosissima* and its varieties, the *R. lutea*, sulphurea, and cinnamomea which, from their slender shoots, small and numerous thorns, and fibrous roots

growing very near the surface of the ground, are all, I believe, plants in their wild state growing upon heaths and places where there is but little depth of soil, and are surrounded only by plants of a low stature; they would seem therefore to require, to be planted in an airy situation, and not to need much depth of soil, as in their natural places of growth; they are exposed to the browsing of cattle, and we find them to bear much cutting and shortening of their shoots.

In the second division, I include the numerous varieties of *Rosa provinciális*, *centifolia*, *gállica* and *mucosa*. The varieties of these species are so numerous, that this division contains the greatest number as well as many of the most beautiful roses; they appear to me to be plants which, judging from their manner of growth, have in their natural situations to contend with high grasses, and other strong growing perennial plants; when overpowered by these, they, as it were, remove by sending out roots near the surface of the ground which, when they reach a more airy spot, throw up suckers, these exhaust the old plant, and form a new one in a better situation; the roots of this division, though less fibrous than those of the first, yet are so much so and grow so near the surface of the ground, as not to require either a strong or deep soil.

The third division consists of *Rosa villosa rubiginosa*, *moschæta álba*, *damascéna*, and *canina*: the roses of this division have much stronger roots than the others, and strike much deeper into the earth. The place of their growth in their wild state is among large, strong growing shrubs and trees: they therefore require a much stronger and deeper soil, and a less airy situation than the two former divisions, and they do not need, nor bear so much pruning of the shoots.

The fourth division consists of *Rosa arvensis*, *sempervirens Ránksiæ*, and *multiflora*. These roses, in their natural state, trail along the ground, or support themselves by bushes growing near them, they therefore do not require a very airy situation.

The fifth division consists of *Rosa semperflorans* and *índica*. The sudden and rapid way in which these roses send forth their shoots immediately on a change of cold to heat, points them out as growing in their wild state on mountains covered with snow a part of the year, and like other natives of such places, with rapidity, taking advantage of an interval of warmth to grow, bloom, and ripen their seed.

PART II.

LIST OF NEW AND RARE PLANTS,

Noticed since our last.

1. CLEMATIS CÆRULEA, *Violet Clematis*. [Bot. Reg. 1955.]

RANUNCULACEÆ. POLYANDRIA POLYGYNIA.

This plant was what we saw in bloom at the splendid collection of Mr. Lowe of Clapton Nursery, and who informed us that its specific name was *Azurea*, under which name we figured it in the Cabinet for last year. The plant, when in bloom, was exhibited at the Horticultural Society meeting in Regent Street, and a Medal was awarded for it. It is a native of Japan. A free grower, and blooms profusely. It is a hardy climbing plant of great beauty and a valuable acquisition.

Mr. Lowe, has recently received another very distinct species from Belgium, called *bicolor*. *Clematis* from *klemu* a tendril, on the leaves.

2. CRATÆGUS COCCINEA, *Scarlet fruited Hawthorn*. [Bot. Reg. 1957]SYNONYM. *C. MACRANTHA*.

The fruit of this species is above the middle size, and of a very fine blood colour. The plant is found growing common about New York, in America.

3. CYTISUS ÆOLICUS, *Æolian Cytisus*. [Brit. Flow. Gard.]

LEGUMINOSÆ. DIADELPHIA DECANDRIA.

The plant is a native of the Æolian Isles, found by Professor Gussone, in Stromboli. Seeds of it were sent to this country from the Royal Botanic Garden at Naples. It is sufficiently hardy to bear the climate of this country if trained to a wall. The flowers are of a golden yellow colour, very showy. *Cytisus*, derived from *Cythus* one of the Cyclades, where the *Cytisus* of the ancients (*Medicago arborea*) was originally found.

4. ECHEVERIA RACEMOSA, *Racemed Echeveria*. [Bot. Mag.]

The plant is probably a native of Mexico. It flourishes freely in the greenhouse, blooming profusely in the Summer and Autumn Months. The flowers are produced on a raceme which is nearly one foot long; they are of a deep rosy red colour, a little more than half an inch long. There are five other species, natives of Mexico or California, described by Candolle, and Haworth. *Echeveria* from *Echevera*, a Mexican botanical painter.

5. EPIGEA REPENS VAR RUBICUNDA. [Brit. Flow. Gard.]

ERECACEÆ. DECANDRIA MONOGYNIA.

This very pretty variety was raised by Mr. John Milne of the Albion Road Nursery, Stoke Newington. It is a very pretty, dwarf, creeping shrub, producing abundance of rich pink coloured flowers, with white tubes. They are produced in small racemes, each having about five flowers upon it. It deserves a place in every flower garden. *Epigea* from *epi* upon, and *gaia* earth, alluding to the stems on the ground.

6. EUTOCA VISCOSA, *Charming viscosa*. [Bot. Mag]

HYDROPHYLLACEÆ. PENTANDRIA MONOGYNIA.

This lovely plant we have formerly noticed, but avail ourselves of another opportunity of recording our testimony of its merit. We have seen beds of it in beautiful bloom at the end of last summer. Its beautiful and brilliant blue blossoms, reminded us very forcibly of the spring

flowered veronica *chæmædrys*, which adorns our banks, woods and hedges so profusely with a carpet of fine blue. This new species is a native of California, from whence it was sent by Mr. Douglas. The plants grow about a foot high, producing a terminal raceme of fine blue flowers, each flower being near three quarters of an inch across. It deserves a place in every flower garden. *Eutoca* from *eutocus* fruitful, referring to the number of seeds it produces.

7. GALPHIMIA GLAUCA. *Glaucous leaved.*

[Botanist.

MALPIGHIACÆ. DECANDRIA TRIGYNIA.

This species has been introduced from South America (Mexico we understand) by the Rev. Mr. Keen, of Leatherhead, Surry. It is an ornamental Greenhouse shrub, requiring a support similar to a dwarf climber. The flowers are of a bright yellow colour, each being about three quarters of an inch across, they are produced in terminal racemes. The plant being of easy culture and blooming freely, renders it a desirable plant for the greenhouse. *Galphimia* an anagram of Malpighia, a being added for the termination. So named in compliment to Malpighia, an Italian physiologist, &c.

REVIEW.

Continued from p. 117.

“From the same cause, such trees attain a great thickness and live to a great age. The new matter being added externally, has little resistance to overcome (only that of a thin bark, which is easily distended and pushed out) and thus there is hardly any limit to its increase in diameter, while, becoming only more securely fixed as it grows, and the growth going on between the bark and the wood almost independent of the inner parts, there is as little limit to the duration of the tree. In fact, each annual layer of alburnum and bark seems to have an independent existence—hence trees are often found flourishing, though quite decayed and hollow within.”

HERBACEOUS OR CELLULAR INTEGUMENT. This is the layer of cellular tissue, which lies immediately under the epidermis, and gives to the leaves and young stems their green colour. It forms the substance of the leaf, and in it the changes effected on the sap by the atmosphere takes place.

“LIBER, CORTEX, OR BARK. This is found immediately under the herbaceous integument, and consists of a vascular net-work, the spaces between the vessels being filled up by cellular tissue. The bark presents concentric layers, composed chiefly of woody fibre and cellular tissue; and its tissue is easily distended and torn. There is only one layer in young shoots one year old. A new layer of bark is formed in each succeeding year *within the old one*; and thus, in trees, the bark is made up of as many vascular layers as the tree is years old; the older layers being pushed outwards by the growth of the new layers, becoming a lifeless crust, and being often thrown off. Hence the bark may be called *endogenous*, or growing at its inner surface,

“In the newly formed layers of bark, the sap, which has been modified in the leaves by the action of the air, descends to nourish and promote the growth of the plant; hence many of the valuable properties of plants are found in the bark, as in the oak. The outer bark serves the purpose of protecting the new layers of wood and bark from injury, the old and hardened layers forming an excellent protection from external violence.

“The bark, being the part in which the sap descends to supply the plant, is essential for its increase. If part of the bark be removed from a tree all round, so as to leave the wood bare, the part beneath will not grow, the medium by which the nutritious fluids were conveyed to it having been removed, and the tree will ultimately perish. A graft will not take if its bark be not in contact with that of the tree in which it is inserted; and a branch will not take root when surrounded with earth, if the part be deprived of its bark.

“THE WOOD. The wood lies immediately under the bark, and makes the

principal bulk of the trunk and branches. It consists of concentric layers or rather cylinders, composed chiefly of vascular tissue. In young shoots, one year old, there is only one layer, which lies upon the medullary sheath. In each succeeding year there is another layer formed. Hence the age of a stem of this kind may be known by counting the number of concentric vascular cylinders in the wood.

"The external woody layers next the bark are called the *alburnum*, and differ from the internal layers or true wood in being younger, softer, more succulent, and of a lighter colour.

"The true wood or heart wood is formed by the inner layers of the *alburnum*, which gradually acquire a greater degree of hardness: the transition from *alburnum* to true wood is, however, almost imperceptible.

"A new layer of *alburnum* is formed annually next the bark: it is pushed inwards, and becomes more compact by the pressure of each succeeding annual layer, till at last it becomes almost solid, the sides of the vessels and cells being squeezed together: hence the greater hardness of such trees in the centre. Thus the wood in such stems is *exogenous*, or growing at its outer surface.

"**MEDULLARY RAYS.** The fasciculi, or bundles of vessels which compose the cylindrical layers, are separated at different points by masses of cellular tissue, extending from the centre or pith towards the circumference, causing an appearance of alternate rays of vessels and cellular tissue. These are called **MEDULLARY RAYS** (from their radiated appearance), medullary prolongations or insertions, or, *the silver grain*. The medullary rays most probably convey the proper juice (the descending sap) from the bark to the interior of the stem.

"The wood gives passage to the sap from the root to the buds and leaves, and contains many of the secretions of the plant. The sap rises chiefly through the *alburnum* (the vessels of which, being young, soft, and not compressed, are well adapted for the passage of fluids), and is conveyed to the leaves, there to undergo changes which render it fit to promote the growth of the plant. Little is known with respect to the particular function of each part of the wood, excepting the *alburnum*, the latest formed layer of which gives passage upwards to the sap. Thus it would seem that the new layer of *alburnum* is formed for the nourishment of the plant, by conveying the sap to the leaves; and this explains why a serious injury of this part is so fatal. When it is destroyed, its office is very imperfectly performed by an old layer filled with secretions, or hardened, and with the vessels contracted by pressure. But a tree may live and flourish with a large piece of the bark and *alburnum* decayed and removed, if not wanting all round. There is an instance of this in a venerable Hawthorn tree near Edinburgh, in which there is a large and deep scar on one side, patched up with stone and lime.

"**THE PITH OR MEDULLA.** The pith is in the centre of the stem, and is contained in the *medullary sheath* or *canal*, which is composed of vessels, chiefly spiral, disposed in a longitudinal direction. In all plants the pith consists of cellular tissue alone, and is of a light and spongy character. The cells are, in general, very regular, and hexagonal in section: in the young shoots of trees, and in herbaceous plants, these cells are filled with aqueous juices, which disappear as the plant grows older, and then they contain gas alone.

"The pith, it is supposed, nourishes the young wood and the buds during the first year of their existence; and it has been observed that it retains its moisture for a longer period near the terminal bud, and at the parts where branches are given off.

"Such is the structure of the stems of that very large class of plants which constitutes the third division. They are found only in Dicotyledonous plants (plants with two lobes in the seed) as the pea or lupin, and their leaves present in the veins an irregular reticulated appearance. They are called *Exogenous*, because the wood, which is the principal part of them, increases in diameter by the addition of new matter at its external surface. All the trees of this country are *Exogenous*.

To be continued.

PART III.

MISCELLANEOUS INTELLIGENCE.

QUERIES.

ON THE FRITFALARIA.—I shall feel obliged if you will inform me through the medium of the Floricultural Cabinet your treatment of Frittalarias; what soil is best adapted for them? and the proper time for planting, and also the best method for preserving them during the winter

ADOLESCENS.

ON THE FLOWER BUDS OF CAMELIAS DROPPING OFF, &c.—Will any of the numerous readers of the Floricultural Cabinet inform me the reason of the buds of the Camellia falling off in scales, when they have attained the size of a moderate gooseberry, and an effectual, yet as simple a preventive as possible. I bought a Plant in March (a white variety) with fourteen buds on it, and out of the fourteen, I dont expect more than three or four will expand.

ADOLESCENS.

ANSWERS.

TO PELAGONIUM ON THE DOUBLE ROSE CLARKIA.—The double rose Clarkia is a variety of Clarkia elegans rosea, with beautiful double flowers. This is at present rare, it requires care in marking for seed plants, the flowers of which are quite double; the seed I advertised had been saved from plants so selected, which induced me to put FINE after it, and with similar care for a season or two, this fine annual will become a permanent ornament to our flower gardens. It is in my opinion as superior to Clarkia elegans as Pelargonium Dennis's Perfection is to Pelargonium Quercifolium.

Great Russell Street, Covent Garden London.

J. KERNAN.

ON THE CANADIAN POPLAR, &c.—In your last number, page 118 one of your Correspondents, F. S. inquires the proper method and season for propagating the Canadian Poplar—He may safely do so by layering it in March or April, the layers will be fit to plant out in the following November: it may be done by grafting upon the black Italian Poplar, but not with the same certainty of success, nor are the grafted plants so durable, being subject to be overpowered by the shoots from the same stock, unless kept pruned off. To the same inquirer, I beg to suggest he should replot his Dolichos now if not already done in a light rich soil, shaking only part of the old ball off, place it in an airy situation in the greenhouse, and when it begins to grow freely, often syringe it with clean water, and there is no doubt of its flowering freely.

On the same page a "Subscriber" inquires the best method of making Wistonia Sinensis bloom, I have a plant, which I think has been planted about four years, that grows very vigorously and blooms very abundantly; (I think you saw and admired it much last year, *we saw it, a most beautiful specimen* EDITOR;) It grows in the open garden, has no protection, and in order to make it bloom I twisted it round the stake about nine feet high. I attribute its free flowering to the check it received by being twisted round the stake, just after the same manner as the Major Convolvulus twists itself round and round any stick within its reach. If the above remarks are

worthy your notice, and you think they will be acceptable to your very numerous readers, I shall feel glad, as I have received pleasure and profit from the pages of your widely circulated work, I feel myself bound to contribute any hint I can.

W. BARRATT.

St. John's Botanic Gardens, Wakefield.

REMARKS.

LONDON HORTICULTURAL SOCIETY AT THE OFFICES REGENT STREET.

Feb. 7th.—PLANTS EXHIBITED. From Mrs. LAWRENCE, *Bilbergia iridifolia*, *Brucea maculata*, *Oncidium carthaginense*, *Pancreatium speciosum*, *Phaius grandifolius*.

Mr. GLENNY, *Epacris campanulata alba*, *E impressa*, *E pungens*, *Camellias Poinsettia pulcherrima*, *Veiltheima viridiflora*.

SOCIETIES' GARDEN, *Echeveria gibbiflora*, *Eutopia lurida*, *Helleborus odoratus*. A communication was read on the cultivation of Cinnamon in England by Mr. W. Buchan, gardener to Lord Bagot. A Banksian medal was awarded to Mr. Buchan for communicating the paper.

A silver Knightian medal was awarded to Mr. Glenny, for his varieties of *Epacris*'s.

Feb. 21st.—PLANTS EXHIBITED. From the Rev. G. C. RASHLEIGH, *Tropæolum brachyceras*, Sir G. Taunton, *Lycum aggregatum*.

Mr. GLENNY, *Azalea indica alba*. A *pontica odorata*. A new white-flowered *Cyclamen*. *Euphorbia splendens*. *Grevillea sulphurea*. *Oncidium bifolium*.

W. BROMLEY, Esq. *Epacris impressa*.

SOCIETIES' GARDEN.—*Azalea indica alba*. A *indica phœnicea*. *Helleborus odoratus*, *oncidium ampliatus*.

A silver Knightian medal was presented to the Rev. G. C. Rashleigh for the *Tropæolum brachyceras*.

March 7th.—Mr. GLENNY. *Andromeda floribunda*, *Correa pulchello*, *Fuchsia microphylla grandiflora*, *Hovea purpurea*, *Phaius grandifolius*, *Styphelia tubiflora*.

Mrs. LAWRENCE, *Ardisia cremulata*, *Brunfelsia americana*, *E campanulata*, *E impressa*, *Dillwynia juniperina*. *Dendrobium pulchellum*, *Gloxinia caulescens*, *Gesneria Douglasii*, *Grevillea arenaria*, *Ipomea Horsfallii*, *Lachenaultia formosa*.

Mr. GAINES of the Battersea nursery, *Rhododendron Russellianum*.

MESSRS. LODDIGES, *Dendrobium fimbriatum*. *D. Pierardi*, *D. pulchellum*.

Mr. PRATT, gardener to W. Harrison, Esq. a new species of *Calistemon*.

SOCIETIES' GARDEN, *Azalea indica phœnicea*, *Calistachys ovata*, *Euphorbia Myrsinitis*, *Sisyrinchium grandiflorum*.

MEDALS PRESENTED—Silver medal to Messrs. Loddiges, silver Knightian medal to Mrs. Lawrence, for *Ipomea Horsfallii*, one to Mr. Gaines for *Rhododendron Russellianum*, to Mr. Pratt for his new *Calistemon*, to Mr. Glenny for his *Andromeda floribunda*.

HORTICULTURAL SOCIETY OF LONDON.—The exhibition for the year 1837, will take place, Saturday, May 13th, June 10th, and Saturday, July 8th.

All persons, whether Fellows of the Society or not, are at liberty to send subjects for exhibition:

Where it shall be required, the Society will defray all fair and reasonable expenses actually incurred in conveying objects to and from the garden. provided a detailed statement of such expenses is delivered at the fruit room in the garden between three or four o'clock, in the afternoon of the day of

exhibition; the statement to be signed by the exhibitor as a declaration of its correctness.

Every exhibitor will be required to sign a printed assurance, that every article exhibited is *bona fide* his own growth.

No subject for exhibition shall be admitted into the garden after half-past nine o'clock in the morning; and if the owners of any locked-up boxes, or other cases already received, should not be in the exhibition tent at the said hour, such cases or boxes must be excluded from competition for the medals.

All specimens whether of fruit or flowers will remain untouched until after six o'clock, when they will be delivered into the hands of the exhibitors, who are requested not to give away their cut flowers in the tents, as much confusion has occasionally been produced by that practice.

Provision will be made by the Society for placing on the table such specimens as may be furnished by the exhibitors; but as some flowers travel most securely when fixed permanently in boxes, and as many persons prefer their own stands, it has been determined that any exhibitors may use their own boxes or stands, under the following conditions:

No box or stand shall exceed eight inches in height at the back, or eighteen inches in depth from front to back. The lids of all boxes must either be loose, or made to unhinge. No box with a fixed lid will, on any pretence, be allowed to stand upon the tables. If a box not constructed of the dimensions above given is sent in, it may be placed on the tables if there is room for it, but it is liable to exclusion,

JUDGES.

The Council being of opinion that, with reference to the Judges and to the manner of making the award, the regulations which have been adopted for the last two years, are upon the whole, the best that can be devised for securing a good and impartial decision, intend that they shall continue to be exactly observed.

Two sets of Judges are appointed by the Council, and from their decision there is no appeal. One set consists of practical gardeners, distinguished both for their knowledge of their profession, and their high characters as independent unbiassed men; the other set consists of amateurs, all or part of whom may be members of the Council. The first set must, in all cases, constitute the majority of Judges.

The judges have the power of increasing or diminishing the number of medals offered by the Society for particular objects, and also of conferring medals in cases not contemplated by these regulations, if they think it desirable to do so.

The only absolute directions which the judges receive from the Council are, firstly, to bear in mind that the Society's medals are offered, not only for new and curious objects, but for remarkable objects of horticultural skill, the design of the Council in instituting these meetings, being not merely to encourage the collector, but rather to reward the success of the skilful gardener; and secondly, not to make any award in cases where the objects exhibited do not appear worthy of a medal, otherwise a bad single exhibition may obtain a prize, merely because there is no better exhibition of the same class to oppose it.

When the objects are arranged upon the table, every exhibition is marked with a letter and a number, which refer to a private list, and every possible precaution is taken to prevent the Judges knowing from whence the exhibitions come. The Judges are introduced into the tents, and the proper officer explains to them the general nature of the exhibitions, confining himself, however, to the mere indication of the parts of the tents in which particular classes of exhibitions are situated, or to matters of a similar nature. The two sets of Judges form their opinions independently of each other. When they have come to separate decisions they quit the tent, and adjourn to the Council room, where they compare notes, and settle to what letter and

numbers the awards shall be made. In cases of difference of opinion the majority decides. When their joint award is finally declared, the names of persons to whom the letters and numbers refer, are, for the first time, announced to the judges, and as speedily after as practicable, to the exhibitors themselves.

SUBJECTS OF EXHIBITION.

These will be divided into two classes; for the first class, nurserymen will compete with nurserymen; and private individuals, with private individuals; and separate prizes will be awarded accordingly; for the second class no distinction will be made between the nurserymen and private individuals.

CLASS I.—Azaleas, hardy, in collection, cut flowers; ditto, greenhouse, in varieties, number not to exceed twelve plants; Carnations, not exceeding 30 blooms; Pinks, ditto; Picotees, ditto; Cacti, melon-shaped, whether in flower or not. No exhibitor is to show the same plant at more than one meeting during the season, otherwise the award to be void. Heartsease, in stands of 30 varieties; Exotic Orchideæ in collections of six species; ditto for the best single specimens; Pelargoniums, in collections of twelve varieties; Rhododendrons, cut flowers, not less than twenty varieties; ditto in pots not fewer than twelve plants, in twelve varieties; Roses, Chinese and Noisette, in collections of twenty varieties; Roses, Garden, in collections of fifty varieties; ditto, in Miscellaneous collections; Stove, or Greenhouse Plants, in collections of not more than sixty, nor less than twenty plants; Stove or Greenhouse plants, in collections of six single ornamental specimens of different genera.

CLASS II.—Alstromerias, Anemones, Amaryllidaceæ in collections of six specimens; Balsams, in sets of six; Herbaceous Calceolarias, in collections of six pots; Shrubby Calceolarias, in collections of six pots; Cucumbers, in braces, at the May meeting only; no medal will be placed at the disposal of the Judges for June or July; Cacti, the tall kinds in flower; Ericæ, Cape kinds, in collections; Figs, in dishes; Grapes; Melons, single specimens; Pine Apples; Peaches, in dishes of six specimens; Nectarines, ditto; Succulent plants, not before enumerated, in collections of six specimens; single specimens of new or ornamental plants.—The medals for these will be given entirely at the discretion of the Judges; Dahlias; Miscellaneous subjects, not comprehended under any of the foregoing heads.—GARDENER'S GAZETTE.

ON THE LADY BIRD, &c.—A lady whose garden was enclosed by a hedge of rose trees, and which rose trees were covered by swarms of minute insects, saw a hen lead her flock of chickens into the garden; her immediate intention was to have them driven out, but she soon perceived their eyes fixed upon the rose-tree, and watched them till they had satisfied their appetites and perfectly cleared some of the trees.

It is a fact well known that throughout the order of creation every tribe of animated beings is preyed upon by another, and thus, it is supposed, each tribe is kept within the true bounds of space originally prescribed for its existence. The cause of this wonderful dispensation is probably hidden from the power of the human faculty to find out—but the fact remains indubitable; and we see our trees and shrubs apparently preserved from the destructive voyages of these innumerable small flies, known under the denomination of Aphides, by the great variety of species of different orders and to which, in their larva or grub state, they serve as food. Amongst these devourers of the Aphis fly, the beautiful little beetle known commonly under the name of Lady-bird, is pre-eminently serviceable, and in that amusing work "Kirkby's Introduction to Entomology," it is related that in the year 1807, the shores at Brighton and of all the watering places upon the south coast, were literally covered with them, after having, in the state of grubs devoured thousands and ten thousands of the Aphis which had infested the neighbouring hop-grounds. And the hop-growers are said now to be so sensible of their services, as to place boys to prevent the birds destroying them.

BRUGMANSIA AUREA, &c.—On visiting the gardens of Mr. Barratt of Wakefield, we were very much pleased to find plants about two feet high in bloom of the true yellow flower seed *Pomagamansia* (see Advertisement in this month's Cabinet). The flower is about the size of the *B. sanguinea*, but of fine rich golden yellow colour. There is an inferior kind in the country, the flowers of which are of a dull buff colour, and which has been sold out for the true *B. aurea*; this has led to the denial (by many persons) of their being a real golden yellow kind. The true one is a very desirable plant for any cultivation. We also saw in fine bloom, a plant, two feet high of the *Epacris paludosa*; it has generally been considered a shy bloomer, but the plant we saw, was in profuse bloom. The flowers of the *paludosa*, we observed were produced in cymose clusters at the extremities of the lateral branches, whereas all other kinds we have seen in bloom, produce the flowers along the branches, they are of a pure white, and produce a very pretty appearance.

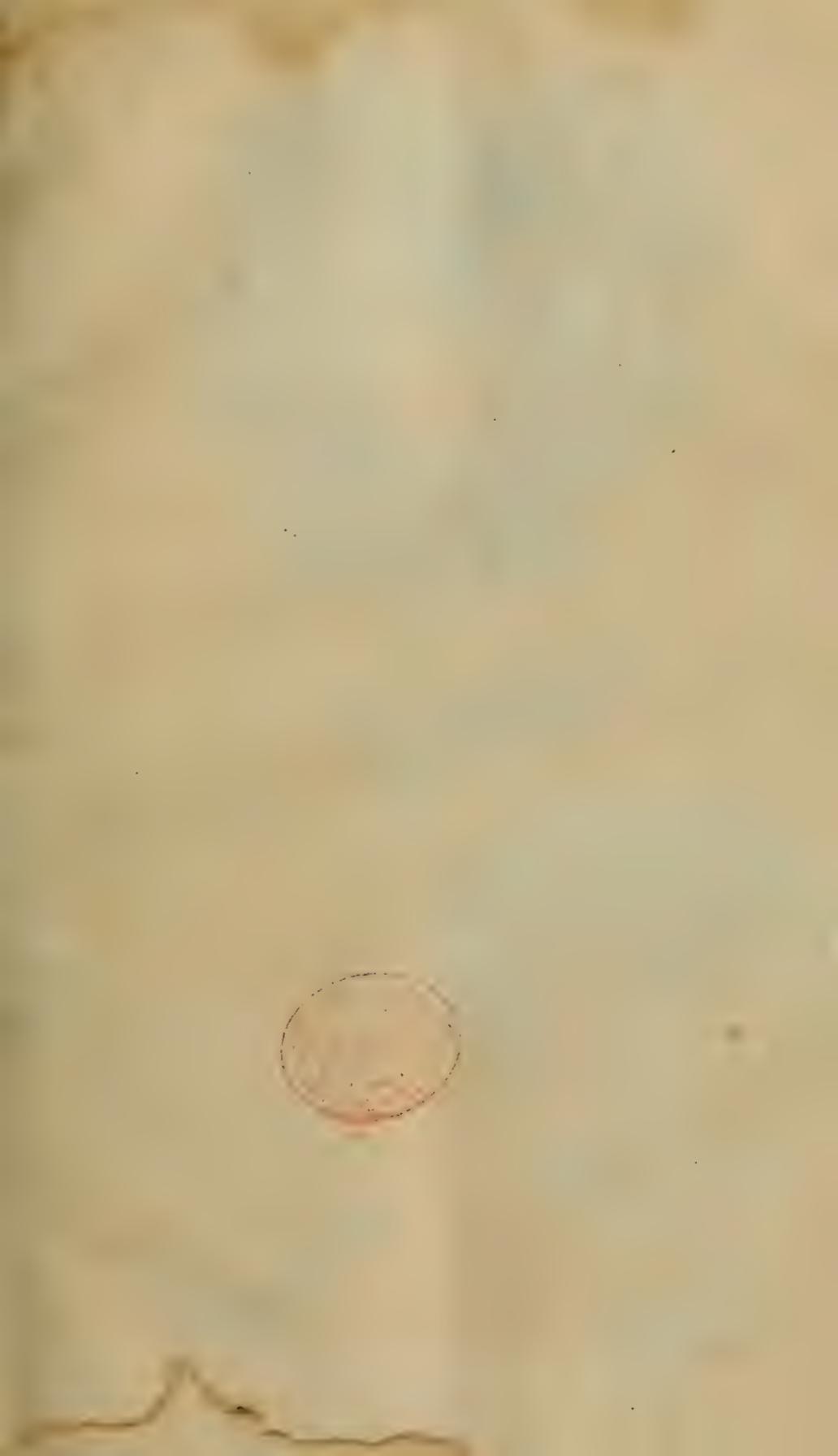
FUCHSIA GROOMIANA was in full bloom, and is a valuable acquisition to this pretty tribe of plants. There was a fine collection of *Ericas* in bloom, some of the new species being very handsome.

SOIL PROPER FOR PINK PIPINGS—Take one barrowful of light rich mould, add to it half of one of light loam, with half of one of drift sand. When you plant the *Pipings*, sprinkle some water over them, and in an hour afterwards put the hand glass over them, which must remain on till they are struck, shading them from the mid-day sun. They must always be watered over the glass with the rose on, so that the water should go entirely round the glass. When the sun is off take the mat away, as they should have plenty of light.

ON MIMOSA SENSITIVA.—A correspondent at page 108 Vol. 4, wishes to know how to raise the *sensitiva* Plant (*mimosa sensitiva*) the best method he can adopt is to sow the seeds in the latter end of March in 48 size pots, and when the seeds is up and showing the second leaf, they may be potted off.

ON PLACING GREENHOUSE PLANTS IN THE OPEN AIR DURING SUMMER.—When the pots are exposed to the heat of the sun, and drying winds, the fibrous roots which are in quantity about the roots, are much injured by it, although the interior of the ball of earth be in a moist condition. The result of the pots being so exposed during summer, is soon apparent by the edges of the leaves turning brown, or many of the leaves becoming wholly so. The plan I have adopted for four years has been the following, the plants have grown freely and been of a fine healthy green, blooming profusely. I made a bed of sifted gravel six inches deep, choosing the gravel that was about the size of horse-beans. This admitted the wet to draw away, at the substratum I had a few inches of coal ashes to prevent worms coming through. The surface being levelled, I placed the pots and filled up the spaces between with moss, nearly to the rims of the pots. This method kept them cool but not wet. If this be inserted in the May Number of the Cabinet, it may be of service to some of those persons who turn out plants during summer. CLERICUS.

ON HERACLEUM ASPERUM.—I am much interested in a plant, which although possessing no beauty of flower, is distinguished by its size and stately appearance; *Heracleum asperum*, the Siberian cow parsnip, which in the open border, under favourable circumstances, will attain a height of ten feet, with leaves four to five feet long. It is a biennial, and should be sown where it is intended to stand, in a rich soil. When it shoots up the second year, it may be watered with liquid manure and warm water, which will greatly promote its rapid and vigorous growth. W. C. J.





Seeding Pansies.

J. & F. Parlin

THE
FLORICULTURAL CABINET,

JULY 1ST, 1837.

PART I.

ORIGINAL COMMUNICATIONS.

ARTICLE I.

ON STRIKING THE VERBENA MELINDRES.

BY A. D.

I BEG to suggest, if you think it worth your attention a plan for striking the runners of the Verbena Melindres, which I have found more successful than any other. When the plants are put out in beds, sink in all directions at about a foot distant, and in all pots (say 60.^s) filled with earth; as the plants increase over the bed, place a joint over each pot, confining it down by a peg or stone, and let them remain till you are apprehensive of frost; then divide at any length you like, the runner from the parent plant; take up the pots containing a strong well-established plant, and sink the pots again in baskets or boxes of mould, placing them in a cold frame or greenhouse. They will be fine plants for the next spring, and flower immediately on being put out; whereas cuttings or runners removed from the bed are often sickly and difficult to keep through the winter.

I have no doubt many other trailing plants would propagate well in the same way, but I have little opportunity of trying experiments, and a very thankless garden soil to work in; nevertheless, I am fond of all common gardening, and have found your little Cabinet very useful.

Respectfully yours,

A. D.

ARTICLE II.

ON THE HISTORY AND CULTURE OF THE TREE PŒONY.

BY AN ARDENT AMATEUR.

PŒONY belongs to Polyandria, Digynia Lena: Ranunculaceæ. Nat. Ord. *P. officialis*, has been in this country ever since 1562. It is a native of Switzerland. *P. cosallina* is a native of this country, but the only place where to my knowledge it is found coiled, is the Flat Holmes, a rocky island in the Bristol Channel, which by the bye, is noticed for its natural production. Pliny mentions, the Pœony as one of the first known plants, that it was called after Pœon, a physician who is mentioned by Homer in his Iliad, 5th book, 900th line, when Mars had been wounded:

“ Thus he who shakes Olympus with his nod,
 “ Then give to Pœon’s care the bleeding god
 “ With gentle hand the balm he pour’d around,
 “ And heal’d the immortal flesh, and clos’d the wound.”

Pliny also says that it was called Pentoboran, and Glycisides by some, but the name seems to have been dropped. Montan is a Chinese word for this particular variety of Pœony, which was introduced by Sir Joseph Banks, from China, in 1794. Although he introduced it first to me, it had been known by hear-say for a long time, its beauty extolled, its magnificence exaggerated: £100 at first was thought a fair price, and in China, plants of the choice sorts were sold at a high price. It is a most magnificent plant and valuable; as with the protection of a wall or hedge near the ground with wicker work, it will flower in April, May, and June, and stands our winters. The difficulty of propagating it with success occasions it to be sold at a high price. *P. papaveracea* generally costs from 15s. to 20s. the single plant: to those who are desirous of propagating this handsome plant, I recommend the following operation, all of which I have tried and very generally with success.

When the Pœonies are budding, that is to say about February, a ring of bark about one-sixteenth of an inch wide should be cut out all round the stem, above and below each bud in the stem or stems of the plant to be operated upon: the sap being obstructed in this manner, lay the branches, leaving the leading shoot at the end only above the ground. Five or six months after,

the buds will be seen to have made vigorous shoots, the earth may then be removed and each bud with its fibres separated from the main layer, by taking the shoot off with half the stem attached to it, the whole length of the stem being still entire it may be replaced in the earth again, and a fresh set of young shoots more plentiful than the first may be expected.

I have also tried grafting with success, the operation is the same as with Dahlias, namely, a portion of the stem is inserted into one of the tubers of the same or any other variety of Pæony.

Cuttings would also strike in light rich soil in the shade without cover; but I have never been very successful in that mode of propagating this plant; but if they are inserted into the soil about three inches below the surface, and plunged into a light hot-bed, they will soon shew themselves above the ground, and make fine plants, but it is always a practice with me to plant only one half of the stem, and placing it longitudinally. By these various ways this beautiful plant may be propagated abundantly, and will most likely be the means of lessening the expence which at present must prevent many from possessing it.

AN ARDENT AMATEUR.

ARTICLE III.

ON THE CULTURE, AND A LIST OF HERBACEOUS PLANTS WHICH WILL THRIVE IN THE AIR, AND SMOKE OF CITIES.

BY WM. BOYCE.

No person having given the information desired by "A would be Suburban Gardener" (Vol. viii. p. 721) I now attempt to do so and although I regret that the subject has not fallen into abler hands, still, I hope the motive, and not the value of the offering, may propitiate its acceptance. The two principal causes of the want of success attending the cultivation of plants in town gardens are, the want of a proper soil, and a congenial air: the former is generally composed of too much lime and brick rubbish, which is any-thing but good for showy herbaceous plants. I would first ascertain if such were the nature of the soil. Should it prove to be of those materials, take it out of the clumps and borders to the depth of a foot, and fill them up with fresh loam, mixed with a

little rotten cow manure: in this soil will grow all the plants named in the accompanying list.

I shall endeavour now to assist this Suburban Gardener in rendering the air which surrounds his plant department more healthful to them. Dr. Hunter observes, that air contains the life of vegetables as well as animals: "it is a compressible elastic fluid." The smoke of populous towns and cities, where coal is the fuel, greatly lessens it elasticity and fluidity, and consequently renders it incongenial to plants. The practice observed by town gardeners in general is to give an abundance of water to the roots of plants: this should be discontinued, or, at least, given much more sparingly and less frequently: it is by over watering, in such gardens, that plants are as it were, surcharged with crude juices, which the leaves, while they are covered with dust, cannot pass off. I would, therefore, instead of watering so much to their roots, give frequent syringing over stems and leaves, and keep them as free from dirt as possible. They will then be able to perform their proper functions, perspire during the day, and during the night fill themselves with fresh juices. Cleanliness is as necessary to plants as to animals. The syringing should be performed at the approach of evening in the summer months, and just before sun-rise in early spring and autumn. Keep the mould in the clump and borders loose, by frequent stirring with a dutch hoe; water with a fine rose any vacant compartment. By this, and the syringing, the air will be rendered more humid. The China Rose may be induced to grow two feet high, by giving it, in addition to the soil I have mentioned, a good supply of rich manure, and keeping its leaves clean. The Fuchsias, particularly *Fuchsia gracilis*, should be kept to one principal stem; the side should be shortened to an inch of the stem: they then flower more freely. A Suburban Gardener will do well to examine whether his Georginas (Dahlias) are not infested with earwigs: if they are, hang a few lobsters claws on the sticks they are tied to; in these they may be caught; if he has a bloom he particularly values, tie loosely tow, dipped in sweet oil, just below the flower bud.

In the list below, I have confined myself to herbaceous plants, such as are showy, and will with the treatment I have described, not only grow, but thrive in town gardens.

- Achillia rosea*
Aconitum ochroleucum
 *variegatum*
 *versicolor*
Actœa spicata
Adonis vernalis
Allium Moly
Anchusa italica
Antirrhinum majus bicolor
Aquilegia sibirica
 *glandulosa*
 *atropurpurea*
 *hybrida*
Asclepias
 *pulchra*
 *purpurascens*
Asphodelus
 *ramosus*
Aster
 *alpinus*
 *armellus*
 *nova angliae ruber*
 *sibiricus*
 *mutabilis*
 *spectabilis*
 *serotinus*
 *pulcherrimus*
Baptisia exaltata
 *australis*
 *tinctoria*
Betonica grandiflora
Campanula carpathica
 *persicifolio cœ-*
 rulea alba
 *Letifolia cœru-*
 lea alba
 *trachelium bicolor*
 *speciosa*
 *azurea*
 *alliariafolia*
Campanula sarmatica
Catanauche cœrulea
 *alba*
Chelom glabra
 *obliqua*
 *lyoni*
Corupsis verticillata
 *senifolia*
 *lauceslata*
Coronilla iberica
 *montana*
Corydalis nobilis
Delphinium grandiflorum
 *mesolencum*
 *Barlowii*
Dianthus latifolius
 *japonicus*
 *superbus*
Dictamnus fraxinella
 *albus*
Digitalis micrantha
 *lanata*
Dodecatheon meadia
 *albiflora*
 *gigantra*
 *elegans*
Dracociphalum speciosum
 *variegatum*
 *altaiense*
Eranthis hyemalis
Erigeron philadelphicus
 *glabellus*
Erythronium deus cauis
 *deus cauis album*
 *americanum*
Fritallaria imperialis
Galanthus nivalis
Gaillardia aristata
Gentiana asclepiado
 *cruciata*

<i>Gentiana acaulis</i>	<i>Helenium autumnal</i>
<i>Geum coccinum majus</i>	<i>Helianthus decapitalus</i>
<i>Gladiolus lyzantinus</i>	<i>Heleborus niger</i>
..... <i>communis</i>	<i>Hemerocallis graminea</i>
<i>Glaucium fulocum</i>	..... <i>disticha</i>
<i>Hedysarum observum</i>	..... <i>fulva</i>

I shall send you the remainder of the list at a future time, there being a great many more names. You may insert this or not, as you please.

ARTICLE VI.

ON RAISING SEEDLING DAHLIAS.

BY MR. D. PEARCE.

As several of your correspondents appear anxious to acquire a little knowledge on raising seedling Dahlias, I beg the insertion of the following:

All the new and splendid varieties which now make so great show in our gardens, have been raised from seed. To insure success to the cultivator, the following remarks may be found advantageous:

IMPREGNATION.—Artificial impregnation is certainly an advantage, and, if properly performed, will seldom fail to answer the intended purpose.

Select as handsome and compact flowering plants for the parents as possible. Having done so with a small pointed camel's hair pencil, take the pollen dust from one flower to another. The design of this, however, would in a great measure be frustrated, if bees were not prevented having access to the flowers. To prevent any disappointment from bees, cover the flowers intended to be the female parent, with a fine gauze bag, for two or three days before the florets expand.

As soon as the florets open, impregnate them, but retain the gauze bag over them for another week, until all danger from impregnation of bees are over. In collecting the seed in autumn most cultivators collect from the outside tiers alone, because they were usually much finer and better ripened. These outside tiers, however, are probably inferior to the inside, for producing the greatest quantity of double flowers, the very finest

seeds usually producing the greatest quantity of single flowers, therefore it is advisable to collect both inside and outside tiers.

SOWING THE SEED.—February is the best time for sowing the seeds fill some pots or boxes with light sandy loam and leaf mould, or leaf mould alone, and thinly scatter the seeds, lightly cover them with the same soil finely rubbed through the hands upon them, and place the pots in a gentle hot-bed, or other convenient place where the seeds will receive warmth, and they will shortly be up.

As soon as they come into rough leaf, which will be about the end of March, transplant them two inches apart, into other pots or boxes filled with the same compost in which they are sown. About the middle of April they will require again transplanting.

In transplanting this second time, either place them in single pots filled with good rich loam, leaf mould, and rotten dung, or place them in a gentle hot-bed, in the same kind of soil. The former way is the best, although attended with most trouble, because the plants can remain in the pots until turned out entire into the borders, when all danger of frost is over. Keep them still in a gentle heat, and gradually expose them to the open air till they will bear it regularly in the day, but take them in when there is the least danger of frost at night.

When all danger of frost is over, they may be turned out with good balls into the situations where they are intended to flower.

SOIL.—They will grow well in any good garden soil, but if it be a good strong rich loam, they will flower earlier and better; also the colours will be more brilliant.

MANURE.—Much dung, however, must not be introduced into light soils for them, or they will make a great quantity of branches, and probably not flower till late in the year, when the frosts are just commencing. But if the soil be suitable, they will flower about the end of July.

And now, perhaps, some one or other of your correspondents will be kind enough to answer my query.

A friend of mine lately gave me a flower which he had received in a nosegay, and on enquiring of Flallagan & Co. opposite the Mansion House, was informed it was an Hibiscus. The colour of it was a beautiful kind of nankeen, with a beautiful scarlet at the

bottom of the petals, and the flower about the size of a Daffodil. I wish to know the soil, treatment, and method of propagating.

Yours, &c. D. PEARCE.

P. S. I have planted a slip about five inches long, that was joined to the flower in a thumb pot, in sandy loam, and placed in a slight hot bed, it has been planted a week, and looks fresh at present.

ARTICLE V.

ON DELPHINUM GRANDIFLORA.

BY LARKSPUR.

A CONSTANT reader of your pleasing Cabinet feel somewhat surprised in never seeing any remarks made of that beautiful flower *Delphinium Grandiflora*, or the great flowered Siberian Larkspur. Two years ago come summer, I was at Coldingham, and in Mr. Martin's nursery, where I saw a large square of that splendid blue flower, in full bloom; there might be a thousand plants, they grew from two to three feet high, upon a low, wet, and inclined to be a piece of boggy ground, where he propagates a great quantity every year. I purchased of him twelve plants, at 6d each, took them home with me, with a ball of earth to each, and planted them upon a rich vine border; they continued flowering that summer and autumn. The year following they grew to the height of six feet, they flowered all the way up the stalk, and was very gay; when the blooming was over I cut them down; they again rose and flowered, and was splendid in the autumn; rich light soil suites them best. Should you consider this worth your notice, I may in future do better.

LARKSPUR.

ARTICLE VI.

ON PELARGONIUMS.

BY GERANIA.

BEING a devoted admirer and cultivator of flowers, and residing in a remote part of the country where I have no opportunity of seeing the variety of new and beautiful plants, which are every

year introduced to those florists who are more fortunately situated. I rely upon the pages and illustrations of your valuable publication for information upon the subject, and more particularly for guidance in the choice of Pelargoniums, with which, to enrich my collection; it was with the utmost satisfaction I perused the list given of them in the twenty-eighth number of the Floricultural Cabinet, by a correspondent, in answer to the enquiries of a Lady. It would confer a favour upon me Sir, and to my knowledge, also upon several others who take your work regularly, if you, or the same obliging person who sent the select list, would give one of the most choice Pelargoniums raised, or in the hands of the trade since June, 1835, to comprize names of the plants, by whom they were raised, where, and at what price they are to be bought in April next, with such description of the colours, &c. of the flowers, as will prevent mistakes, where, as in the case with Pelargonium called "*Queen Adelaide*." THREE flowers are known by the same name. If you could also give a print of three or more Geraniums, grouped in the same way in which the Chinese Chrysanthemums are so prettily shewn in number thirty-five of the *Floricultural Cabinet*, you would confer an obligation upon me, and many others who I have no doubt would be equally willing to pay double price for a number so illustrated.

Trusting you will take my request into your consideration, and grant them as speedily as your arrangements permit.

GERANIA.

ARTICLE VII.

A LIST AND DESCRIPTION OF CARNATIONS.

BY PENSEE.

Continued from p. 111.

BROOK'S FLORA'S GARLAND (*pink flake.*)

This, perhaps, is the best of the many this successful grower has been the fortunate raiser of. For shape it commands the same place among Carnations as Springfield Rival in Dahlias. Nature requiring but little assistance from the most skillful dresser to set it off. The colour is also very good, the pink and white being very regularly and nearly equally divided. It has at length found a place in Hogg's Catalogue, and from thence will, I have no doubt into most collections.

STONE'S VENUS, P. P. B.

Found in the catalogues under the head of pink and purple bazarres, occasionally looses its pink, and settles down into a flake: in each character I have seen it shewn in the same pan, in both it commands a first rate place as a bazarre, it is certainly most to be valued, there being so few pink and purples worthy of notice, or that can boast of both colours so distinctly marked as in the Venus. It has been out now many years, yet being difficult to strike, is still scarce, and fetches a high price, 15s. the pair, being very generally demanded.

YOUNG'S EARL GREY, C. B.

With this flower in a collection, the grower may be pretty certain of being able in due season to cut a good crimson bazarre. I do not know a flower on which greater dependence can be placed; I have now grown it for several seasons, and have invariably shewn it with success; a better, but certainly, not a more useful flower can be grown.

MARTIN'S PRESIDENT, P. F.

I do not think I can recommend a better purple flake to notice than Martin's President. I have bloomed it for five or six seasons, and it has never failed to produce me good show-flowers. I must allow I have occasionally seen blooms of other sorts superior, but I believe, as much dependence is to be placed on this as any flower extant, its fault is that of sometimes throwing the bloom high above the calyx, so that unless great care is taken in dressing (particularly if the flower is a little stale) it will not bear the removal of the artificial support, occasionally dropping a guard leaf after being placed for exhibition.

WILMER'S CONQUERING HERO, S. B.

Were it possible to combine the merits of two flowers, I should only desire to rob Fletcher's Duke of Devonshire of its brilliancy in favour of this; and the Conquering Hero would be the best scarlet bazarre ever raised, it can boast of every good property in a flower, save being a little dull in colour, but yet so trifling is this defect, that is hardly perceptible except in close contact with such a flower as the Duke of Devonshire. It is very large, distinctly bazarred, and rose-leaved.—The next flower I shall call attention to is

HUFTON'S MAGNIFICENT, S. F.

Which is in my opinion "and others whose judgment cry in the top of mine," an excellent flower. I saw it for the first time last year, but not having bloomed it myself, cannot describe its habit; I can only say that if it was the most uncertain flower ever raised, it should still have a place in my collection to be cherished with the hope of producing one bloom as good as it was shewn me last season.

WOOD'S WILLIAM FOURTH, C. B.

I don't know either Carnation or Piccotees that bears this growers name but may be admitted into the most select collection; but as I shall have occasion to make honourable mention of Wood's name in my list of Piccotees, I shall at present content myself by hoping he may have a continuance of the success which has attended his labours hitherto, and that he has yet to produce for the benefit of brother florists many such as that prince of Piccotees "Agrippina." William IV. is a good bazarre, much resembling Earl Grey, but, perhaps, a little more brilliant in colour, though I think, not quite so perfect in shape.

DALTON'S LANCASHIRE LASS S. F.

As I bloomed this flower for the first time last year and received my plants late, I should, perhaps, by describing my blooms, which were small, and thin of leaves, condemn a flower which I am given to understand deserves to be well spoken of. I received it with a good character from a very good judge, and as my plants are looking well this season, I shall abstain from passing an opinion until after another blooming season, when I can do so with more satisfaction to myself and justice to the flowers.

BROOK'S GLORIA FLORUM, S. B.

Is a very large flower, much cultivated in the west of England, it is by no means equal to Willmer's Conquering Hero, the defects in that flower being multiplied in this: in addition to the dullness of its colour, the white is far from good. Those florists who esteem size the best of all properties, will consider the flower a great addition in their collection.

JACQUES GEORGEANA, C. B.

From being a late bloomer, is seldom seen exhibited, and therefore but little known. It is one of the very highest coloured flowers, beautifully bazarred, and possesses a property seldom found amongst such, of rarely running in colour: the difficulty of producing it in season is to be regretted, as it would be a fine variety in a stand; but being at least a fortnight later than the generality of Carnations, is in perfection only when others are fading.

I have now spoken of some of the varieties of Carnations, but propose returning to the subject in some future paper if found interesting to your readers. I hope in your next Number to commence my list of Piccotees, a flower which has made most rapid strides within the last few years, and from the quantity of seed saved in 1836, a season or two will, I expect, produce some splendid varieties.

PENSEE.

ARTICLE VIII.

A DESCRIPTION, &c. OF BINS FOR HOLDING SOILS, &c.

BY AN OLD SUBSCRIBER.

THE enclosed is very much at your service, and should you consider it of sufficient general interest, I shall be glad to see it inserted in the Cabinet. I am of opinion that it is one of the many conveniences still required for the purpose of facilitating the routine business of gardening:

Fig. 1. In the plan, is a section endwise a set of Bins for holding soils, manures, and composts.

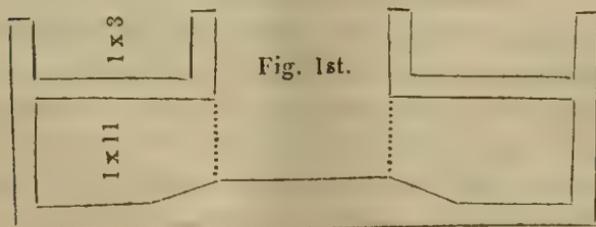


Fig. 2. A ground plan of the low tier of Bins.

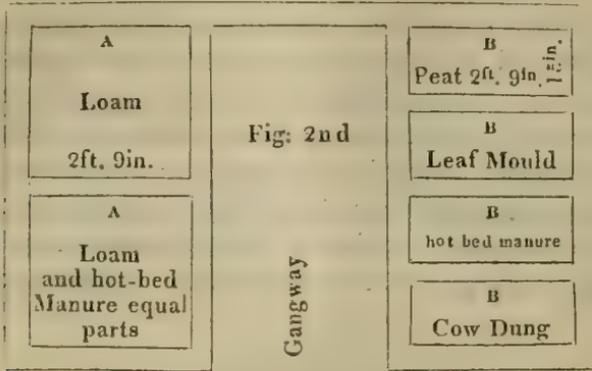
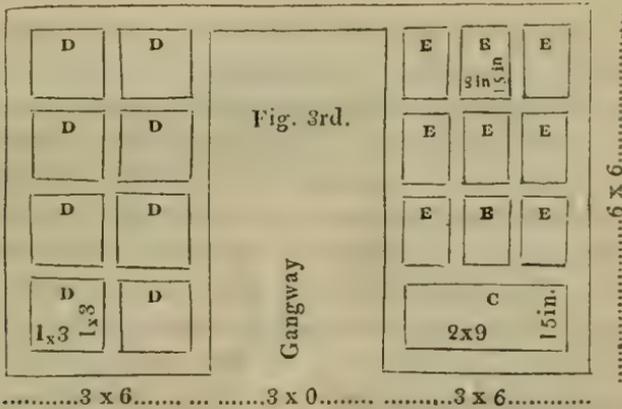


Fig. 3. A plan of the top or upper tier of Bins.



The capacity of the different Bins is such as may be required for the use of amateur gardeners, but the dimensions and number may be increased so as to suit the purpose of any cultivators of plants, however large the establishment.

The object of this plan is to enable any person to arrange his materials for propagating plants in something like order, and in the least possible space (it is an excellent rule to have a place for every thing, and every thing in its place, it saves a world of trouble.) It is also an advantage to have such small quantities in compact masses, when once moistened they keep so for some

time, and this state is essential to the perfect decomposition and commixture of the materials forming the compost. The Bins being open, are fully exposed to all changes of temperature, but the whole set should be covered with a light roof to protect them from excessive wet, and shade them from the heat of the sun.

The bottom of the lower tier of Bins, is six inches below the surface of the ground, or level of the passage or gangway, (which should be a paved one) this is to prevent the draining into the gangway of a superfluous mixture from the soils kept in the Bins. The whole may be surrounded with an ornamental bank, hedge, &c.

The 2 Bins marked A	hold 8 bushels each	} Fig. 2.
The 4 do. B	.. 4	
The 1 do. C	.. 3	} do. 3.
The 8 do. D	.. 1½	
The 9 do. E	.. 1	

The most economical and also very durable construction would be that of bricks set in Roman cement in the partition walls or their edges. The bottoms of the Bins in the upper tier should be of stone, each Bin should be labelled (three inches by one broad) with white paint, and upon this may be written with a black lead pencil (B B) the name of the compost. The following is a list of the size and number of pots which a bushel of compost will fill. The utility of this list consists in enabling a person to mix as much of any one kind of compost as will be required to fill a given number of pots, so that there will not be any waste of materials, which in situations where they are scarce, will be of no slight importance.

A bushel fills 160 small 60s 80 large 60s 60 small 48s 40 large 48s
26 small 32s 20 large 32s 14 small 24s 10 large 24s

I have been at some trouble in collecting for my own use, (principally from the pages of the Cabinet) a number of formula for preparing composts, they are arranged in a tabular form, which I find exceedingly convenient for reference. Will the list be acceptable? (Yes CONDUCTOR) if so, I will send it. I really think it would be very useful to the readers of the Cabinet. I think gardeners need not be under any apprehension of making amateurs too wise, for very few indeed will aim at more than

cultivating plants, and the very circumstance of being able to do so, will induce many to become purchasers, and afterwards excellent customers to Nurserymen and Florists. This has been exactly my case, and entirely in consequence of taking in the Cabinet. Your own exertion and that of others engaged in similar publications will bid fair to turn the whole country into a flower garden, and will also have a vast influence in a moral point of view. Gardening generally induces a stimulus to industry and cleanliness, and no doubt soften the manners of the labouring class of persons.

Pimlico, London.

AN OLD SUBSCRIBER.

ARTICLE IX

ON THE GRAFTING OF THE ROSE.

BY POMONA

THE cultivation of the Rose has long been considered worthy of the notice of the lovers of Flora, and not only by those who are in exalted stations of life, but even by the humbler classes; it is an ornamental shrub of great beauty, and the brilliancy of its colour, and the fragrance of its smell, is justly admired by all. Having seen an article in the last month's Number of your valuable work the Floricultural Cabinet, on the "Culture of the Rose," perhaps it may be gratifying to some of your readers to learn the method which I have pursued in grafting that flagrant flower.

In the first place it is requisite that you should secure a supply of buds before the time they are wanted, either by having the plants from which they are to be taken in your own garden, or from a nurseryman on which you can rely; if, however, you cannot obtain any by these means, nothing remains but to buy a few plants for the purpose. If the plants to give the buds be on their own natural roots, see that they are planted as soon as they have lost their leaves in autumn, in order that they may get well settled before the spring, but if you wish to secure a good supply of buds, purchase a strong stemmed standard Rose or two: see that they have plenty of wood, and are in health, taking care to remove any leaves on the trees previous to planting.

The next thing to be looked after, is to secure good stocks,

November being the best month calculated for that purpose. When your preparations are made, nothing more is necessary than to send to the nearest wood-man and desire him to make a collection for you, either from the woods, or save you a supply when he grubs up a hedge.

The largest stocks are those which have an oval fruit, they are called, indiscriminately, dog roses, buckbriars, and hangberries. Different roses want different stocks. A tree that of itself would make a yard of wood in a season, is confined and injured in its operations, by having, perhaps, a single bud upon it of some rare and delicate kind of rose, which makes but feeble and delicate shoots. Again, if a free growing bud, such as the Noisette, Greville, &c. were put upon a small stock, the bud would entirely drink up the sap of the stock, and instead of a fine bushy head, would either grow in one long shoot, or, at all events, make a small and mean head, in comparison to what it would have done upon a larger stem. Choose, therefore, about a third more stocks than you absolutely want, and let the others be laid in the ground as a reserve, you will find them serviceable at some future period.

The stocks are to be kept a short time out of the ground, as the air injures the root. This is very important, as the expected shoots depend upon it: but if they have been weakened by lying out of the ground, they regain a portion of their strength by being much shortened in the stem, for the roots of all trees are proportioned to the stem they have to maintain, it is therefore evident that an injury to the one must also injure the other.

If you are desirous to keep your stocks some time before planting, they must, like all other trees, have their roots covered with mould, otherwise it will retard the future growth of the plant. When stocks are sent any distance, a puddle of clay and water should be made, and the stocks dipped in it, so as to form a coating to defend them from the wind; and then, being packed up in an old bas mat, they will carry without injury.

The trimming of the stocks ought to be carefully attended to, both as regards the mode and requisite height. Four feet, three feet, two feet six inches, two feet, one foot six inches, and one foot, are the heights most likely to succeed. Should any of your numerous readers derive any benefit from the above sketch, it will give great pleasure to

PART II.

LIST OF NEW AND RARE PLANTS,

Noticed since our last.

1. GARDENIA PANNEA, *Cloth-leaved.* [Bot. Reg. 1952.]

CINCHONACEÆ, GARDENIÆÆ. PENTANDRIA MONOGYNIA.

The plant was introduced a few years back to the London Horticultural Societies Garden; it is a stove shrub from South America. The flowers are single, two inches across, of a pale sulphur colour, not fragrant. *Gardenia* in compliment to Dr. A. Garden, a Physician in South Carolina, who was a correspondent of Linnæus.

2. GESNERIA SCEPTRUM, VAR IGNEA. *Sceptre flowered.* *Pale flowered variety.* [Bot. Mag. 3576.]

GASNERIACEÆ, DIDYNAMIA ANGIOSPERMIA.

Introduced into this country from Brazil, and has bloomed in the Glasgow Botanic Garden in 1836. The flowers are of a dull pale reddish-yellow, with a darker edge to the limb. *Gesnera* in compliment to the celebrated John Gesner.

3. LINUM MONOGYNUM. *Monogynous Flax.* [Bot. Mag. 3574.]

LINEÆ. PENTANDRIA MONOGYNIA.

It is now well known in the country by nurserymen and florists, but we think it deserves extensive publicity, and therefore again bring it to the notice of our readers. It is a most desirable plant for the greenhouse, or if turned out into the open border in a warm situation in summer it will bloom profusely. The large corymbs of fine white blossoms being very showy, a bed of the plant makes a fine appearance, blooming all the summer season.

4. MAXILLARIA STEELII, *Mr. Steel's.* [Bot. Mag. 3573.]

ORCHIDACEÆ, GYNANDRIA MONANDRIA.

A native of Demerara, from whence it was introduced last year by Matthew Steele, Esq. It has bloomed in the collection of John Moss, Esq., Otterspool, near Liverpool. The scape is short and single flowered; the blossom rather large, near an inch and a half across, fragrant, of a dingy reddish-yellow colour. The perianth blotched with deep purple. Lip streaked with purple, red and yellow. It is a singular flowering species, and a valuable addition to this very interesting tribe of plants. *Maxillaria* from the resemblance to the Maxillæ of insects.

5. MEGACLINIUM MAXIMUM, *Largest.* [Bot. Mag. 1959.]

ORCHIDACEÆ. GYNANDRIA MONANDRIA.

A native of Sierra Leone, which has been introduced by Messrs. Loddiges's in whose collection it bloomed in 1836. The flowers are not very interesting, they are very small, produced along a sword shaped rachis, and are of a greenish yellow, spotted with red. *Megaclinium* from *mega* large, and *kline* a bed, in allusion to the broad sword-shaped bed or rachis of the blossoms.

6. PERISTERIA CERINA, *Waxen Dove Flower.* [Bot. Reg. 1953.]

ORCHIDACEÆ. GYNANDRIA MONANDRIA.

Mr. Knight of King's Road, introduced this curious species from the Spanish Main. It has bloomed in Mr. Knight's collection. The flowers are

large, produced upon a pendulous raceme. They are of a pale sulphur, intermixed with deep yellow; and have a strong scent of juniper. *Peristeria* from *peristeria* a dove. The original kind *Palata* has a column which resembles a dove hovering with expanded wings.

7. PHILODENDRON CRASSINERVIUM. *Thick-ribbed.* [Bot. Reg. 1258.

ARACEÆ. MONÆCIA TETANDRIA.

A native of Brazil; and has bloomed in the collection of the Rev. Frederick Beadon, of North Stoneham. It is a climbing plant, which in its native country grows to a considerable extent, fixing itself to the trunks and limbs of trees, and the shoots hanging down like cords from tree to tree rendering the roads often impassable. The arum formed flowers are about four inches long, of yellowish-white colour. *Philodendron* from *phileo* to love, and *dendron* a tree. Alluding to the habit of the plant.

8. PHALANGIUM POMERIDIANUM. *Afternoon flowering.* [Bot. Flow. Gard. 381

ASPHODELEÆ, HEXANDRIA MONOGYNIA, SYNONYMS, SCILLA POMERIDIANA, ANTHERICUM POMERIDIANUM.

This plant is cultivated in the very celebrated collection of Mrs. Maryatt, Wimbledon. Its native country is probably the Cape of Good Hope. The bulbs are said to be an excellent substitute for soap. It is a half-hardy bulbous plant. The flowers are produced upon a paniculated spike. Each flower is about an inch and a half across, having narrow undulated petals, white. *Phalangium* from *Phalaggos*, a venomous spider, the plant curing its bite.

9. SARCANTHUS TERETIFOLIUS, *Round leaved,* [Bot. Mag. 3571.

ORCHIDEÆ. GYNANDRIA MONANDRIA.

This Orchideous Epiphyte, was introduced some years since into this country by Mr. Brookes of Newington Green. It is a native of China. The flowers are produced upon a spike, seven or eight upon each. Sepals green, streaked with reddish lines. Lip, white. Each flower is about three quarters of an inch across. *Sarcanthus* from *sarkos* flesh, and *anthus* a flower; in consequence of the fleshy nature of the blossom.

10. SPARAXIS STELLARIS, *Starry flowered.* [Brit. Flow. Gard.

IRIDEÆ. TRIANDRIA MONOGYNIA.

The flower is of a rich purple colour, the ends of the petals are a little lighter, as is the outside of the petals. The present kind is cultivated by Allen and Rogers at Battersea.

11. STRANVÆSIA GLAUDESCENS, *Grey leaved.* [Bot. Reg. 1956.

ROSEACEÆ. ICOSANDRIA PENTAGYNIA.

A very pretty evergreen shrub from Nepal, from whence it was introduced to the garden of the London Horticultural Society, about ten years since. It is about as hardy as a Myrtle, growing well, and blooming in June, if trained against a wall. The plant has been sold out under the name of *Crategus glauca*. The blossoms are produced in a largish corymb, white. They are succeeded by small orange coloured berries. The habit of the plant is to shoot early in spring, and in consequence the ends of the shoots are very liable to be damaged. *Stranvæsia* so named in compliment to the Honourable W. F. Strangways, F. R. S. of Abbotsbury Castle, Dorsetshire, a very great patron of Floriculture, and Botany.

12. SYMPHORICARPOS MONTANUS, *Mountain St. Peter's Wort*. [*Botanist*,
CAPRIFOLIACEÆ. PENTANDRIA MONOGYNIA.

A hardy shrub, much branched, growing from five to six feet high, and almost evergreen. It is a native of Mexico, found at the height of seven or eight thousand feet. *Symphoricarpos* from Sumpshoro to collect, and *karpos* a fruit, from the berries being closely crowded together.

REVIEW.

A history and description of the different varieties of the Pansey, or Heartsease now in cultivation in the British Gardens, illustrated with twenty-four coloured figures of the choicest sorts, by I. Sinclair and J. Freeman. London. May, 1837. Thirteen numbers of this neat little work have previously come out; the fourteenth for May, 1837 contains a figure of the Ivor Hero Pansey. The engravings are on stone, and the colouring well executed. The number contains four pages of letter press. The work is very neatly executed, and well worth procuring. This very lovely tribe of flowers demands the attention of every person possessing a flower garden. We grow at the Downham nursery, more than five hundred kinds, including all the first rate flowers that are in the trade, and we are so enthusiastically partial to the Pansey as to induce us to procure every superior kind that it is in our power to do. We have drawings taken of several most splendid seedlings, will which appear in subsequent numbers of the Cabinet. The following judicious observations on raising seedlings are extracted from the work under review:

“As the season for raising seedlings is now approaching, we hope those who wish to excel in this pleasing and interesting pursuit, and have a few leisure hours to bestow upon it, will attend to the suggestions which we presume to offer. Their chances of success would be greatly increased, if they would take the trouble to fertilize the flowers by an artificial process. And this is properly the business of the amateur; for a nurseryman, whose attention is distracted by so many occupations, has no time for such a purpose, but must be content to leave it to nature to perform her own offices, or trust to the insect tribe to carry the farina accidentally from one flower to another. The stock of the amateur indeed, is better suited to this work, than that of the nurseryman; for though inferior in quantity, it is, or ought to be, much more choice in quality, such as grow flowers for sale being obliged to keep many sorts contrary to their own judgment, in order to gratify the taste, or the want of it, of those who deal with them.

We are not ignorant, however, that the task we recommend is both difficult and tedious. The plants are so low in their habit of growth, that a person cannot work upon them without continual stooping, or even going down upon his knees. We would advise those, who wish to try the experiment, and to know the result of their practice, first to select six or eight of the largest and best shaped flowers, and to put them into pots, in which they could be removed into any convenient situation, and brought close to the eye of the operator. Mark the flowers you intend to fertilize with a small piece of matting or thread, tied loosely round each, so as not to interfere with the flow of its juices, and keep a record of the different sorts with which you have crossed them. If the operation is new to you, it will be as well, previously, to dissect a few common flowers in different stages of their growth, in order to become acquainted with their parts, and the different symptoms of their maturity. When the flower begins to expand, you must of course divest it of its male organs, or it would impregnate itself, and all would be lost. This you would soon learn to do, if you would cut open a few flowers when they are partially blown, and observe the five anthers,

which, when ripe, shed their powder, called the pollen, on the stigma, and so fertilize the flower. These anthers therefore must be carefully extracted before maturity, so as not to injure the stigma, which is to be powdered with the fertilizing dust of another flower. A small pair of tweezers will be useful for the first operation, and a soft brush of Camel's hair for the other. Soon after the farina has been put upon the stigma, you will perceive the seed vessel begin to swell gradually, and in the course of a fortnight you will be in fresh danger of having your labour thrown away, for in hot weather the pods will often burst very suddenly, and scatter the seed in all directions. In order to prevent this, tie a small piece of tape or gauze about the pod, leaving it loose enough to allow room for the vessel to swell, but making sure of catching the seed whenever it is ejected. Sow the seed in a separate pot, with a distinct mark to it, that you may learn by the union, of what plants to produce the finest flowers. Put them, when strong enough, into a shady situation, and some of them will show bloom in the ensuing autumn so as to enable you to form a judgment of their merits. And when you have acquired more experience, forget not to furnish us with any useful remarks that may occur to you, for the benefit of others."

SCIENCE OF BOTANY.

Continued from Page 139.

"In exogenous plants, the new matter being added externally, a bark or covering is necessary to protect it, when young and tender, from the action of the atmosphere, and from external injury from other causes: hence an important office of the bark. In endogenous plants, the new matter, being added internally, is provided with an excellent covering, formed of the main substance of the plant, and has no need of a separate protecting integument.

"In spring there is found between the bark and the albumum a viscid gelatinous fluid called *cambium*, which, it is supposed, is the principal agent in forming the new layers of wood and of bark. This fluid is composed of the residue of the cambium of the preceding season, enriched and renewed by the descending sap, and mixed with some of the secretions of the vegetable.

"M. Mirbel and others are of opinion that the cambium annually forms a new layer of albumum and a new layer of bark. This is the most simple mode of formation, and probably that which takes place. We know that the cambium can repair the bark when it has been injured; and, as the new layers of wood and bark are formed where this fluid is found, it is not unreasonable to suppose that it acts an important part in this process.

"M. Du Petit-Thouars advanced a singular theory, namely, that the successive formation of woody layers is caused by the development of buds, from which, in spring, issue numerous fibres, which descend in the cambium between the liber and the albumum. In gliding downwards they meet the fibres which descend from other buds, and form a layer of greater or less thickness, which soon becomes solid, and forms a layer of wood.

"Each bud is regarded as a separate system of vegetation. The buds are considered so many individuals placed upon a common stock, and elongating in two different ways—upwards, forming new stems and branches, leaves, &c.—and downwards, forming roots; the descending fibres being the roots which the buds put forth, and the cambium bearing the same relation to the roots of the bud as the soil does to a germinating seed. M. Thouars considers buds as analogous in structure and mode of development to the embryo of the seed, which in germinating produces a young stem analogous to the scion produced by the growth of a bud. He calls the latter, a fixed or ad-

herent embryo, while he denominates that within the seed a free embryo. Thus the wood and bark are considered as formed of the roots of the buds which are annually developed on the surface of the vegetable.

“ Whatever may be the mode in which the formation of the new layers takes place, it is known that the matter which forms them descends from the leaf-buds or leaves, either in the innermost layers of the bark, or between it and the alburnum.

“ If all the buds or leaves be removed from the upper part of a branch, no increase in diameter will take place above those that are left. If a ring of bark be removed from a tree, the part below will not increase in thickness, and the upper lip of the wound will heal quickly, while the lower lip will not. This operation has been recommended for improving the fruit of trees; the descending sap or proper juice, confined to the upper part, increases the size of, and enriches the flowers and fruit developed above the place from which the ring has been removed. This is called ringing: care must be taken to make the ring very narrow, in order that the parts may easily re-unite.

“ If a ligature be placed tightly round the bark of a tree, the part above the ligature will swell, but not the part below; and it has been observed that the rate of increase of the diameter of any part of a branch or tree is in proportion to the number of leaf-buds developed above that part.

“ From their peculiar structure, Exogenous stems readily throw out branches, and hence the form of the trees in this country is so different from that of the Palms. Figure 5 shows the general outline of an oak tree. The part of the tree where vegetation is active being near the outer surface, the buds easily penetrate and grow into shoots, from the sides of which also buds are developed, and thus the tree is branched and subdivided to a great extent, and from a short distance above the ground.

“ From the same cause, such trees attain a great thickness and live to a great age. The new matter being added externally, has little resistance to overcome (only that of a thin bark, which is easily distended and pushed out) and thus there is hardly any limit to its increase in diameter, while, becoming only more securely fixed as it grows, and the growth going on between the bark and the wood almost independent of the inner parts, there is as little limit to the duration of the tree. In fact each annual layer of alburnum or bark seems to have an independent existence—hence trees are often found flourishing, though quite decayed and hollow within.

PROPAGATION OF PLANTS.

“ There is a very large assemblage of plants which produce their seeds by stamens and pistils, and they are called flowering or phænogamic plants. In most cases the stamen and pistil are together (in the same flower), the flower being then called perfect.

“ In some plants the stamen and pistil, though on one plant, are not together, as on the oak and the nettle. The flowers are then said to be monoecious (par. 216), and in these cases the pollen either, falls on the stigma, or is conveyed to it by the wind, or by insects.

“ In other plants, as the willow, the hop, one plant has stamens only, while another has pistils only. The flowers in this case are called Dioecious, and the same means serve to convey the pollen as in the last case. A flower with pistils only is called Pistilliferous; one with stamens only is called Anteriferous,

“ In the following tribe of plants the pollen must reach the stigma in order that the ovules may ripen and become seeds, and there are many different ways in which this is brought about.

“ In a great number of cases the flower is erect, the stamens are longer than the style, so that the anthers are above the level of the stigma; and when the cells of the anther open, the ripe pollen necessarily falls upon the stigma. In other cases, where the pistil is longer than the stamens, the

flower is inverted or drooping, so that the pollen still falls upon the stigma (as in the *Fuschia*). In other cases of this kind, where the flower is not drooping but erect, there is a nectary (a honey store) at the bottom of the flower, which attracts insects: these, agitating the stamens as they enter, and receiving a quantity of the pollen on their bodies, necessarily deposit a portion of it on the stigma as they fly out. In many plants, as in rue, barberry, rock-rose, pellitory of the wall, *kalmia*, grass of *parnassus*, the stamens are formed with an elastic spring, by which they throw the pollen on to the stigma, or have a moving power by which they approach the stigma and deposit the pollen upon it. In monoecious plants, the antheriferous flower generally occupy the upper part, so that the pollen falls upon the other flowers. In these, in dioecious, and indeed in all plants, the wind is a leading agent in bringing the pollen (which is a very light powder) to the stigma. In a dioecious plant which grows under water (*Valisneria spiralis*), the (antheriferous flowers become detached, rise to the surface, and float about, while the pistilliferous flower, which retains its connection with the plant, has a spiral stalk, which unfolds and lengthens out so as to elevate the flower above the surface of the water—there the two kinds of flowers meet, and insects or the wind apply the pollen to the stigma, an operation which does not go on effectively under water. Then the stalk of the pistilliferous flower resumes its spiral form and draws the flower under water, there to perfect the seeds. The *Urticaria*, a plant which grows under water, and has perfect flowers, (par. 170), has bladders attached to its roots, which become filled with gaceous matter, so as to cause the plant to ascend to the surface when the pollen is ripe, and effect the application of the pollen in the air. When this is done, the bladders loose their ariel fluid, and the plant again becoming specifically heavier, descends to ripen the seeds.

“The pollen of the stamens, which falls upon the stigma, being conveyed through the style of the ovules in the germen, vivifies them, causes in them a new and more vigorous growth, so that they enlarge and grow into seeds, bodies which are capable of becoming plants similar to those that produced them.

“When the seeds are ripe, the seed-case, or pericarp opens (dehisces) to let them escape. They fall to the ground, and, under the influence of heat, air, and moisture, take root, grow, produce the same kinds of organs, and pass through their various stages of existence in the same way as the plants which produced them.

“The dehiscence of the pericarp is beautifully seen in willow-herb, violet, broom, and many other well-known plants.

“Most plants produce a considerable number of seeds, and in many cases there is some peculiar construction in the pericarp or seed, by which the seeds are not allowed to fall down and accumulate on the spot where they grew, but are scattered and conveyed to a distance (disseminated) from the parent plant. In most plants that do not drop their seeds around themselves, the wind is the leading agent in dispersing the seeds, being often assisted by the great lightness of the seed, by some appendage, such as wings or feathers (as in willow-herb, in dandelion, and thistle, and the rest of the syngenesious tribe) which the wind in wafting the seed to a distance, or by the pericarp dehiscing at the upper part and sides, so that the seeds do not fall out, but are shaken or blown out by the wind. In other cases as in the broom (*Cystius*), the balsam (*Impatiens*), the *Oxalis*, there is a mechanical contrivance in the pericarp or seed, which has the effect of a spring, in projecting the seed when ripe, to a distance from the parent plant.

To be continued.

PART III.

MISCELLANEOUS INTELLIGENCE.

QUERIES.

ON THE DAHLIA.—“To a Star in the East,” I was much pleased with an article on the Dahlia, contributed by a Star in the East, who promised to continue it, but has not kept his word. I trust, however, he has not yet gone to bed, but that he will still shine for a month or two longer.

June 11th 1837

TIMOTHY.

My compliments to Pensee, and I am obliged for his excellent observations.

ON BONE MANURE.—It was mentioned in your April Number that the remarks of your correspondent T. was too late for that Number. They related, as you perhaps know, if you have not forgotten the circumstance, to an enquiry as to the persons who were able to furnish the article on Bone Manure. I have looked in vain in your last or May Number for any information on the subject. Were the remarks in question, or rather the renewed enquiry, too late for the May Number also?—(It had escaped our notice, but shall be attended to—COND.)

May 6th, 1837.

T.

ON THE HEIGHT OF THE SWEET SCENTED CHINA ROSE WHEN TRAINED AGAINST A WALL.—To what height has the sweet scented China Rose, trained against a wall, been known to grow? An early answer to this, in the Cabinet, will much oblige an

OLD SUBSCRIBER.

REMARKS.

NARCISSUS MINOR ET PUMILA, &c.—Not having read in any Numbers of the Floricultural Cabinet any observations on the culture of Narcissus, I beg to call the attention of the readers of the Cabinet to that beautiful family of plants, whose merits, if better known, would be more extensively cultivated, flowering in the early part of spring, makes them desirable plants, and when planted in beds in sorts or single patches, strikingly beautiful.

N. minor, pumila, cernicus, tenuifolius, and triandrus are well adapted for planting in beds near walks, growing from six to eighteen inches in height, the other sorts, amounting to fifty species and varieties, are desirable plants, and I hope, will shortly become better known to the Florist in general, and more extensively cultivated; and instead of seeing them in botanical collections, they will find a place in every flower garden.

J. W. D.

MIMOSA PROSTRATA.—A very pretty trailing plant, which blooms profusely, the flowers are of a delicate pink colour. It is admirably adapted for training up a wire trellis pillar, &c. The plant grows very freely. It will grow either in the greenhouse or open air; it deserves a place in either. We have seen it most beautiful, and have procured a quantity of plants.

MONOPHILA INSIGNIS MAJOR. RHODANTHE MANGLESII, &c.—I have had a number of Plants of *Nemophila insignis major* and *Rhodanthe Manglesii* in bloom in pots in my greenhouse for a month, and will doubtless continue for several months. Each kind is allowed a very rich soil, and plenty of pot-room; one plant, however, will soon cover a tolerably sized pot. Both the kinds deserve extensive cultivation.

CLERICUS.

VERBENA TROCĒDIANA, &c.—This lovely plant is now blooming profusely with us, and fully equals all that has been said on it, when first noticed it in the Cabinet. It is a most valuable addition to this neat and beautiful flowering genus. We have also obtained a white flowering kind which is highly spoken of, and a fine species with blush lilac flowers, producing large clusters of blossoms. *Clematis azurea grandiflora* is also in bloom with us, and is certainly one of the most charming climbing greenhouse plants yet introduced. Its fine blue flowers produced in profusion, renders it a most desirable plant. It ought to be in every conservatory or greenhouse.

PETUNIAS.—The very striking hybrids we gave drawings of last month, now show their fine and striking blossoms with us in profusion, they richly merit a place in every greenhouse or flower garden,

SHOWS FIXED FOR JULY.—Horticultural Society, Regent-street, three o'clock, Tuesday the 4th.

Metropolitan Society, Crown and Anchor, seven o'clock, ditto.

Wolverhampton and Staffordshire Floral Society, Tuesday the 4th.

Tamworth Horticultural Society, Wednesday the 5th.

Horticultural Society, Chiswick Saturday the 8th.

Ditto ditto Regent-street, three o'clock, Tuesday the 18th.

Metropolitan Society, Crown and Anchor Tavern, seven o'clock, ditto
Wiltshire Horticultural Society, ditto.

Ditto ditto Show Carnations, Members only, Thursday the 20th.
Bath Royal Horticultural and Floricultural Society, ditto.

North London, Dahlias, ditto,

South Essex Horticultural and Floricultural Society Stratford, ditto

Bristol Royal Horticultural and Botanical Society, Tuesday the 25th.

Huddersfield Horticultural Society, Thursday the 27th.

Wingham, Kent, Horticultural and Floricultural Society, ditto

Bedford Horticultural Society, open Show, Friday the 28th.

METROPOLITAN SOCIETY OF FLORISTS AND AMATEURS—The Committee have determined that the prizes should consist of medals only, which the Committee have had prepared, and which they wish to see received by the persons to whom they may be awarded; and for this reason, they reduce the value of the prize one-third to persons who receive them in money, the medals are;

The small Adelaide medal, value 15s. The large ditto ditto, value £1 10s. The King William medal £3. The small gold Adelaide medal, £7 10s. The large gold Adelaide medal, value £15. The gold King William medal, value £30.

Persons to whom any of these may be awarded will have the option of taking two-thirds of the value in money, or the medals themselves; and these may be received as awarded, or allowed to accumulate, and be received in a more expensive medal.

FOURTH EXHIBITION SHOW JULY 20, (members only)

CARNATIONS.—Best stand of twelve, large medal, Adelaide medal, and small ditto.

PICCOTEES.—Best stand of twelve ditto, ditto, ditto.

Entrance, 1s. each stand, first Tuesday in July.

REFERENCE TO THE PLATE.

These very striking Panzies are seedlings in our possession, as soon as plants are ready for sale, notice will be given.





Ranunculus

Ranunculus acris

THE
FLORICULTURAL CABINET,

AUGUST 1ST, 1837.

PART I.

ORIGINAL COMMUNICATIONS.

ARTICLE I.

ON THE CULTURE OF HEATHS, &c.

BY MR. JOHN FYFFE, GARDENER TO THE REV. W. MANSFIELD, MILTON
BRYANT, WOBURN, BEDFORDSHIRE.

IN the number of your Magazine for February, there is a query on the management of 'Ericæas,' by W. P. Hamelton, in which he complains of being unsuccessful in the cultivation of that interesting tribe of plants, he seems to be anxious for any information on the subject, and from the experience which I have had in their cultivation, I hope to be able to point out a few of the errors which that writer may have fallen into in his management.

Your Correspondent in the first place complains of his Heaths getting naked, or more properly speaking, rusty; this I should say is from the effects of drought, being crowded close together, on the pots being exposed to the powerful rays of the sun; if the pots are placed in the open air as is the practice with the most of our hardy G. H. plants (this is always the case with the more tender sorts of the Ericææ: the sun acts so powerfully on the pots when exposed for any period of time, as to dry the ball completely, and allowing the plant to be watered with the greatest care, the substance of peat soil being of a peculiar drying nature, the water often runs off, if the plants are potted high, without penetrating to the centre of the ball; this is the cause of heaths going off so suddenly. When once allowed to get

completely dried up, you may water them and go away, fancying that all is right, when, perhaps, if you were to turn out the plant the water has not penetrated one inch, the next day comes a hot and burning sun, your plant stands exposed as usual, and by the action of the sun the pot has succeeded in completely drying up the ball by mid-day, the plant stands so until night, and for six hours it is actually dying for moisture.

To remedy this defect I would recommend your correspondent to observe the following rule—if he is in the habit of placing his Heaths in the open air, never to do so without plunging the pots to the brims in cinder ashes or sand, the former being the best, not being liable to be infested with worms, keeping the ashes in a moist state by watering, as also giving each plant a regular supply every night, according to its state of dryness. Heaths are much benefited by being partially shaded, when set in the open air, by canvas or any light substance, as the sun acts so powerfully on the foliage, when first taken out of the house, but if your correspondent has a house principally for Heaths, I would say, do not take them out at all, except a few, so as the rest may not be over crowded, leaving air at all times, except in very severe weather, or when cutting winds may occur, if the stage of the house stands high or much exposed to drying winds. When air is admitted to the house, I should recommend the pots to be protected by placing a quantity of (*Hypnum*) among the pots, keeping it moist by watering.

In potting his Heaths, he cannot follow a more successful plan than that practised by Mr. Macnab of the Edinburgh Royal Botanic Garden, which I should say has fully answered the object of that most scientific floriculturist, which is this, keep the ball or centre of the plant when shifting higher than the margins of each pot, and introducing small pieces of free stone round the ball, these pieces are very useful, as they retain the moisture in hot weather, as also absorb it if the plants be over watered, keeping a regular moisture in the ball; each pot should be filled with broken pieces of pot to the thickness of two or three inches, according to the size of the pots, to carry off the excess of moisture, which is injurious in very hot weather; placing some siftings of peat soil next to the drainage, before placing the plant into the pot or tub. If your Correspondent is not so fortunate as to have a supply of free stone, it may not be amiss to say,

that I have used broken pieces of pots in the manner recommended with the stones, with almost equal success, only care must be taken that the pot is soft, or what gardeners call a good pot, not over burnt.

J. F.

June 19th, 1827.

ARTICLE II.

ON THE CULTURE OF THE BALSAM.

BY SCRUTATOR.

ALTHOUGH several papers have been written on the cultivation of the Balsam, yet they are so very complicated, that I am induced after a long experience, to forward to you a method of treatment, which I have found to be very successful and simple. The seeds (which should at least be from four to ten years old) must be sown in a hot bed about the middle [or latter end of March, in a soil taken from a cucumber bed, in quantities of half sandy loam and rotten dung, which has been turned over two or three times during the winter. I suffer the plants in the seed-pots to be drawn up about three inches when they are planted off singly into very small pots, filled with the same soil, they must remain until the roots are seen shooting through the hole at the bottom of the pot, when they must be repotted into the next size, and so on continually till they fill pots of the largest size. Care should be taken to keep the plants as near to the glass as possible, and particularly remember to take off the first buds, which strengthens the plant amazingly, and make them blossom more double though later. I generally shade the plants whenever the sun shines very hot upon them, to prevent scorching the leaves. I also use clear pond water after it has been in the frame six hours. By pursuing this course I have been singularly successful in raising Balsams so as to astonish every person in this neighbourhood, and I hope other persons will be as fortunate as myself, after they have read my method.

SCRUTATOR.

P. S. Should the above communication be approved of, I shall with great pleasure inform you of the course of treatment I have

adopted with the *Ipomopsis elegans*; my plants are looking very fine, and are showing for blossom.

In return, I should like to see a list of greenhouse plants of the greatest beauty, stating their colours, the time of blowing, and also the method of propagating them. I should also like to know how to impregnate the *Thunbergia alata alba*, as I have a fine plant, and wish to propagate more from it.*

June 19th 1837.

[* Very readily by cuttings of young shoots being inserted in sand. We should be greatly obliged by the Article on the *Ipomopsis* at an early opportunity—CONDUCTOR.]

ARTICLE III.

AN ADDITIONAL LIST OF NEW CAMELLIAS.

BY MR. GEORGE JOSEPH KAMEL.

MY two former communications being favourably received, and by you inserted in Vol. III. and IV. of the Cabinet, I forward you an additional list of new varieties. On page 200 of Vol. IV. it is stated that Camellias are two years coming up from seed, an assertion I can contradict, having plants six inches high in six months, by sowing the seed as soon as ripe, and placing it in the stove.

BRITISH AND CONTINENTAL HY-
BRID VARIETIES WITH DOUBLE
WHITE FLOWERS.
Allnuttia

Graya
lepida
princeps
Rives
rosæflora

SINGLE WHITE FLOWERS.
Palmerii

VARIEGATED FLOWERS.
Adonida
Cloweana
Kingii

PALE OR LIGHT RED FLOWERS.
Bealeii
foliosa
Spofforthia
superba
Roalina

DARK RED FLOWERS.
Allnuttia superba
amœna
Berleziana
cruenta

SIMPLE RED FLOWERS.
amplissima simplex
Helvola
incomparabilis
paradoxa

On page 154 Vol, IV, for *Flosackia Hosackia*.

ARTICLE IV.

A LIST OF FOREIGN FERNS WHICH HAVE STOOD THE OPEN AIR OF THIS COUNTRY IN NOTTINGHAMSHIRE DURING THE WINTER OF 1836 and 1837.

BY J. R.

AGREEABLE to my promise of last year I forward you a list of Foreign Ferns which having stood the winter of 1836-7 out of doors may lay some claim to be considered hardy—they having had only the protection of fallen leaves, and to prevent the blowing away, of which a few spruce fir boughs were pricked in the ground around the plants.

If others of your correspondents have made similar trials, I hope they will favour your readers with the result, and indeed any remarks on Ferns, from them will be acceptable, especially as I am aware that with some of your readers in the south and west of England, Ferns are cultivated.

June 15th 1837.

J. R.

Adiantum pedatum	Pteris falcata
Allantodia australis	" arguta
Aspidium tuberosum	" caudata
" auriculatum	" serrulata
" atomarium	Polypodium elatum
" marginale	Physematum molle
" bulbiferum	Woodwardia radicans
Blechnum gracile	Woodsia perrenniana
Doodia caudata	Aspidium acrostichoides
Dickinsonia pilosiuscula	Struthiopteris germanica
Osmunda interrupta	" Pennsylvanica
Onoclea sensibilis	Aspidium cœmulum
Pteris hastata	Pteris longifolia

ARTICLE V.

ON STIKING CUTTINGS OR SLIPS OF PLANTS IN WATER.

BY AN OPERATIVE.

I TROUBLE you with these few remarks, but hope they will not exclude valuable matter: having acted upon the suggestion of one

of your Correspondents regarding striking cuttings in water, I have tried a great many Dahlia roots this spring in water, and every shoot has struck freely, excepting where I lightly fastened a bit of brass round the stem to keep the lower leaves close, that the shoot might go into the phial, the lower leaves of which rotted. I cut the shoots in the usual way, close under a joint, and then hang the bottles, which ought to be wide-mouthed, some green, some white glass, against a wall, under the skylight of a warm work-shop in London, in the full glare of the sun, from the first moment of putting them in the water. A shoot of an old root, the Springfield Rival, I put in the latter end of May, I noticed particularly on the 12th day after putting it in had emitted one root, and on the fifteenth, it had four fibres or small lobes, an inch long, the growth being so rapid after it starts.

Fuschia gracilis I am trying the same way, and find them strike in the same time, this way may be slower than the ordinary way of hot-bed strikings, but I think it will suit those, who like me, have a hot-bed at the beginning of the season, but cannot command one whenever occasion may require it.

AN OPERATIVE.

ARTICLE VI.

METHOD OF OBTAINING FLOWERS OF DIFFERENT COLOURS FROM THE SAME STEM.

BY AN AMATEUR.

I have tried the following process with great success; and if you think it worthy a place in the *Floricultural Cabinet*, it is at your service. Split a small twig of elder-bush lengthways, and having scooped out the pith, fill each of the compartments with seeds of flowers of different sorts, but which blossom about the same time; surround them with mould, and then tying together the two halves of the twig, plant the whole in a pot filled with earth properly prepared. The stems of the different flowers will then be so incorporated as to exhibit to the eye only one stem, throwing out branches covered with flowers analagous to the seed which produced them.

AN AMATEUR.

PART II.

REVIEW.

THE FLOWER GARDEN, *including Directions for the Arrangement and Cultivation of all Garden Flowers, &c.* London, Orr & Co.

We have received the first part of this publication, June, 1837, and find it contain some useful and interesting remarks. The following extract on Rock Work, is a specimen, of its style.

We recommend the Work to our readers. The Author has not stated whether the parts in future, are to come out monthly, quarterly, or annually.

“The Chinese, who are partial to imitations of the grander features of nature, in miniature, frequently in the smallest area of a town court-yard, have rough shapeless stones thrown together in heaps, to represent rocks, with plants growing in the crevices. It is by no means unusual, in our own suburban gardens, to see similar fanciful, and incongruous, heaps of stones, chiefly irregularly formed flints, the sorixæ of forges, and large bits of coke from the gas works, covered with sedums, house-leek, and other plants which may be made to grow in such situations. Most of these are planted, and executed in the worst taste.

“The finest specimen of this kind of work which was ever, perhaps, executed, was laid out by Mr. Forrest, now of the Kensington Nursery, for his Grace the Duke of Northumberland, at Sion House. The imitation is, indeed, so complete, that when the back of the visitor is turned to the superb conservatory, he might almost fancy himself at the entrance of a Highland glen. The turf on the edge of this rock-work is in parts studded with moss, while little knolls, which nobody would doubt being real ant-hills, are covered with wild thyme and hare-bells. The expense of this, however, must be enormous, as there are blocks of granite of several tons weight; and few amateurs, we think, would attempt to rival this. But when tastefully planned, and well executed, rock-work may be made a very interesting feature of a flower-garden. The following remarks on the subject from “Chambers’ Edinburgh Journal,” will give the reader some good hints, which he may adapt to circumstances and situation, should he be inclined to construct rock-work for flowers.

“The rocky ravine, the mountain’s brow, and the sea-beach, are the most fertile sources of materials for a rockery; and it is necessary, in selecting them, to pay minute attention to the manner in which the various rock are deposited in their several beds, and also to the mosses, heaths, and ferns, which are congenial to them; for, in proportion as the selector shall succeed in imitating nature, will he please his own eye, and gratify his friends. Having fixed on a quarter whence materials are to be procured, the next object is to find out an intelligent workman, who may execute the charge entrusted to him with care. On this a good deal depends; and some pains should be taken to make him understand thoroughly what is wanted. The size of the stones should always be varied, but proportioned upon the whole to the intended size of the rock-work. A number of detached erections never look well; they are stiff and artificial. The whole should show an evident and well-defined connection; and, with regard to the stones, the greatest possible variety in form and size should be studied. The

foundation should consist of mounds of earth, which answer the purpose as well as any more solid erection, and will make the stones go farther. Rocks of the same kind and colour should be placed together; if intermixed they seldom wear a natural appearance. A dark cave, penetrating into the thickest part of the erection, is not very difficult to construct, and, when encircled with ivy, and inhabited with a pair of horned owls, which may be easily procured, it will form a most interesting object. Rock plants of every description should be profusely stuck around, and, in one short twelvemonth, the whole scene will exhibit an impress of antiquity far beyond anticipation. The whole should be enclosed with forest-trees of large foliage, that the visitor to the scene may step upon it unexpectedly. Water in all cases adds greatly to the general effect, and a small pond permits the construction of a rocky island, which should be formed with jutting points, for the sake of the reflection in the water. By a simple expedient, streams of water may be made to issue from the rocks, or spout into the air, and fall in beautiful cascades. This is done by placing a cask in an elevated spot at a little distance, and leading under ground, pipes to the spot required, where, by service pipes, anything wished by the erector may be easily managed. A cask holding thirty-five gallons might keep such falls playing for an hour, and might be kept out of sight. A pond, also, would permit the cultivation of native and foreign succulent plants; and gold fish and perch might be introduced, with a water-hen or two, and a few of the ducker species of sea-fowl. In absence of a pond, or any similar supply of water, a pump-well might still be made, without much labour, to enliven the rockery with water falls.

“The whole undertaking, when completed, will present a field of varied and interesting study, and more than compensate for all the attention and outlay bestowed upon it. The aquatic and rock plants which formerly were ‘far to seek and ill to find,’ will thus be brought within the range of everyday observation; the wagtail, oxeye, and stonechatter, will be attracted to the spot, not, perhaps, because they are lovers of the picturesque, but because they find everything here suited to their nature; and colonies of the wild bee will soon be seen, and heard humming on their winged instruments around the interstices of the rocks, and heavily laden with their winter store. These are all objects which not only please the eye, but from which man may derive grave lessons, that, well digested, may make him a better and a wiser man.”

“On the steep edges of woods where the falling down of a brow has exposed the more massive roots of large trees, and more in forests where trees have been torn up by the roots, moss frequently accumulates, annually dies and soon forms soil, where we may sometimes meet with pretty native flowers, such as wood-sorrel (*Oxalis acetosella*), wood anemone (*Anemone nemorosa*), elegant St. John’s wort (*Hypericum pulchrum*), and the like. This accidental feature of natural woods has been imitated in gardens, by collecting, in some border or compartment, old stumps and roots of trees, and throwing, on such parts of them as will permit it to lie, compost fitted for the growth of the plants intended to be cultivated there. It is necessary to remark, however, that as the soil will be necessarily shallow, it will require plants that will thrive without much water.

“The authoress of the *Florist’s Manual* says that “fragments of stone may be made use of, planted with such roots as flourish among rocks, and to which it might not be difficult to give a natural appearance, by suiting the kind of stone to the plant which grows naturally among its *debris*. The present fashion of introducing into gardens this kind of rock-work, requires the hand of taste to assimilate it to our flower borders, the massive fabric of the rock being liable to render the lighter assemblage of the borders diminutive and meagre. On this point caution only can be given, the execution must be left to the elegant eye of taste, which, thus warned, will quickly perceive such deformity. I must venture to disapprove of the extended manner in which this mixture of stones and plants is sometimes introduced

—not having been able to reconcile my eye, even in gardens planned and cultivated with every advantage which elegant ingenuity can give them, to the unnatural appearance of artificial crags of rock and other stones interspersed with delicate plants, to the culture of which the fertile and sheltered border is evidently necessary,—being decided that nothing of the kind should be admitted into the simple parterre, that is not manifestly of use to the growth of some of the species therein exhibited.'

FLOWERING PLANTS SUITABLE FOR ORNAMENTAL
ROCK-WORKS.

“The compost used for rock-work, should be prepared according to the nature of the soils particularised in this list.

HARDY ANNUALS.

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| <p>Calycea Madwort. <i>Alyssum calycinum</i>. Flowers July and August, in sandy peat soil.</p> <p>Hairy Madwort. <i>Alyssum hirsutum</i>. Flowers June and July, in common garden soil.</p> <p>Nail-wort-leaved Bell flower. <i>Campanula drabæfolia</i>. Flowers July and August, in sandy loam.</p> <p>Violet Thlaspi Treacle Mustard. <i>Clypeola l'on Thlaspi</i>. Flowers May and July, in common garden soil.</p> <p>Musk Heron's Bill. <i>Erodium moschatum</i>. Flowers May and July, in sandy loam.</p> <p>Prostrate Toadflax. <i>Linaria prostrata</i>. Flowers in June and July, in common garden soil.</p> <p>Tangier Pieridium. <i>Pieridium Tingitanum</i>. Flowers in June, in common garden soil.</p> <p>Mignonette. <i>Reseda odorata</i>. Flow-</p> | <p>ers from June till October, in rich mould.</p> <p>Atocion Catchfly. <i>Silene Atocion</i>. Flowers May and July, in sandy loam</p> <p>Small red Catchfly. <i>Silene rubella</i>. Flowers May and June in common garden mould.</p> <p>Prickly Trefoil. <i>Trifolium echinatum</i>. Flowers June and July, in common garden mould.</p> <p>Banatian Violet. <i>Viola Banatica</i>. Flowers in April and September, in rich garden soil.</p> <p>Shore Violet, <i>Viola littoralis</i>. Flowers in June and July, in peat and loam.</p> <p>Heartsease. <i>Viola tricolor</i>. Flowers all the summer, in common garden soil.</p> <p>Tenore's Candy Tuft. <i>Iberis Tenoreana</i>. Flowers in June and July, in common soil.</p> |
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BIENNIALS.

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| <p>Rock Cethionema. <i>Cethionema saxatile</i>. Flowers in June and July, in common garden mould.</p> <p>Throatwort-like Bell-flower. <i>Campanula cervicaria</i>. Flowers in July in sandy peat:</p> <p>Thrysoid Bell-flower. <i>Campanula thrysoidea</i>. Flowers from June till August in sandy peat.</p> <p>Common Carline Thistle. <i>Carlina vulgaris</i>. Flowers from June till September, in common soil.</p> <p>Wallflower. <i>Cheiranthus cheiri</i>. Flowers in April and July, in rich mould.</p> | <p>Hoary Stock. <i>Mathiola incana</i>. Flowers in May and November, in loam and peat.</p> <p>English Scurvy grass. <i>Cochlearia Anglica</i>. Flowers in May, in common garden mould.</p> <p>Danish Scurvy grass. <i>Cochlearia Danica</i>. Flowers in May and June, in common mould.</p> <p>Long flowered Viper's Bugloss. <i>Echium macranthum</i>. Flowers in July and August, in common garden mould.</p> <p>Violet-coloured Viper's Bugloss. <i>Echium violaceum</i>. Flowers in July</p> |
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- and August, in common garden mould.
- Common Viper's Bugloss. *Echium vulgare*. Flowers in July and August, in loamy peat.
- Garland Hedysarum. *Hedysarum coronarium*. Flowers in July and August, in common garden mould.
- Pale Hedysarum. *Hedysarum pallidum*. Flowers in June and July, in sandy loam.
- Alyssum Horehound. *Marrubium alyssum*. Flowers in July and August, in sandy loam.
- Dwarf Mountain Germander. *Teucrium montanum*. Flowers in July and October, in common garden mould.
- Lambert's Vervain. *Verbena Lambertii*. Flowers in July, in common garden soil.

PERENNIALS.

- Clavenna's Milfoil. *Achillea Clavennæ*. Flowers in June and July, in loamy peat.
- Mountain Milfoil. *Achillea montana*. Flowers from June till August, in common mould.
- Roseate Milfoil. *Achillea rosea*. Flowers from June till August, in common mould.
- Tomentose Milfoil. *Achillea tomentosa*. Flowers in May and October, in common mould.
- Alpine Bugle. *Ajuga Alpina*. Flowers in July and August, in common mould.
- Pyramidal Bugle. *Ajuga pyramidalis*. Flowers in May and June, in sandy peat.
- Alpine Ladies' Mantle. *Alchemilla Alpina*. Flowers in July, in common garden mould.
- Smooth Ladies' Mantle. *Alchemilla glabra*. Flowers in July and August, in common mould.
- Five-leaved Ladies' Mantle. *Alchemilla pentaphylla*. Flowers in July, in common garden mould.
- Mountain Madwort. *Alyssum montanum*. Flowers in July and August, in sandy loam.
- Alpine Madwort. *Alyssum Alpestre*. Flowers in July and August, in common mould.
- Rock Madwort. *Alyssum saxatile*. Flowers in April and May, in sandy loam.
- Wall Madwort. *Alyssum murale*. Flowers in April and May, in common mould.
- Meadow Anemone. *Anemone pratensis*. Flowers in May, in sandy peat.
- Alpine Anemone. *Anemone Alpina*. Flowers in July in sandy peat.
- Siberian Anemone. *Anemone Sibirica*. Flowers in June in sandy peat.
- Mount Baldo Anemone. *Anemone Baldensis*. Flowers in May, in sandy peat.
- Rock Chamomile. *Anthemis saxatilis*. Flowers in July and August, in common mould.
- Mountain Kidney Vetch. *Anthyllis montana*. Flowers in June and July, in sandy loam.
- White Mountain Kidney Vetch. *Anthyllis montana alba*. Flowers in June and July, in sandy loam.
- Alpine Columbine. *Aquilegia Alpina*. Flowers in May and June, in common mould.
- Siberian Columbine. *Aquilegia Sibirica*. Flowers in May and July, in common garden soil.
- Canadian Columbine. *Aquilegia Canadensis*. Flowers in April and May, in sandy peat.
- Pyrenean Columbine. *Aquilegia Pyrenaica*. Flowers in May and July, in sandy peat.
- Alpine Wall-cress. *Arabis Alpina*. Flowers in March and May, in peat and loam.
- Stone Wall-cress. *Arabis saxatilis*. Flowers in May, in common garden mould.
- Murale Wall-cress. *Arabis muralis*. Flowers in May and July, in common mould.
- Rock Wall-cress. *Arabis petræ*. Flowers in May and July, in common mould.
- Daisy-leaved Wall-cress. *Arabis bellidifolia*. Flowers in May and June, in peaty loam.
- Mountain Sandwort. *Arenaria montana*. Flowers in April and July, in sandy peat.
- Rock Sandwort. *Arenaria saxatilis*. Flowers in July and August, in sandy peat.

- Mountain Arnica. *Arnica montana*. Flowers in July and August, in peat and loam.
- Icy Arnica. *Arnica glacialis*. Flowers in July and August, in peat and loam.
- Swiss Arnica. *Arnica Helvetica*. Flowers in June and July, in rich mould.
- Greenland Wormwood. *Artemisia Groenlandica*. Flowers in June, July, and August, in sandy loam.
- Canadian Milk Vetch. *Astragalus Canadensis*. Flowers in June and July, in sandy loam.
- Lapland Diapensia. *Diapensia Lapponica*. Flowers in April, in sandy peat.
- Deltoid Aubrietia. *Aubrietia deltoidea*. Flowers in March till May, in peaty loam.
- Purple Aubrietia. *Aubrietia purpurea*. Flowers in May and June, in common mould.
- Foxtail Betony. *Betonica alopecurus*. Flowers in July, in common garden mould.
- Alpine Braya. *Braya Alpina*. Flowers in June, in peaty loam—a curious and interesting plant.
- Carpathian Bell-flower. *Campanula Carpatica*. Flowers in July and August, in peat and loam.
- Hill Bell-flower. *Campanula colina*. Flowers in June and July, in peat and loam.
- Russet Bell-flower. *Campanula pulla*. Flowers in June and July, in common mould.
- Dwarf Bell-flower. *Campanula pumila*. Flowers in June, in peaty mould.
- Garganian Bell flower. *Campanula garganica*. Flowers in June, in peaty mould.
- Round-leaved Bell-flower. *Campanula rotundifolia*. Flowers in July, in common garden mould.
- Rock Bell-flower. *Campanula saxatilis*. Flowers in May and August, in peaty loam.
- Alpine Bell-flower. *Campanula Alpina*. Flowers July, in peat and loam.
- Asarum-leaved Cardamine. *Cardamine Asarifolia*. Flowers in July and August, in peaty loam.
- Broad-leaved Mouse-ear. *Cerastium latifolium*. Flowers in June and July in common mould.
- Alpine Mouse-ear. *Cerastium Alpinum*. Flowers in July, in peaty loam.
- Spring Phlox. *Phlox vernalis*. Flowers in February, in common mould.
- Sedum-like Cherleria. *Cherleria sedoides*. Flowers in June and July, in common mould.
- Dark-leaved Golden-flower. *Chrysanthemum atralum*.
- Rock Scurvy-grass. *Cochlearia saxatilis*. Flowers in June and July, in sandy loam.
- Hill Pink. *Dianthus collinus*. Flowers in July and September, in sandy loam.
- Hyssop-leaved Pink. *Dianthus hyssopifolius*. Flowers in June and October in common mould.
- Alpine Pink. *Dianthus Alpinus*. Flowers in June and July, in sandy loam.
- Mountain Pink. *Dianthus montanus*. Flowers in June and September, in sandy loam.
- Rock Pink. *Dianthus petræ*. Flowers in July and August, in sandy loam.
- Feathered Pink. *Dianthus plumarius*. Flowers in June and August, in sandy loam.
- Aizoon-like Draba. *Draba aizoides*. Flowers in February and April, in sandy loam.
- Ciliate-leaved Draba. *Draba ciliaris*. Flowers in February and April, in sandy loam.
- Cuspidate Draba. *Draba cuspidata*. Flowers in February and April, in sandy loam.
- Alpine Draba. *Draba Alpina*. Flowers in April and May in common mould.
- Rock Draba. *Draba rupestris*. Flowers in May and July, in sandy loam.
- Alpine Willow-herb. *Epilobium Alpinum*. Flowers in June, in sandy loam.
- Mountain Willow-Herb. *Epilobium montanum*. Flowers in June and July, in common mould.
- Alpine Barren-wort. *Epimedium alpinum*. Flowers in May and June, in peaty loam.
- Alpine Hedge Mustard. *Erysimum Alpinum*. Flowers in May and June, in sandy loam.
- Lancaster Crane's-hill. *Geranium Lancastriense*. Flowers from June till September in common mould.

- Crimson Crane's-bill.** *Geranium sanguineum*. Flowers from June till September, in sandy loam.
- Scarlet Avens.** *Geum Coccineum*. Flowers in July and August, in peat and loam.
- Pyrenean Avens.** *Geum Pyrenaicum*. Flowers in June and July, in peaty loam.
- Radiated Avens.** *Geum Radiatum*. Flowers in June and July, in common mould.
- Obscure Hedysarum.** *Hedysarum obscurum*. Flowers in July and August, in sandy loam.
- Alpine Hedysarum.** *Hedysarum Alpinum*. Flowers in July and August, in sandy loam.
- Sand Cudweed.** *Helichrysum arena-rium*. Flowers in July and September, in sandy peat. This genus was formerly, *GNAPHALIUM*, and is known in many gardens by that name.
- Fair St. John's wort.** *Hypericum pulchrum*. Flowers in July, in peat and loam.
- Mountain St. John's-wort.** *Hypericum montanum*. Flowers in July and August, in common mould.
- Alpine Toadflax.** *Linaria Alpina*. Flowers in June and July, in sandy loam.
- Rock Toadflax.** *Linaria saxatilis*. Flowers from June till September, in sandy loam.
- Pyrenean Petrocallis.** *Petrocallis Pyrenaica*. Flowers in May and June, in peaty loam.
- Beautiful Cinquefoil.** *Potentilla formosa* of Don, *P. Nepalensis* of Hooker. Flowers in June and July, in common garden mould.
- Rock Cinquefoil.** *Potentilla rupestris*. Flowers in May and June, in common mould.
- Rock Cinquefoil.** *Potentilla petrae*. Flowers from May till July, in common mould.
- Arctic Bramble.** *Rubus arcticus*. Flowers in May and August, in peaty loam.
- Rock Bramble.** *Rubus saxatilis*. Flowers in June, in common mould but should be reserved for large aggregations of Rock Work, as should *R. arcticus*.
- Aizoon Saxifrage.** *Saxifraga aizoides*. Flowers in June and July, in sandy peat.
- Snowy Saxifrage.** *Saxifraga nivalis*. Flowers in June and July, in sandy loam.
- Opposite-leaved Saxifrage.** *Saxifraga oppositifolia*. Flowers in March and April, in sandy peat and loam. A more suitable and beautiful plant cannot be appointed to adorn the brow, and enliven the bosom of artificial rock-work.
- Rock Saxifrage.** *Saxifraga petrae*. Flowers in April and May, in sandy loam.
- Moss-like Saxifrage.** *Saxifraga hypnoides*. Flowers in April and June, in decayed stone or sand, with peat.
- Podolian Schivereckia.** *Schivereckia podolica*. Flowers in June and July, in sandy peat.
- English Stone Crop.** *Sedum Anglicum*. Flowers in July and August, in common mould.
- Corsican Hedge Nettle.** *Stachys Corsica*. Flowers July and August, in common mould.
- Imperato's Orpine.** *Telephium Imperati*. Flowers in June and August, in sandy loam.
- Rock Valerian.** *Valeriana saxatilis*. Flowers in July, in common mould.
- Mountain Valerian.** *Valeriana montana*. Flowers in June and July, in common mould.
- Rock Veronica.** *Veronica saxatilis*. Flowers in June in common mould.
- Scarlet Vervain.** *Verbena melindris*. Flowers all the summer, in light rich mould.
- Common Indian Fig.** *Opuntia vulgaris*. Flowers in August, in sandy loam.
- Large-flowered Violet.** *Viola grandiflora*. Flowers in May and August, in peaty loam.
- Rock Violet.** *Viola lutea*. Flowers in May and July, in peaty loam.

BULBS.

- Twisted Garlic.** *Allium flexum*. Flowers in July, in common mould.
- Pyrenean Fritillary.** *Fritillaria Pyrenaica*. Flowers in May and June, in common mould.
- Pyrenean Star of Bethlehem.** *Ornithoglossum*

<p>golum Pyrenaicum. Flowers in June and July, in common mould.</p> <p>Little Wood-sorrel. <i>Oxalis acetosella</i>. Flowers in April and May, in common mould.</p>	<p>Violet-coloured Wood-sorrel. <i>Oxalis violacea</i>. Flowers in May and June, in sandy peat."</p>
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SCIENCE OF BOTANY.

Continued from page 166.

"In most plants which do not drop their seeds around themselves, the wind is the leading agent in dispersing the seeds, being often assisted by the great lightness of the seed, by some appendage, such as wings or feathers (as in willow-herb, in dandelion, and in thistle, and the rest of the syngeneisous tribe, which aid the wind in wafting the seed to a distance, or by the pericarp dehiscing at the upper part and sides, so that the seeds do not fall out, but are shaken or blown out by the wind. In other cases as in the broom (*Cystisus*,) the balsam, (*Impatiens*,) the *Oxalis*, there is a mechanical contrivance in the pericarp or seed which has the effect of a spring, in projecting the seed, when ripe, a distance from the parent plant.

"The use of these contrivances for dispersing seeds is obvious. They would choke each other in germinating close together, if they simply fell to the ground, and be thus lost or wasted. When the parent plant remains, (as in trees), they would be superfluous at the spot where there is already a plant of the same kind; but being dispersed, the seeds are carried abroad and get room to germinate—They grow up and fertilize other places, and thus perpetuate the species, and increase the useful products which the plant may yield to the animal creation.

"Animals are frequently the means of the dispersion of seeds. Rivers and even seas also aid in spreading seeds.

"New plants arise from three sources, 1st. from seeds, which when placed in a fit situation, become new plants, of the same species as that which produced them, though frequently of a different variety. Plants are divided into Genera, Species, and Varieties. Each genus includes many species, and each species many varieties. The varieties of any species differ in particulars which are not deemed of much importance, such as colour, size, &c. and a seed always produces a plant of the same genus and species as that of the parent, but frequently of a different variety. The commencement of the growth of the seed is called germination. 2nd, From buds, which are also capable of producing new plants. In this case, it is always the same variety that is produced. 3d, From slips or branches, which, when treated in a particular manner, are capable of becoming entire and independent plants, when separated from the parent. This is called propagation by slips or layers; and in this case also, we always obtain the same variety. This latter mode might be included along with the second, thus making two principal sources of vegetation—seeds and buds.

GERMINATION.

"A perfectly formed seed may be considered a young plant, the vital energies of which are in a dormant or latent state, but ready to be excited to action when the proper stimuli are applied; and containing a quantity of matter in a state to be easily formed into proper nutriment, and applied to its support before it is able to provide for itself.

"Seeds possess a great quantity of carbon. This substance, by its anti-putrescent qualities and hardness, prevents the seeds from undergoing putrefaction, and thus preserves it for a great length of time. All that is necessary for preserving seeds is, to prevent germination and putrefaction. For

this purpose, they must be carefully excluded from the action of heat and moisture, and other chemical agents. Seeds retain their vitality for a very long period—for hundreds, or even thousands of years. Seeds which have been proved to have been not less than one thousand eight hundred years old, have germinated and produced thriving plants! and plants have appeared, on turning up the ground in some situations—the seeds of which are conjectured to have been buried a much longer period.

“ Four conditions are necessary for the process of germination, the presence of water, of heat, and of air, and the exclusion of light.

“ Water softens the integuments, and renders them capable of being burst by the swollen embryo; dissolves the nutritive matter contained in the seed thus reducing it to a fit state to be absorbed for the nutrition of the embryo; conveys in solution nutritive particles from other sources; and furnishes two important ingredients in the composition of vegetables.

“ The air, by means of the oxygen which it contains, effects a chemical change on the farina of the seed. The oxygen combines with the carbon, and forms carbonic acid, which escapes; and thus the proportion of oxygen and hydrogen being increased by the expulsion of the carbon, the farina is converted into a semi-fluid substance, of a saccharine or mucilaginous nature, consisting of starch, gum, and sugar, well adapted for the nutrition of the plant in its infant state.

“ Heat always promotes chemical combination and decomposition, and thus assists the action of the water in dissolving the hard parts of the seed, and that of the air in its part of the process. Most probably heat acts as a general stimulus to the absorbents in the seed. Seeds cannot be made to germinate in very cold weather, except by the application of artificial heat. Too great heat also checks germination, because it destroys the vitality of the seed.

“ Light is unfavourable to germination, because it disposes to an accumulation of carbon in the seed, and a consequent hardening of the parts, or rather prevents the expulsion of carbon, and consequent softening of the parts, which if necessary they should be taken up and applied to the use of the plant. The seeds of red poppy and charlock remain in the ground and retain their vitality for a long period; hence they are frequent on new banks or newly upturned ground.

“ From the operation of these causes, it will be seen why seeds planted too deeply in the earth do not germinate. The air has not access to them, and therefore, from the want of that important stimulus, they remain torpid. Hence it is that earth newly dug up frequently becomes covered with weeds, the seeds of which soon germinate when exposed to the air.

“ Placing seeds at a certain depth in the earth excludes them from the access of light which is so injurious to germination; insures a supply of moisture, which would not remain with them were they placed at the surface; protects them from the wind, and from the attacks of animals, and enables the roots to take a firm footing in the soil.

“ When the germination has commenced, the seeds become soft, and swells, oxygen is absorbed, and carbonic acid disengaged; the particles of the covering of the seed loose their cohesion, and it bursts to make way for the elongation of the embryo; the radicle elongates and descends, often attaining a considerable length before the gemmule has made any progress, and soon exercises its function of absorbing food; the cotyledons expand and become seminal leaves, which afford nourishment to the young plant in the first stage of its existence, by elaborating the sap, and wither when the proper leaves of the plant have unfolded, or remain under the surface, are gradually absorbed, and disappear; the gemmule or first bud gradually unfolds and enlarges; the leaves and stem appear, and we now have a young plant, a living being, able to provide its own sustenance, and to apply it to its increase, and to the formation of seeds to perpetuate the species.

“ In the operation of malting, the object is to convert the farina of the

seed into sugar. For this purpose the seed is made to germinate, and this process is stopped (by heating) at that point at which it has been found there is the greatest quantity of saccharine matter in the seed. Were germination allowed to proceed further, the saccharine matter would be taken up for the nutrition of the young plants, and its nature completely altered.

PROPAGATION BY BUDS.

“Plants are propagated by buds, in four different ways. 1st, By means of the bulbs which grow at the base of the scales in the bulbous root, as in the Snowdrop or Lilly; these bulbs are soon detached from the parent bulb, and become independent plants. 2. By means of the bulbils which grow upon the stem in the axilla of the leaves, as in the Corral-root (*Dentaria bulbiflora*), and in the Orange Lilly (*Lilium bulbiferum*), or in the place of the flowers, as in the Mountain Garlic (*Allium Carinatum*); these become detached, and form new plants. 3. By means of the buds or small bulbs which grow at the margins of the leaves in the Bryophyllum, and the bog Orchis (*Malaxis paludosa*); and 4. By means of the minute buds or eyes found in the tubercles of various plants as the potato (*Solanum Tuberosum*).

“In viviparous Alpine Bistart (*Polygonum Viviparum*) the pistil of the lowermost flowers generally become a bulb (bud) which begins to grow and throw out leaves before it falls off, and being detached, strikes root and forms a new plant. The seeds in this plant are seldom ripened. Sheep's Fescue Grass (*Festuca ovina*) frequently produces in place of flowers, buds, as fall off as bulbs, and vegetate; this is also the case with Alpine Meadow-grass (*Poa alpina*) and Sand Garlic (*Allium arenarium*). Plants which form buds or bulbs which they throw off, and which then vegetate independently, are called viviparous.

“All these resemble seeds in this, that when detached from the parent and placed in the earth, they produce new plants. They differ from seeds in not being formed by flowers; in not being able to preserve their vitality for such a length of time; in not having distinct parts such as radicle, gemmule, and cotyledons, being merely extensions of the substance of the parent; and in always producing the same variety. Hence one advantage of propagating the Potato by buds; we have found a variety well adapted for use as an article of food, and we can ensure its reproduction. If grown from a seed, a very different variety might be produced, which would not have the same nutritious properties. In fact, plants arising from buds, are regarded as a continuation of the same individual—hence they in time become exhausted and deteriorated.

PROPAGATION BY SLIPS AND LAYERS.

“Propagation by layers consists in surrounding a young branch with moist earth, in which case it throws out roots, and very soon becomes an independent plant. It is customary to make a small incision at the part placed in the earth, or to pass a ligature round it. This intercepts the descending sap, which, by being accumulated, excites the latent buds, and these being developed in the earth, become roots.

“Sometimes the branch is bent downwards and fastened in the earth, as in the Vine, which is always propagated in this way; and many plants propagate themselves naturally in this way, the stems or branches lying on the earth, and taking root where they come immediately in contact with it, as the Currant bush and Laurel. At other times the branches are surrounded with earth in its natural position, and detached when it has taken root.

“Propagation by Slips much resembles the preceding mode. The only difference is, that the branch or slip is detached from the parent before being made to put out roots. The slips or cuttings of most trees that have a light white wood, as the Willow, the Ash, or the Poplar, easily take root when placed in the earth; and indeed the Willow is reproduced chiefly in this

way. It is difficult to propagate by slips, woods which are very dense and contain much resin, as the Fir and Oak.

“ These processes for the propagation of plants are, in many cases preferred to multiplying by seed. Propagation by slips or layers always produces the same variety, as that from which the slip is taken, so that we have a plant that produces good fruit by propagation in either of these modes, several may be raised bearing fruit equally good. The tree is always more speedy in bearing fruit when formed in this way, than when grown from a seed.

“ It is an interesting fact, and which is turned to good account in the cultivation of fruit trees, that, when the tree is raised in this way, the number of seeds in the fruit is almost always less than when produced from a seed, so that more of the juices and strength of the plant are expended in perfecting this fruit. The Vine when raised from seed, has four seeds in each grape; but frequently only two when propagated by layers.

“ The Sugar-cane, which is propagated nearly in a similar manner, bears no seed at all, but the other parts of the plant are richly developed. Thus also, the seeds of the plants mentioned before are rarely ripened; and in common Solomon's Seal (*Convallaria multiflora*), the berries are seldom ripened, the plant increasing much by root.”

Outlines of Human Physiology. By HERBERT MAYO.

In lately perusing this new work, we found the following interesting account of an experiment to determine why the roots of plants shoot downwards, by the ingenious Mr. Young:—

“ It is impossible not to be struck with the close analogy which holds between the phenomena of the irritability and movements of the sensitive plants and many of the instinctive motions of animals. The discrimination evinced by plants is a subject no less curious. Climbing plants stretch towards objects calculated to support them; a shrub when growing upon a wall, when it has exhausted the nourishment which its situation afforded, has been known to drop a long root to the soil below. The daisy, in rank grass, bears a flower upon a long stalk; on a close shaven lawn, its flower is sessile. These and similar instances have been occasionally ascribed to an instinct in plants; it is much more philosophical to suppose, that the growth of plants is determined by physical impressions alone, such as variations of moisture or temperature, and exposure to or deprivation of light: and that nature, instead of imparting perception to plants as their guiding principles, has attained her purpose by another method, having so framed and endowed the vegetable economy in accordance with the circumstances in which it is placed, that the common accidents of the elements and of the seasons are likely to bring it to perfection. Several remarkable examples go to prove the correctness of the preceding views, out of which it may be proper to adduce the following: it is well known that, in whatever position a seed is laid in the ground, the plumule invariably rises towards the surface of the soil, while the radicle, on the contrary, shoots downwards. Upon the hypothesis that physical impressions determine the growth of plants, we should expect to find that gravitation is in this instance the influential cause, or that the growth of the radicle necessarily follows the direction of a mechanical force or tendency to motion, while that of the plumule goes against it. Mr. Knight ascertained this solution to be just, by experiments, in which another force was made to supersede, or to co-operate with, that of gravity. Seeds of the garden bean, which had been previously soaked in water, were

attached at short distances along the circumference of a vertical wheel, which was made to perform more than one hundred and fifty revolutions in a minute. In a few days the seeds began to germinate. In their growth, the plumule of each tended towards the axis of the wheel, the radicle in the contrary direction. In this case, owing to the vertical rotation of the wheel, the influence of gravity is neutralised; in its place a centrifugal force was substituted, by which the growing seed was influenced exactly as before by gravity.

In another experiment, beans similarly prepared were attached to the circumference of an horizontal wheel, which was then set in rapid motion; the result was not less conclusive than in the former instance; the plumule of each seed was observed to grow in a direction upwards and inwards, which the radicle tended downwards and outwards, that is to say, in the diagonal the two forces, by both of which, according to the hypothesis, it should have been blindly influenced. From these and similar instances, it appears reasonable to conclude, that the vital endowments are limited to two; namely irritability, and some modification of chemical affinity. What an innumerable interval between their mode of existence and that of animals!

LIST OF NEW AND RARE PLANTS,

Noticed since our last.

1. BOLBOPHYLLUM COCOINUM. *The Cocoa nut Bolbophyllum.*
[*Bot. Reg.* 1964.]

ORCHIDACEA. GYNANDRIA MONOANDRIA.

This species of Orchidææ was introduced into this country from Sierra Leone by Messrs. Lodiges. It was discovered upon the Cocoa-nut Palm. It has bloomed in the collections of Messrs. Lodiges, and Mr. Bateman at Knypersley. The petals are very narrow, serrated, of a pale flesh colour. The flowers are produced on a spike about six inches long.

2. CHRYSOSTEMA TRIPTERIS. *Three-leaved.* [*Bot. Mag.* 3583.]

SYNONYM. COREOPSIS TRIPTERIS. COMPOSITÆ. SYNGENESIA FRUSTRANA.

This plant is an old inhabitant of this country, but not generally to be met with. It is nevertheless very ornamental for the flower border. It grows to about two feet high, blooms profusely. The flowers are of a light lively golden colour, having a purple disk. They continue in bloom from July to the end of the season. The plant may be procured at the public nursery and floral establishments. *Chrysostema*, from *chryso* gold; and *stemma*, a crown; referring to the colour of the flowers.

3. EPIDENDRUM NOCTURNUM; *var. latifolium* [*Bot. Reg.* 1961]

BROAD-LEAVED NIGHT SMELLING EPIDENDRUM. ORCHIDACEA. GYNANDRIA MONOANDRIA.

The present variety has larger flowers than the original species, as well as the general habit of the plant being more robust. It has bloomed in the collection of the Duke of Devonshire at Chatsworth. The blossoms are highly fragrant at night. The sepals are of a greenish yellow, and the labellum of a yellowish white.

4. ENCHARDIUM CONCINNUM. *Neat.* [*Bot. Reg.* 1962.]

ONOGRARIA. TETRANDRIA. MONOGYNIA.

This annual plant bears some resemblance to the *Clarkia pulchella*, but not so handsome. It is, however, a neat and pretty flowering plant. The

flowers are not quite so large as the *Clarkia*, of a rosy-purple colour. It is a native of New California. *Euchardium* from *eucharis* in the sense of agreeable, in allusion to the appearance of the plant.

5. PAVETTIA CAFFRA. *South African Pavetta.* [Bot. Mag. 3580.

RUBIACEÆ. TETRANDRIA, MONOGYNIA SYNONYM. IXORA CAFFRA

A native of South Africa. The plants blooms very profusely. The flowers are white, produced similar to the well known *Ixora coccinea*. It deserves a place in every collection of hot-house plants. *Pavetta*, the name of the plant in the Malabar language.

6. PLATYSTEMON CALIFORNICUM. *The Californian* [Bot. Mag. 3579

PAPAVERACEÆ. POLYANDRIA POLYGYNIA.

This neat little annual was sent from California by the late Mr. Douglas. The plant grows six or eight inches high, producing a profusion of flowers a good deal like the Wild Wood Anemone of this country, they are of a yellowish-white, *Platystemoa*, from *platus* broad, and *stemon* a stamen, alluding to the breadth of the filaments.

7. REHMANNIA CHINENSIS, *The Chinese.* [Bot. Reg. 1960.

SCROPHULARIACEÆ. DIDYNAMIA, ANGIOSPERMIA. SYNONYM. DIGITALIS GLUTINOSA. GERARDIA GLUTINOSA.

The plant is nearly hardy, but succeeds best if kept in a cool greenhouse. It is a native of North China. The flowers resemble the Foxglove, but not so large. The limb is a dingy orange-yellow, and the tubular part is of a brown-purple.

8. RHODODENDRON PHŒNICEUM, *variety Splendens.*

[Brit. Flow. Gard. 385.

This very fine variety has been raised by the impregnation of *Rhododendron phœniceum*, with *R. Catawbiense*. Mr. Wood, Gardener to Mrs. May, of Sydenham, has been the successful raiser of this splendid flowering plant. It blooms profusely, and the flowers being very large are showy; they are of a rich red-purple, spotted with darker colour. It will be a very ornamental plant for the greenhouse or conservatory, and deserves a place in every collection.

9. SCHIZOPETALON WALKERII. *Mr. Walker's.* [Brit. Flow. Gard. 387.

CRUSIFERA. TETRADYNAMIA SILIQUOSA.

A very singular flowering hardy annual, growing nearly a foot high, each branch terminating with white fragrant blossoms of a very curious cut form, producing a striking appearance. The pure white of the flowers, their singular form, and powerful fragrance at night, strongly recommend the plant to every flower garden. It is better to raise the plants in pots and transplant them, than sow in the open ground. Seeds may be obtained of the London Seedsmen. See the lists advertised in the *Cabinet* during the past spring months. *Schizopetalon* from *schizo*, to cut; and *petalon*, a petal, referring to the flowers.

10. WIGANEIA CARACASANA. *Coraceus Wigandia.* [Bot. Reg. 1966.

HYDROLEACEÆ PENTANDRIA DIGYNIA.

A very neat and handsome flowering hot-house shrub, growing six feet high. It has bloomed in the collection at the Duke of Northumberland's; the flowers are produced in profusion, in branching terminal clusters of three on each, the blossoms resemble some of the handsome *Solanums*, of a delicate

ilac colour, which continue for a long time. It highly merits a place in every stove collection. *Wiganda* in compliment to John Wigand, a Bishop of Pomerania.

11. *SISYRINCHIUM GRANDIFLORUM*, *Large flowered*. [*Brit. Flow. Gard.* 388.

IRIDÆE. MONADELPHIA TRIANDRIA.

The late Mr. Douglas sent this plant from the North West of America, near Columbia. It very far surpasses any other of the genus, in the size, as well as colour of its blossoms, which are of a rich purple colour, and produced in vast profusion. The flower stems grow to about nine inches high. It is cultivated in the rich collection of Mrs. Marryatt, at Wimbledon. The name of the plant originated from pigs being fond of the roots. From *rus*, a pig; and *rugchos*, a snout.

12. *AZALEA SEYMOURI*. *Seymour's Azalea*. [*Bot. Reg.* 1975.

This variety was raised some years since at the Hon. and Rev. W. Herberts, Spofforth, near Wetherby, Yorkshire. It had been raised from the seed of *Rhodora Canadensis*, the flowers of which had been impregnated with those of *Azalea Pontica*. The habit of the *Rhodora* is, that, the blossoms expand long before any foliage is produced, but the hybrid here noticed first pushed forth its foliage long before the flowers appeared. They are of a pale yellow colour, in form like the *azalea Pontica* but much less in size.

13. *BOLBOPHYLLUM SALTATORIUM*, *Dancing Bolbophyllum*.

[*Bot. Reg.* 1970,

GYNANDRIA MONANDRIA. ORCHIDACEÆ.

Messrs Loddiges's imported this species from Sierra Leone, and the plant has bloomed in their collection at Hackney.

14. *CALLIPRORA LUTEA*, *Yellow Flowered*. [*Bot. Mag.* 3588

ASPHODELEÆ. HEXANDRIA MONOGYNIA.

The late Mr. Douglas found this pretty flowering bulbous plant in Northern California. It is found to flourish freely in the open border, in the warmer parts of this country. The flowers are produced in a scape upon a stalk six inches high. The blossoms are of a pretty yellow colour, which appear from June to August. *Calliprona* from *Calliprora*, pretty face; alluding to the beauty of the flowers.

15. *COREAPSIS LONGIPES*, *Long Stalked*. [*Bot. Mag.* 3586.

COMPOSITÆ. SYNGENESIA FRUSTRANEA.

Mr. Drummond discovered this showy species in Texas, North America. It appears to be intermediate between *C. verticillata*, and *C. tinctoria*. It appears to be annual or biennial. The flowers are a fine yellow colour, not dark in the centre: each blossom is full two inches across.

16. *SPARTIUM ACUTIFOLIUM*, *Sharp-leaved Spanish broom*. [*Bot. Reg.* 1974

LEGUMINOSÆ, DIADELPHIA DECANDRIA.

A probable variety of Spanish broom, the flowers are rather more lax than the original species. Seeds of it were sent from Turkey to the London Horticultural Society. It is a hardy shrub.

PART III.

MISCELLANEOUS INTELLIGENCE.

 QUERIES.

ON THE CULTURE OF PRIMULUS, &c.—Will some of your obliging Contributors favour me with the best mode of cultivation, and soil, and treatment for the *Primula farinosa*, *longifolia*, *verticulata*, *cortusoides*, *minima*, and *integrifolia*.

Also, will you inform me where I can purchase *Convolvulus pentanthus*, and *Ipomoea Horsfollii*, good strong plants at a reasonable price.

Stratford, 10th May 1837.

[We have the latter plant at Downham Nursery, at a low price.—COND.]

REMARKS.

GAILLARDIA PICTA.—This very beautiful flowering plant, deserves a place in every flower garden, or greenhouse. Its very showy blossoms, produced in such profusion, render it a valuable acquisition.

MIMULUS HODSONII, a fine flowering variety, has been raised between *M. roseas*; and *M. cardinalis*. It has the habit of the latter, and the blossom of the former, being of a fine rose colour, but a superior shape to the flower of the original roses. It has been named *M. Hodsonii* in compliment to the superabundant of the Bury St. Edmund Botanic Garden. It has bloomed in the garden at that place.

MIMULUS CLAPTONIA.—A new variety raised by Mr. Law of the Clapton Nursery, between *M. variegatus* and *M. cardinalis*. The plant has the habit of the latter, and the flowers of the former, but of a deeper colour.

CLIANTHUS PUNICEUS.—We have seen many of this beautiful flowering plant, succeed admirably, trained against a south aspected wall, and against a trellis on a south border. In both situations the plants bloomed freely, and are protected by mats or reeds in winter. If turned in the open ground in summer, and be taken up for winter, it does well—Use a rich soil.

SOLANUM HERBERTIA.—This hothouse species now blooms; its fine blue flowers produce a beautiful appearance. It is the handsomest of the species we have seen, and well deserves a place in the plant stove. Mr. Young of Epsom has plants of it in bloom.

DEUTZIA SCABRA.—This handsome shrubby plant has produced its lovely white blossoms so profusely, as to strike the attention of all who have seen it in bloom. The racemes of blossoms being much like a syringe in miniature, or resembling the *andromeda pulverleata*, or *floribunda*. The beauty of a large bush of it, is beyond description; the plant being so cheap, of easy culture, and growing very freely, well deserves a place in every shrub border or greenhouse. It blooms admirably well when placed in a room.

MIMOSA PROSTRATA.—This plant is admirably adapted for training around a wire trellis. Such as we noticed early this year in the Cabinet. Its long branches throwing out a great number of lateral shoots, which hang pendant

and produce a profusion of delicate lilac pink blossom, hanging in clusters. Being cheap and of easy culture, it deserves a place in every greenhouse, or to stand upon a lawn, or to train up a pillar, or against a trellis, &c.

ON THE COLCHICUM, ORCHIS, &c.—The single and the double Colchicum are beautiful, and give variety to our gardens at a late season. The popular belief, that the fruit or seed of Colchicum is produced previously to the flower, is wholly unfounded; and, as the peculiarity in the appearance of fructification of this plant, generally excite the curiosity of Florists. The orchis mascula, which from the rich purple of its petals, and dark-spotted leaves, merits a place among our cultivated flowers are rarely seen in gardens, it being generally supposed that there is some peculiar difficulty in removing the roots of this curious tribe of plants from their native situations of growth. I have in a former work hazarded the conjecture, that the Orchis, in removal, did not require different treatment from that necessary to be given to all bulbous plants under the same circumstances; and I have since confirmed the justness of this conjecture by experiment.

It is requisite that the leaves of all bulbous plants should be wholly decayed before their roots are transplanted, as, until the change has taken place, the process of growth in the annual renewal of the bulb continues in progress, and the growth of this new bulb is checked by any injury which the leaves of the old bulb may sustain. Nevertheless, as it is frequently expedient to remove bulbous plants while their leaves are green, and even during the time in which they are in flower, this may be safely effected, if done with proper precaution, and also the root may be preserved in a healthy state, although it will certainly be weakened. All bulbs, if transplanted while their leaves are in vigour, should be removed with as much soil as will adhere to the bulbs, and great care must be taken not to cut or bruise the root, or the root-fibres. When transplanted, their leaves should be carefully tied to a stick, and suffered to remain until they naturally fall from the plant. If bulbous plants, during their state of vigorous foliage, are sent to a distance, they should have the same attention given them, and the soil should be closely pressed round the bulbs, and their leaves nicely tied together, and the whole wrapped in sheet lead, which, by keeping them from the air, will prevent the evaporation of their juices, and preserve them for a week or ten days nearly as well as if they were placed in soil for that period.

We find the Orchis kind characterised as bearing two distinct bulbs, and the difficulty of removing any of the species from the fields into our gardens ascribed to some peculiarity in the plant. Also the rare circumstance of the autumnal Colchicum not ripening its seeds until the spring after their formation in the preceding autumn, has given rise to an unwarranted opinion that the fruit is produced previously to the expansion of the flower, and which, from want of a little farther investigation, has become an established popular belief.

I am desirous to rouse my sister florists to the exertion of seeing for themselves; and by shewing with how little trouble the errors mentioned above may be confuted, I hope to excite them not to acquiescence in the belief of any extraordinary fact, until they have examined the foundation on which it rests. I have annexed some representations of the bulb of the large purple Orchis mascula, which will fully refute the belief which obtains of that order of plants bearing double bulbs, and will also exhibit the extraordinary change which takes place in the form of the bulb from its early state of growth to the time it has attained perfect maturity; and respecting the difficulty of removal, I can aver from experience, that there will not be found any circumstance necessary to be regarded, but what occurs in the transplantation of all other bulbous flowers during the periods of their growth; and as the large purple Orchis will be found peculiarly ornamental in the borders of the mingled flower-garden, our trouble in bringing it thither will be well repaid.

As this Orchis is usually found growing in hay meadows, and the leaves having generally disappeared before the grass is cut, it is commonly expedient that it should be transplanted in a state of active growth, and I should recommend the removal of the plant to take place as early in the spring as its beautifully spotted leaves have attained about half their size; when, if it be taken up with a clod of earth completely enveloping the root, and carefully shaded, and occasionally watered, it will rarely fail of producing a vigorous flowering bulb the ensuing year, and might probably bloom the year of removal; but in order to strengthen the root, it will be better to pinch off the flower-stem as soon as it appears, as during the time of flowering a large portion of nourishment is drawn by the fructification from the old root, and consequently the newly forming bulb is robbed of its due share of sustenance.

FLORIST'S MANUAL.

LONDON HORTICULTURAL SOCIETY.

EXHIBITED AT THE ROOMS IN REGENT STREET.

July 4.—II. M. DYER, Esq. V. P. in the chair. Several presents were announced, but none were of particular importance. No papers were read, and the attendance was not numerous.

Mrs. Lawrence exhibited an extensive collection of plants. The most prominent object was *Brugamansia bicolor lutea*, a yellow variety, like the old *Datura arborea*, and *narcoti*, being used by the Mexican priests of Guatemala in the religious rites. The other plants was a beautiful specimen of *Gesneria facialis*; a superb tray of *Geraniums*; *Polygala cordifolia*, *Campylia tricolor* and a new species; a new white *Agapanthus*, *Pimelia decussata*, *Gesneria splendens*, *Lechenaltia oblata*, two species of *Polygalla* *Bracata*, *Pimella Rosea*, and a tray of heartsease. The large silver medal was awarded for the collection.

Mr. Leveson Gower exhibited several double yellow Roses of great beauty. The growth of this rose is very uncertain, and its cultivation very difficult, as there is no plan to make the flower grow, it appearing as it could only be developed in certain places. The silver Banksian medal was awarded for the same. Mr. Slater exhibited a collection of Irises and Roses, Mr. Hooker, of Brenchley, a very extensive variety of roses, and Messrs, Colley and Hill a very handsome collection of *Pelargoniums*.

Mr. Fairbairn exhibited five varieties of *Erica Ventricosas* named as follows:—*E. V. fragrans cocinea*, *E. V. superba*, *E. V. coccinea*, *E. V. fragrans*, and *E. stellata*, as also a curious plant *Erica Giraphaloides*. A silver Knightian medal was awarded. Mr. Bateman exhibited *Cychnoches ventricosum*, a curious orchideous plant, the flowers growing naturally pendant in a swan-like form, and *Stanhopea oculata*, the flowers of which were curved like the horn of an ox, having marks on the lips resembling eyes. The odour was somewhat that of concentrated Vanilla, which in a hothouse was very oppressive. For these the Knightian medal was awarded. Mrs. Marryatt exhibited a new Cape Bulb, grown under the protection of a frame, and a cut specimen of a new solanum.

Mr. Charlwood exhibited a part of an interesting and extensive collection of Cactaceous and Orchideous plants, collected by M. Deschamps, during a residence of seventeen years in Mexico. The appearance of many were extremely unlike any that had been previously seen, and they exhibited the effect of cultivation, it being a matter of taste which were most to be admired.

The flowers from the gardens of the society were *Clinton elegans*, a pale flower, and better than the *C. pulchella*, the flowers being in better perfection about a fortnight ago. *Penstemon venustus*, a hardy plant, brought by Mr. Douglas from north west America, easily cultivated, and one of the most beautiful of the species; *Æthionema Membranacea*, a plant well suited for a rock or dry places; *Ceanothus azureus albus*, a graceful white flower; *Euto viscida*, a plant just beginning to be known, bearing beautiful blue flowers

only to be rivalled by the Laraspur, hardy in the gardens, and easy of cultivation, and possessing the quality of living longer in water than any other cut flower; *Lychnis bungeana*, a hardy plant growing in the open air, from Russia, and the north of China, and *Antholyza grandiflora*, a beautiful bulb but not sufficiently known, the plant having grown in an open pit for several years without heat, and merely protected by a frame. The remaining flowers consisted of garden and China Roses; *Solanum asperolanatum*; *Crinum Amabile*, *Quisqualis Indica*, *Combretum purpureum*, *Alstromeria pulchella*, *Fuchsia discolor*, *Lupinus nanus*, *Collisinia bicolor*, *Oxyum Chrysanthemoides*, *Gilia Achilæfolia*, *Hocksakia Sp.*, *Eriophyllum cœspitosum*, and *Sedum azureum*.

FIFTH EXHIBITION (PUBLIC) OF THE METROPOLITAN SOCIETY OF FLORISTS AND AMATEURS.—August 24th.

DAHLIAS.—Best collection with name attached, no limit and open to all classes, gold Adelaide Medal, value 7l. 10s. Best fifty dissimilar blooms, by nurserymen and others, King William and Adelaide Medal, and small medals to all others the judges may think worthy, not exceeding one half of the stands exhibited. Best twenty-four in stands of the society similar prizes.

Best twenty-four amateur members, ditto. Best twelve amateur members growing under two hundred plants, ditto.

No amateur to exhibit in both classes.

SEEDLINGS.—As the amateurs appoint judges from the dealers, and the dealers appoint judges from the amateurs, the Committee will instruct such judges to select from the seedlings exhibited all flowers of first-rate quality without limit, and none other, for prizes, which will, in such cases, be the small Adelaide medal. The Committee will afterwards appoint competent persons to report to them whether any one or more of such flowers shall deserve a higher distinction, which the Committee hold themselves in readiness to award, even up to the gold medals, should they seem worthy of such distinction.

ROSES.—Collections of fifty bunches, for all classes, and twelve bunches for amateurs. Prizes and entries as in April.

FLOWERING PLANTS.—The best collection of any kind without limit. Large King William Medal, Adelaide Medal, and small ditto.

Entrance—Stands of Dahlias or seedlings, each 1s.; non-member's stands, 5s.; seedlings, 5s.

Notice of showing to be given on before the first Tuesday in August.

GRAND SALT-HILL ANNIVERSARY, SEPT. 2.

DAHLIAS.—One hundred blooms, dealers, gold medal, value £7. 10s.; one large medal, £3.; one Adelaide Medal, 30s.; small medals, 15s. to make up two-thirds of the number exhibited. Twenty-four blooms, dealers, similar prizes. Fifty blooms, amateurs or their gardeners, similar prizes. Twenty-four blooms, ditto similar prizes. Twelve blooms, amateurs growing under two-hundred plants, large medal, Adelaide Medal, and small medals to make up the number to two-thirds of the stands exhibited.

SEEDLINGS AS IN AUGUST.

ENTRANCE—Members, 5s.; non-members, 10s. Seedlings—Members, 2s. 6d.; non-members, 5s.

Notice to be given on or before the first Tuesday in September.

Persons who win several medals in one day, or during the season, may add their value together, and have the amount in larger medals, or either of the gold medals.

At the conclusion of every show, an order for the medals, or the stipulated reduced sum of money, is to be delivered to the winners.

Circulars to the above effect were ordered to be forwarded to the members

It was determined that, at their evening meetings, on the 1st and 3d Tuesday in every month, the Committee would distribute prizes for any production of extraordinary rarity or merit which shall be exhibited; such productions to be placed in the room before six o'clock; and such members of the Committee, as may be assembled within the committee-room, should after viewing the productions, retire again to their room to decide if any, and what rewards should be given. The chair to be taken, at the evenings meetings, at seven o'clock, when the prizes awarded should be delivered.

FLORICULTURAL CALENDAR FOR AUGUST.

GREENHOUSE PLANTS.—All exotic trees and shrubs belonging to this department, that are in want of large pots, or refreshment of new soil, should (if not performed last month) be immediately done. This is the proper time to propagate Aloes Sedums, and all others of a succulent nature, by means of suckers or bottom offsets; when detached from the parent, they should be potted singly into small pots, using light dry compost, and watering sparingly till they have taken root. Azaleas, the greenhouse kinds, will have firm young wood, insert them firmly in sand, and cover with a bell-glass. In the first or second week at farthest, inoculation may be performed on any kinds of the Citrus genus. Camellias to bloom early, should be put in a warm stove or greenhouse.

FLOWER GARDEN.—Due care must be taken respecting watering any kinds of annual, biennial, or perennial plants, that may be in pots. Propagate by means of slips, and parting the roots, of any double-flowered and other desirable fibrous-rooted perennial plants done flowering. Likewise increase by offsets the different kinds of Saxifrage. Auriculas should be cleared of all dead leaves, and shifted into fresh pots; prick out of the seed-bed seedling Auriculas and Polyanthuses, in a shady situation: seeds of both kinds may also be sown in boxes or pans. Carnations may still be layered, also Sweet-williams, the earlier in the month the better. Also plant out pink pipings, which were put in June. Sow seeds of all kinds of bulbous rooted plants in pans or boxes, such as spring Cyclamen, Anemonies, Ranunculuses, &c. &c. Those kind of bulbs wanted to increase should be taken up, if the leaves be decayed, and the offsets taken off. Transplant into nursery beds seedling, perennial, and biennial plants sown in spring. In dry weather gather those flower-seeds that are ripe of any desired kinds of autumn-flowering bulbs that yet remain unplanted.

Mignonette to stand the winter in pots, should be sown early in the month, have no fresh dung in the soil. Rose trees may still be budded. Double Rockets out of flower, should have the stems cut down, to cause new shoots to push, or the shoots in general, die. Calceolarias intended for late blooming should have the branches cut down, and be re-potted, or take off and pot offsets.

REFERENCE TO PLATE.

The very beautiful Ranunculus we give in this month's plate are seedlings raised by Messrs. Tyso and son, Wellingford, Yorkshire, and cannot be but much admired for their superior properties, we hope Messrs. Tyso and Son will be amply rewarded for their trouble.

No. 1. DIADEM.
No. 2. GOVENOR.

No. 3. ADOLPHUS.
No. 4. VICTORIA.





Adelaide d'Orleans Rose

Anagalis lilacina

THE
FLORICULTURAL CABINET,

SEPTEMBER 1ST, 1837.

PART I.

ORIGINAL COMMUNICATIONS.

ARTICLE I.

FURTHER REMARKS ON THE CULTURE OF THE TREE ROSE.

BY ROSA.

THE increasing number of splendid varieties of the much esteemed family of Roses, and their admission into every flower garden, and pleasure ground, being a desideratum, induces me again to resume the subject of their culture as standards. During the present summer I have been much struck with the increasing taste for their culture on lawns, and to exhibit their splendid heads in the centre of a flower bed, or back part of a border.

In remarking on the growth of a tree rose, I must observe that the rings round the bottom of both stem and branches are the depositaries of a dormant bud, which will not be called into action unless the buds above be injured, or unless the sap arise so profusely as to be unable to expend itself by the upper parts, in which case the buds below break out; though, indeed, they will occasionally do so, as the natural act of the tree in preference to rising higher. This is more observable in the wild rose than almost any other plant, and perhaps may, in some degree, explain the reason why budded roses are shorter lived than those on their own bottom; for any one who has at all observed the growth of wild stocks, must have noticed that the original head is seen

generally on hedges in much worse plight than the shoots which have been subsequently formed at its base. This tendency of the dog-rose to break out below, must be checked in two ways; the first, by destroying every sucker and shoot as it starts, and the second, by finding full work for the sap above, and by giving it a free passage.

If then, in cutting the top of a tree at pruning time, you leave a couple of buds on every shoot of last year's growth, or three at most upon a very strong one, there will be quite enough to occupy the sap, keep the tree within bounds, make it much handsomer, save the sap the expence of maintaining old wood, and give it a free course. If there be more sap than enough, a fresh shoot will likely enough start from the crown of the graft, or the rings upon the first year's shoot, and increase the head of the tree, as well as bring you back with new wood nearer home—a matter always desirable as tending to keep the head from straggling.

Cutting to the lowest buds always leaves the sap with but a short channel to pass through, strengthens the branch below the buds, and is every way beneficial, if care be taken that a sufficiency be left to occupy the sap.

If the tree be not pruned at all, it will lose its shape entirely in a single year, afford little or no bloom the next, and eventually straggle to death.

Trimming the shoots has nothing essentially different in the manner of execution to trimming the stock; in trimming to a bud, barely the thickness of a sixpence should be left above the bud, and the excision should form a slant about equal to that caused by dividing a square from angle to angle: if more were left above the bud, it would die down to the bud, and prevent the bark from healing over the wound; in general, the line of the bud is the slant the knife should make it its passage through the shoot.

Cutting out old wood should always take place where it can; the desirable point being to keep near home, as it is called; when, therefore, your tree throws out a fresh and vigorous shoot, close to the base of an old branch which has straggled too far from the graft, cut out the old wood in March, close to its base, leaving the young shoot to supply its place, and receive its nourishment. This principle well applied, will always keep the trees in bounds; but as this requires judgment, and cannot well be explained in

writing, take a lesson upon the subject, the first convenient opportunity, from a scientific gardener.

A tree well formed, with a promising head, and in health, ought, the spring succeeding the budding, to have a clean straight stem, no lumps or knots, one shoot quite at the summit, and two, or at all events, one other shoot as near as possible also to the top; if there are two shoots only, at opposite sides to each other; if three, forming a triangle, if more as nearly equidistant from each other, in the diameter of the stock as possible, (and here be it observed, that the more shoots, at the top of the tree, the handsomer and quicker is the head formed,) each with a bud inserted in it, close to the stem: and at the cross cut, where the bark of the bud usurps the place of the original bark of the stock, a sufficiency of sap ought to have exuded, not only to have joined the bark of the bud with the unmoved part of the bark above it, but also to have joined the separated part of the bark of the stock to the same place, and thus linked the two barks of bud and stock to the single bark of the stock above them.

The edges of the vertical slit in the bark do not heal by attaching themselves to each other, but the bark of the bud underneath them forms a connecting link, and the edges above mentioned perish insensibly away, leaving little or no scar behind. The second spring, the tree becomes more perfect, the extraneous parts of the stock, if any remain, are cut off, as well as those of the shoots, and the head so arranged as to throw its buds where they are wanted to make it round, even, and handsome. If, however some shoot be obstinately bent on growing in any direction, spoiling the appearance, and crossing the others, by no means remove it on that account alone, but place a little twig across from it to any other convenient branch, and confine it for the season as you wish it to be, removing the ligature in the succeeding spring, or even in the same autumn when the sap is down.

Lastly, the third spring the tree should show itself with all its wounds nearly closed, its buds strong, full, and healthy, and it should look perfectly natural, those parts of the shoots upon which the buds were placed more incorporated with the stock. The bark clean, no dead wood; and wherever a shoot has been shortened, the place so grown over as to leave no dis-sight, which will be the case for some time wherever any wood more than one season old is cut away, and a thin shoot of a single year

springs at the end of it. This is the reason why forest trees look so ill when shortened as old ones, viz. that the taper appearance is destroyed, and wood of five or six years' growth is continued by the shoot of a single spring, and thus a piece of wood, of the diameter of half a dozen inches, has a little mean looking shoot, or in all probability half a dozen, not thicker than horsewhips, at the end of it.

Whatever it is worth while to do, it is worth while to do well; work properly commenced does not require that constant superintendance which a bad beginning is certain to render necessary, and which eventually involves a much greater expenditure of time than any labour bestowed at the outset could have demanded.

Having thus brought our subject to a close, as to the operative part, in preparing and perfecting the tree, it may not be amiss to spend a few moments in the consideration of the effect expected to be produced by it when planted out.

There are three causes of beauty in a tree, shape, foliage, and flowers. Shape (to a certain degree) we artificially gain, foliage and flowers must depend upon the sort; the foliage is the more permanent, the flower the more striking. Planting out, then, must depend entirely upon the effect desired, and the taste of the party planting, as to variety of foliage, height, flower, its colour and continuity; a tree with rambling shoots suits one place, and with a cauliflower head another. The tree roses never look well in a round clump; they must have a single appearance, or be in some sort of line.

If your roses are to look, when finished, like a sloping bank, plant your heights in succession, viz. each under each; but if they are to have a less forced and regular appearance, and a more single and light look, leave out an intermediate height, as thus: a two-feet in front of a three-feet, &c.

Be it observed, that a three to four foot standard is most in keeping with the head it carries, and being nearer the ground, has a very natural and steady effect, and in confined places, it is unquestionably best in its appearance; but if the tree is to be distant from the eye, or the shrubbery, or walk be large and increasing indistance, a four-foot standard is certainly more distinguishable, and has a much greater effect.

A foot standard is of little or no use, except it be intended to approach the edge of a border, or is grafted for the conveni-

ence of affording nosegays or increasing the quantity of the plant placed upon it.

The heights most in use having been shown, it may be remarked, that for a weeping rose to stand singly, (perhaps surrounded with a wire guard and creepers upon it to have a more marked effect,) you cannot find a stem too high, if it be proportionally strong. A fine plant of this sort, six, seven, or even eight feet high, budded with a noisette, or boursalt, looks beautiful, and its long free branches, covered with clusters of roses, have a wild and luxuriant appearance, which give a distinct character to a tree budded in this way.

Thus having arranged where the plants are to be, and having made the earth good all around, stake up each tree with a neat, clean hazel stake, (unless the stock be so strong as not to require it,) saw off the top level with the top of the wild stem exactly, a matter that conveys a great air of neatness, and with a piece of bass, or better a small strip of pitched rope, attach your tree to the stake.

ARTICLE II.

A LIST AND DESCRIPTION OF CARNATIONS,

BY PENSEE,

(Continued from p. 132.)

PICCOTEES.

WOOD'S AGRIPPINA. (*purple.*)

I BEFORE alluded to this flower, which I designated "The Prince of Piccotees, I therefore give it first place in my remarks. It is a model by which I would recommend judgment to be formed. The leaf, a beautiful white, is perfectly round, or what is termed rose-leaved, is delicately edged with a brilliant purple, so equally distributed, that Nature's best artist seems to have been employed on the work, and so well has he performed it, that I trust he is at the present time most busily employed on a seed bed of mine, now coming into bloom; though I imagine, from the number and goodness of the flowers raised by Wood, that he keeps this first rate artist in his constant employ.

JEEVES'S MOON RAKER (*purple.*)

Is RATHER heavily edged, without being termed in the least degree pouncy, a fault often found in flowers of a similar character. The richest purple on a very clear and sparkling ground, gives a brilliancy rarely met with, but when found, should be prized as I know this flower must be by all who have grown it.

ROSALIC DE ROHAN. (*yellow.*)

Like chastity, which it is said, wipes off many sins, or imperfections in our nature; so does the strikingly beautiful colour in this flower, make amends for a most defective ragged petal; another property (and one most desirable to exhibitors) must be also thrown into the scale against the imperfect leaf, that of remaining in bloom for many days longer than any variety I am acquainted with. The colour is a bright pink, on a beautiful yellow ground; the plant throws plenty of grass and a good shaped pod. It requires but little protection in the winter, being hardier than most of the yellows.

PRINZ VON ORANIUN. (*yellow*)

I remember some time ago asking Hogg to name the best Picotee, he without hesitation replied, "The Prince of Orange." but as many new and fine varieties must have come under his observation since that time, I cannot say if he continues in the same opinion, not having had any conversation with the Veteran for some two years or more. I have thus lost much information which mixed up with these remarks, would have, perhaps, made them valuable to your readers. Notwithstanding the danger of offering an opinion against so good a judge; I cannot but say that I think the numerous small petals in the flower, to say nothing of the soundness of the pod (always so difficult to bloom) must place it far beneath the enviable situation given it by Hogg. I admit that the colour is very beautiful, and I think unique, and that the petal is perfect in shape. I recommend each plant to be allowed to bloom two pods, or difficulty will be found in preventing it from bursting.

WOOD'S CHAMPION. (*red*)

Should be in every collection, and it is certainly no fault of the plant that it is not, for it constantly throws as much grass,

as ought to intimidate every monopolizer of hay in these dear times. The plant is dwarf, the pod well formed, requiring but little attention to bloom it, the shape of the flower is excellent, the white very fine, but the red rather dull, yet even with this imperfection I think it would be difficult to find a better red Piccotee.

WOOD'S COMET. (*red.*)

To describe this flower, would be repeating all I have said of the Champion, they resemble each other so much, I doubt if Wood himself can find a difference. One may be said to be the Dromio of Ephesus, the other Dromio of Syracuse resembling each other so much, that one often got bastinadoed for the other's faults.

PENSEE.

To be continued.

ARTICLE III.

ON THE PROPAGATION OF HALF HARDY AND SOFT WOODED GREENHOUSE PLANTS.

BY MR. W. H. ST. CLAIR, OAK PARK, GALLOWAY.

In a former paper I detailed the method practised by Mr. M. Phail, in propagating pinks. At that time I did not wish to occupy too much of your pages in one article, I beg now to subjoin a few more remarks on the method in question; for some years past I have entirely discontinued the use of hand glasses in propagating any soft wooded greenhouse, or half hardy plants, that have fallen under my charge, and, except when I have occasion to propagate early in the spring, I find Mr. Phail's method is a far surer mode of propagating, than by using hand glasses, or giving cuttings the "gentle bottom heat" so highly recommended by some. In propagating cuttings under a hand glass, a shady situation is generally selected, and great care is taken to keep off the sun's rays from affording the least heat to them; this is easily done, for a more unfit form for raising heat; than a hand glass has, cannot be well imagined; it never occurs to the person who uses them in propagating soft wooded plants, that a volume of cold moist air is not as good for raising cuttings as one fourth the same quantity of moist heated air, is; in like manner, in propagating under frames, the sun's services are almost entirely dispensed

with, a bottom heat substituted, in place of them; in Mr. Phail's method, cuttings are forced in a comparatively short time to send out roots, and though a few cloudy days together may seem to argue against it, no bad effect, from such a cause, has ever fallen under my notice. In selecting cuttings for this mode of culture, I use only young, or at most half ripened cuttings, detaching them with the hand from the parent plant when practicable, and after trimming off a few of the large leaves, I insert the heel, or lower joint of the cutting; I give the frame a full south aspect, and raise it a few inches as directed for pinks; I allow only two or three inches between the top of the cuttings and the glass, and give them no air till they have given evident proofs of their having struck root, I shade the sash with several folds of net, pieces of paper, or a thin mat, removing it between four or five in the afternoon; on giving a good watering at planting I find very little more suffices them for the first fortnight, owing to the sash being kept close down; when rooted, I increase the air gradually. I have used frames of all sizes, from one of six inches by nine, to one of six feet in length, and except that I find it more difficult to equalize the temperature in a small frame, I find little difference in the success of the cuttings. I must add, however, that a large sash requires the shading to be a little closer than a small one. If a mixed collection of cuttings is to be put into the same frame, they should consist of such as require about the same time to strike root, and by mixing up a compost of light loam, vegetable mould, or peat and sand, under the treatment detailed above, a good many kinds may be propagated in the same frame.

Before concluding, I beg leave to enumerate a few of such sorts as yield most readily to this mode of treatment, and such as I have propagated for the last three years. Pinks, Carnations, Geraniums, (tricolor included,) Sollyas, Myrtles, Cistuses, Calceolarias shrubby and herbaceous, Fuchsias, Pansies, Salvias, Verbenas, Lophospermums, Petunias, &c., from the certainty and facility, with which the above and many other plants of similar habits may be propagated, I have no hesitation in recommending the method to any of your readers who may feel inclined to try it, and I have every reason to think, if they try it once with cuttings, and subject those cuttings when potted, to similar treatment for about ten days, they will be induced to try the same method again.

ON STRIKING AND SUBSEQUENT CULTURE OF THE ORANGE,
AND CITRON.

BY MR. W. WHALE, ELCOT PARK, NEWSBURY, BERKSHIRE.

I BEG leave to communicate to you my mode of cultivating the Orange and Citron, which I have practised for many years with great success, which may be of service to some of your subscribers—that is from single eyes with a leaf attached to it; I immerse the eye in the mould about half an inch deep, and they begin to make roots very soon, sending up a strong shoot at the same time. I have stuck fifty to a hundred in a large sized pot, and scarce one of them failed, and of course a plant on its own bottom is preferable to a plant introduced on another stock. When potted, they should be watered liberally, and introduced into dung heat and shaded. I find they strike most readily in a cucumber bed, the pots plunged to their rims. The compost I generally use is rich loam and rotten dung, the pots well-drained, and about three inches of soot at the bottom of the pot, if a little old mortar, so much the better. I also find the Dahlia strike very freely from single eyes, and much the best mode for summer propagation when you wish to propagate valuable seedlings, as they make strong plants by autumn. I also find *Bigonias* strike freely by the same method. If you think this worthy of a place in your Cabinet, you are at liberty to publish it.

W. WHALE.

ARTICLE V.

ON PROPAGATING EVERGREENS.

BY PRIMULUS SCOTICA.

I HAVE lately observed a method most successfully practised by a friend of mine in Argyleshire, which is not, I think, sufficiently known. He plants in an oval or circular space, prepared as usual, as many shoots of the year's growth as it will hold closely placed; he fences the plot with brushwood, and never thins them. In three or four years the shoots unite into an extended and beautiful bush, and in two years they are an ornament to the woods and shrubberies.

My friend has some fine old Laurels, with bare and unsightly

stems, he has planted round them, at the distance of a foot or more, a number of these shoots, and the effect is extremely good, as they soon unite with the old bush, and continue its dark foliage down to the ground. This plan answers best with the Laurel and Laurestinus.

PRIMULA SCOTICA.

ARTICLE VI.

A DESCRIPTION OF THE MIMULUS CARDINALIS COCCINEA, &c.

BY MR. BARRATT.

WHEN the above plant figured in your interesting Work, it was an object of universal admiration, consequently it was much in demand, but when the plants thus purchased flowered, there was a general disappointment, it proved a dingy bad spotted red, and thus the plant fell into great disrepute, indeed the very mention of the name, seemed to excite disgust. However, happening last year somewhere to see a plant in bloom which very nearly answered the colour (not exactly the shape) of the one you figured, I purchased it under the name of *Mimulus Cardinalis coccinea*, it is now in full bloom, several stems near six feet high, covered with splendid scarlet blossoms, six or seven hundred at least; it has been greatly admired, and I think, has removed the existing disgust, from the minds of all who have seen it. I think I never saw a more splendid plant, and at the same time emitting a most delightful musky fragrance, and appears to me to be a very desirable plant. Since purchasing the above plant I have got another variety which I call *M. Car. picta*, the ground colour is the same as the *M. C. coccinea*, with a large dark spot in the centre of the flower, about the size of a shilling; this also promises to be a very desirable plant, either for early forcing in a greenhouse, or for flower borders in summer. I should not have ventured to trouble you with this account, but I really think, such showy plants so cheap (see Advertisement in the Cabinet for June 1837), and so easy of cultivation, that is, grow it in a rich soil, and supply it with plenty of water, in rather a shady situation: it would really be a matter of deep regret should such plants not be grown in almost every garden in the kingdom.

W. BARRATT.

ARTICLE VII.

ON WATER AND WATERING PLANTS,

EXTRACTED FROM AN OLD AUTHOR BY CLERICUS.

THE subject of water, or watering plants has not been as sufficiently examined into as it merits. I am convinced that a great deal of ignorance is displayed in the practice of giving water to plants, both as to its quality and quantity. I have recently met with some useful observations on these matters in a Gardening Book, near two hundred years old, and confident that they would be serviceable to the readers of the Cabinet, I have transcribed them for insertion therein. The Author observes,

“Water is one of the most considerable requisites belonging to a garden : if a garden be without it, it brings a certain mortality upon whatsoever is planted. By waterings the great droughts in summer are allayed, which would infallibly burn up most plants, had we not the help of water to qualify those excessive heats. Besides as to noble seats, the beauty that water will add, in making *Jet d’eaux*, canals and cascades, which are some of the noblest ornaments of a garden.”

“Sir Isaac Newton defines water (when pure) to be a very fluid salt; volatile and void of all savour or taste; and it seems to consist of small, hard, porous, spherical particles, of equal diameters, and equal specific gravities; and also that there are between them, spaces so large, and ranged in such a manner, as to be pervious on all sides.”

“Their smoothness accounts for their sliding easily over the surfaces of one another.”

“Their sphericity keeps them from touching one another in more points than one; and by both these, their frictions in sliding over one another, is rendered the least possible.”

“The hardness of them accounts for the incompressibility of water, when it is free from the intermixture of air.”

“The porosity of water is so very great, that there is at least forty times as much space as matter in it; for water is nineteen times specifically lighter than gold, and of consequence rarer in the same proportion. But gold will (by pressure) let water pass through its pores; and therefore may be supposed to have (at least) more pores than solid parts.”

“Mons. L’Clerk says, there are these things observable in water, which naturalists study to know and account for.”

“It is transparent; because as some are of opinion, it consists

of flexible particles like ropes, which are not so close as to leave no Pores; nor so entangled but that there are right lines enough to transmit the light."

"For since the particles are not joined close together, and are in perpetual motion, the very fine particles of light do easily pass through their right lines; unless the water be very deep, or be put into motion, by some outward cause. Then indeed the transparency of water is very much obstructed, and it looks of a cloudy obscure colour, as it is obvious to sight in a rough sea: For at such a time, the vehement agitation of the water disturbs their pores, and spoils their straightness."

2. "Water is liquid, but capable of being fixed: water seems to be liquid for the same reason as other bodies are so. For since the particles of it are flexible, like ropes, and leave pores between one another, which are filled with finer matter, when this matter is put into a vehement commotion, the particles are easily tossed about every way: yet when the motion of this restless matter is restrained as it is in winter, then the water congeals into ice; whether this comes of cold only, or there be besides nitrous particles, which fall out of the air at that time, and with their rigidity fix the watery particles."

3. "It may be made hot or cold. The particles of water being, as has before been said, ice, is soon dissolved by the motion of the particles of fire: for the particles of fire, getting into the pores of the ice do mightily shake the fine, flexible particles of ice, and restore them to their former motion in a little time.

"But if this water be set in cold air, the fiery particles will quickly vanish, and the water will become as cold as before.

4. Water easily evaporates by the heat of fire or air. This is because its particles are quickly separated, and got into motion; so that the airy particles easily carry those of the water about with them.

5. It is heavy if compared with air and other bodies, but much heavier than air. It has been shown by various experiments that the gravity of the air, in the place where we live is to that of water, as one to eight hundred, or something more; so that water is about eight hundred times heavier than air. And for this reason, and for no other a bladder, or other thing filled with air, can hardly be sunk under water; and indeed, to make air sink, there must be a weight added to it, that shall exceed the weight of the water, as much, and something more, than

that of the water exceeds that of the air. Hence it comes to pass, that water easily supports wood, and vast ships fraught with the heaviest cargo; for the weight alone will never sink them, unless the goods and the vessel should make up a weight which exceeds that of the water; and as salt water is heavier than fresh, so it bears greater weight.

“Those things which are heavier than water, as stones, metals, &c. when they are thrown into it, go straight down to the bottom; and as their weight is greater, by so much the quicker: while other bodies which are the same weight with the water, do neither float on the surface, nor sink quite down, but remain suspended between the top and bottom, as is seen in the carcasses of animals.

“6. Water is insipid and without smell. The reason is, because its flexible parts slip gently over the tongue, and are not sharp enough to prick the nerves and affect the taste: but this is to be understood of pure water, void of all kind of salt; such as distilled water is, and next that of rain: for the most wholesome fountain water commonly derives a saltness from the earth; though in this place is not meant medicinal fountain water, the taste of which is more acute, but such water as is usually drank.

“And that it is without smell. The purer any water is, the less smell it has; for the reason why the particles do not prick the tongue is likewise the reason why they dont affect the smell; the flexibility and smoothness of water, is such, that they cannot penetrate the olfactory nerves; fountain water has indeed some smell, but then it is a sign that such water is not pure.

7. “Water is subject to putrify according as the place is where it is kept. Water will grow thick and stinking, by heat and rest as we find it does in ponds and marshes, and in close vessels. But here it ought to be remembered, that this was what was spoken of before, as such, water is not pure, for un-mixed water cannot putrify. This is proved by distilled water, which may be kept very long without putrefaction.

“Rain water which is caught in clean vessels and presently stopped up close and buried under ground, which is kept many years in countries where they want fountains. This shews that the cause of putrefaction is not in the water itself, but in other things that are mingled with it; because pure water, such as is distilled or comes out of the clouds, keeps sweet for a vast while. But then those vessels, in which such water is kept, must be so

well stopped, that the least fly may not get into them, and they must be made of such stuff as will not corrupt, such as glass or clay.

“ But for standing water in ponds or marshes, that is corrupted two ways.

“ By the nature of the soil, which often abounds with noisom sulphur, whereby the water is impregnated and comes to smell in warm weather; as it does at Amsterdam, not only in the trenches, but wherever the ground is opened for the foundation of houses. This putrefaction is owing to the soil, and not to the water.

“ By the nasty things that are thrown into it, or bodies of insects which die in it; as also by the eggs of flies, which are dropped about wherever they go, and breed worms. Water is corrupted in wooden vessels, especially at sea, by the sulphureous parts of the wood, and by uncleanly things, as flies, eggs, &c.

“ Water penetrates the pores of those bodies, whose pores are wide enough to receive its particles. Thus it enters the pores of sugar and salts, so as to separate and quite dissolve their particles; but it cannot get into the pores of stones, or but a very little way; so that it only wets the surface, without diluting them; hangs on the outside of them because they are rough, and because the extremities of their pores are open a little way. But such bodies when they are wet are soon dried in the air, because the motion of the airy particles, carries off the soft and smooth particles of the water.

It is observable that if bodies rubbed over with oil or fat be dipt in water, they get very little wet, because the roughness of their surface wherein the water should hang is smoothed and made even by the fat, and the mouths of the pores are closed up, so that there is nothing left for the watery particles to hold by, and therefore they must needs slide off.

“ Dr. Cheyne observes, that the quantity of water on this side of our globe does daily decrease; some part thereof being every day turned into animals, metalline, mineral and vegetable substances, which are not easily dissolved again into their component parts; for if you separate a few particles of any fluid, and fasten them into a solid body, or keep them asunder one from another, then they are no more fluid: for a considerable number of such particles are required to produce fluidity.

“ Most liquors are formed by the cohesion of particles of dif-

ferent figures, magnitudes, gravities and attractive powers, swimming in pure water, or an aqueous fluid; which seems to be the common basis of all.

“ And the only reason why there are so many sorts of water differing from one another by different properties is, that the corpuscles of salts and minerals, with which that element is impregnated, are equally various.

“ Wine is only impregnated with particles of grapes, and beer is water impregnated with particles of Barley, &c. All spirits seem water saturated with saline or sulphureous particles.

“ And all liquors are more or less fluid, according to the greater or smaller cohesion of the particles, which swim in the aqueous fluid; and there is scarcely any fluid without this cohesion of particles, not even pure water itself, as will appear from the bubbles that will sometimes stand on the surface of it, as well as on that of spirits and other liquors.

“ Water adds much to the growth of bodies, in that it both renders and keeps the active principle fluid; so that they are capable of being conveyed by circulation into the pores.

The learned Mr. Halley has demonstrated, that if an atom of water be expanded into a shell or bubble, whose diameter shall be ten times as great as before, such an atom would be superficially lighter than air, and will rise so long as that flatus, or warm spirit which at first separated it from the mass of water, shall continue to distend it to the same degree, but when that warmth declines, and the air grows cooler and withal specifically lighter, these vapours will stop at a certain region of the air, or else descend.

“ Therefore, if it should be supposed that the whole earth were covered with water, and that the sun should make his diurnal course round it as now he does, he is of opinion, that the air would be impregnated with a certain quantity of aqueous vapours, which it would retain in it, like salts dissolved in water, and that the sun in the day time warming the air, that part of the atmosphere would sustain a greater proportion of vapours (as warm water will hold more salt in it dissolved than cold) which by the absence of the vapours at night would be discharged into dews.

“ And in this case he concludes there could not be any diversity of weather other than periodically every year alike; the mixture of all terrestrious, saline, and heterogeneous vapours

here being excluded, which he judges to be, when variously compounded and driven by winds, which are the causes of these various seasons, and changes of weather which we now find.

“ But instead of supposing an earth covered all over with water, you suppose the sea interspersed about wide and spacious tracts of land, and also divided by high ridges of mountains, such as the Alps, the Appenine, and the Pyrenean in Europe; the Caucasus, the Inaus, and the Taurus in Asia; the mount Atlas of the Moon in Africa; the Andes and Apalatean mountains in America; each of which surpasses the usual height to which the aqueous vapours do of themselves ascend; and on the tops of which the air is so cold and rarified, as to retain but a small portion of these vapours, which are brought hither by the winds.

“ Then the vapours thus raised from the sea, and carried by the winds over the low lands to those ridges of mountains, are there compelled by the streams of the air to mount with it up to their tops, where the water presently precipitates, gleeing down by the cranies of the stones; and part of the vapours entering into the caverns of the hills, the waters thereof gathers, as in an alembic in the basons of stones; and these being once full, the overplus water runs down at the lowest place of the bason, and breaking out by the sides of the hills, forms single springs; many of which running down by the vallies or guts, between the ridges of the hills, and after uniting, form little rivulets and brooks, and many of these meeting again form large rivers.

“ Dr. Woodhouse has made these useful experiments of water following:

“ He tells us, that he chose several glass phials, which were all as near as possible of the same shape and bigness; that he put water into every one of them, as much as he thought fit, and took an account of the weight of it, then strained and tied a piece of parchment over the surface of each phial, and made a hole in the middle of it large enough to admit the stem of the plant he designed to set in the phial, without confining and straitening it so as to hinder its growth. This design was to hinder the enclosed water from evaporating or ascending any other way, than only through the plant that was in it.

To be continued.

PART II.

LIST OF NEW AND RARE PLANTS,

Noticed since our last

1. DELPHINIUM INTERMEDIUM VAR. PALLADIUM. *Pale blue variable Larkspur.*

RANUNCULACEÆ. POLYANDRIA TRIGYNIA.

This very neat and handsome flowering variety, well deserves a place in every flower border, where plants growing seven feet high can be admitted. The foliage is smoother than the original species, of a delicate glaucous green. The flowers are produced in long spikes, of a fine light sky-blue colour, which produce a charming appearance. We have had plants of it blooming eight feet high, with racemes of flowers nearly five feet long. *Delphinium* from *delphin* a dolphin, the resemblance of the nectary.

2. EUCHARDIUM CONCINNUM. *Pretty flowered.* [Bot. Mag. 3589.

ONOGRARIE, TENTANDRIA MONOGYNIA.

This neat and pretty flowering annual, is a native of Ross in New California. It appears to be allied to *Epilobium* and *Clarkia*. The stems rise about eight inches high, each terminating by several flowers of a fine rose-colour, with deeper spots and paler veins. Each flower is an inch across. It blooms freely in the open border from July to the end of summer. *Eucharidium*, from *eu, bene*; and *charis gaudium*, alluding to the lively appearance of the flowers.

3. EULOPHIA MACROSLACHYA. *Long spiked.* [Bot. Reg. 1972.

ORCHIDACEÆ, GYNANDRIA MONANDRIA.

This species is an inhabitant of Ceylon, growing and flowering profusely in shady woods, similar to the orchis of our meadows in this country. In the hothouse it blooms freely towards the end of the year, even up to Christmas. The flowers are produced in long racemes, of a green and yellow colour spotted with red. *Eulophia*, from *eulophos*, well crested, surface of middle lobe of lip.

4. GESNERIA ELONGATA. *Elongated.* [The Botanist.

GESNERACEÆ. DIDYNAMIA ANGIOSPERMIA.

It has been stated by Humbolt that this species is a native of Quito, in South America. It was introduced into this country in 1835. Messrs. Pope of Handsworth Nursery, near Birmingham, have had it in bloom in their collection, and it was very much admired. The flowers are of a bright crimson colour, each near an inch long, produced in umbels of four or five on each. *Gesneria*, in compliment to Conrad Gesner of Zurich, who died in 1565.

5. IMPATIENS SCAPIFLORA. *Stemless Balsam.* [Bot. Mag. 3857.

BALSAMINÆ PENTANDRIA MONOGYNIA. SYNONYMS I. ACANIS. I. BULBOSA.

This very interesting and pretty flowering species was sent from Bombay to the Glasgow Botanic Garden, William Nimmo, Esq. having transmitted some tubers of it. The plant has bloomed beautifully in the stove. The plant has a very striking resemblance to a *Begonia*. The flowers are produced in scapes, each of which are about ten inches long. The blossoms

are of a delicate rosy purple colour. *Impatiens*, so called on account of the elastic nature of the valves or capsule, which throw out the seeds with considerable force.

6. PLEUROTALLIS SAUROCEPHALA. *Lizard-headed*. [Bot. Reg. 1968.

ORCHIDÆ. GYNANDRIA MONANDRIA.

This species has been in a few collections of Orchidæ for some years but still remains scarce. It has bloomed in the collection of Sir Charles Lemon, Bart. M. P. Carclew, Cornwall. The flowers are small, of a mixture of brown purple, and greenish yellow.

7. PSORALEA ORBICULARIS. *Round-leaved*. [Bot. Reg. 1971,

LEGUMINOSÆ. DIADELPHIA DECANDRIA.

The late Mr. Douglas sent seeds of this species from California to the garden of the Horticultural Society. It is a hardy Herbaceous plant, blooming in June and July. The flower stems rise to about eight inches high, producing the blossoms in a conical head. They are of a deep rose colour, with a pale blue keel, producing a pretty effect, *Psoralea*, from *psoraleas*, scurfy; the appearance of the calyx.

8. RHIXIA MARIANA. *Maryland Rhexia*. [Botanist

MELASTOMACÆ. OCTANDRIA MONOGYNIA.

A native of new Jersey. It was introduced many years ago, but was lost in this country. It has recently been sent to the garden of the Birmingham Botanical Society, and bloomed in the greenhouse at that place. It will flourish in the open border in summer, and be preserved in a cold frame in winter. The flowers are of a lilac purple colour, each rather more than an inch across. *Rhexia*, from *rhexis*, a protrusion or swelling, to which some plants of this order were applied as a cure.

9. SIPHOCAMPYLUS BICOLOR. *Two coloured*. [Brit. Flow. Gard. 389.

LOBELIACÆ. PENTANDRIA MONOGYNIA.

This is a very showy and interesting flowering plant. It is a hardy perennial. Mr. A. Gordon collected seeds of it in Georgia, and sent them to Mr. Lowe, of the Clapton nursery, where it has bloomed. The stems rise to about three feet high, producing flowers very freely. Each corolla is more than an inch long. The tube is scarlet, the three parted limb is yellow. It is a neat and pretty plant, well deserving a place in every flower garden. *Siphocampylus* from *siphon* a tube, and *kampulos* curved, alluding to the curved tube of the corolla.

10. ZYGOPETALAM COCHLEARE. *Shell lipped*. Bot. Mag. 3535.

This species is probably a native of Trinidad, it has bloomed in the Glasgow Botanic Garden. Flowers—Sepals of a pale greenish-white, lip having purple hues and a great purple blotch in the upper half. The scape rises about three inches high, producing a single flower. The flower is more than two inches across. *Zygopetalum*, from *zygos* yoke, and *petalon* a petal, alluding to their being joined at the base.

11. BAERIA CHRYSOSTOMA. *Golden anthered*. [Brit. Flow. Gard.

COMPOSITÆ. SYNGENESIA POLYGAMIA SUPEFLUA.

A hardy annual, growing a foot high. The plant has very much the appearance of *Talinum ciliatum*; but the flowers are of a bright yellow, about an inch across. It is a native of New California; seeds of the plant were sent from the Imperial Botanic Garden at St. Petersburg to this country. The plant has bloomed in the collection of Mr. Janson, Stoke Newington, London. *Baeria*, in compliment to Professor de Baer of the university of Dorfat.

PART III.

MISCELLANEOUS INTELLIGENCE.

QUERIES.

ON A LIST OF BULBOUS AND EARLY SPRING FLOWERING PLANTS.—Will you allow me to thank your Correspondent, "An Old Subscriber," for the useful list of annual, biennial, and perennial flowers in your number for March 1835, and to remind him at the same time that a promise of a similar list of the best bulbous and early spring plants have not yet appeared. The introduction into my garden of most of the flowers contained in his former list has given so gay, nay, I may say, splendid appearance to it during the summer and autumn months, that I am extremely anxious to obtain a similar display of beauty for those of the spring, which I have no doubt the kindness of your correspondent will enable me to procure.

PHILO FLOS.

Can you or any of your correspondents inform me if saw dust can by any process be rendered a fit manure for flowers. I two years ago top dressed my beds with oak saw dust, one year old, and nearly rotten, but it killed many, and much injured most of the annuals that happened to have been planted out about a fortnight before. Perhaps the tanning contained in the oak may be prejudicial to flowers? Would a mixture of lime neutralise it?

PHILO FLOS.

ON DELPHINIUM CHINENSIS ALBIFLORA, &c.—A Subscriber to the Floricultural Cabinet would be glad to be informed where *Delphinium Chinensis albiflora*, figured in the (Cabinet of November 1834) is to be obtained. He has bought several purporting to be the sort mentioned but they have invariably turned out the single blue species, a trick he is sorry to say of very common occurrence with some nurserymen. An early answer will oblige.—He would also be glad to know where *Cenothera anisiloba* is to be had.

ON THE BEST SEASON FOR SOWING PANSEY SEED—I have collected during the three first weeks of August a quantity of pansy seed, but am at a loss to know whether to sow it this season, or defer it till spring. I was afraid to sow it now, lest the plants should be too weakly to endure the winter, yet I thought if I could secure the plants through winter, I should have strong plants for blooming early next season. I should be glad if some reader of the Cabinet, who has had experience in this particular, would give a paper upon it, saying how late, if this season, seed may be sown, and the plants treated so as to abide through winter. And if not till spring, how to treat them the successive period of the year. An early compliance with his request will much oblige,

A LADY.

ANSWERS.

ON DESTROYING THE GREEN FLY INSECT INFESTING THE ROSE, &c.—In a former Cabinet "Rosa" wishes to know how to destroy the green fly insects, on rose trees, in the cheapest, easiest, and most effectual manner. I would recommend him to throw with great force, handfuls of fine sand (sea sand, if he is near the coast, as I am, is cheap enough) and he will find his trees very soon clean and healthy. Probably coal ashes reduced very fine, might answer as well as sand, but I have never tried it. CALCEOLARIA.

REMARKS.

PLANTS IN BLOOM AT THE NURSERY OF MESSRS. ROLLESON, TOOTING.—

<i>Hardy.</i>	
Lonicera hispidula	<i>Greenhouse.</i> —Azalea lateritia.
Lilium atrosanguinum	Azalea lateritia alba both quite new from China.
Enothera Drummondii	Spirea japonica
Flox Omniflora.	Lilium lancetolia rubra
Delphinium Hulmi	" eximia
" Barlowii	Erica Cavendishii a very splendid new yellow
Dianthus versicolor	<i>Hothouse.</i>
Linum, new species from Chili.	Rondeletia speciosa
Potentilla tormentilla Tonguii	Ixora purpurea.

DESTRUCTION OF INSECTS AND VERMIN.—It has long been known, that the leaves of the Elder when put into the subterraneous paths of moles, will drive them away; when the same in a green state are rubbed over fruit trees and flowering shrubs, or when strewed among corn or garden vegetables, insects will not attach to them. An infusion of these leaves in warm water is good for sprinkling over rose-buds and flowers subject to blight; also to prevent the devastation of the caterpillar.

A Pennsylvania farmer states, in a late American journal, that the water in which potatoes have been boiled, sprinkled over grain or garden plants completely destroys all insects, in every stage of existence, from the egg to the full grown fly.

Ammoniacal liquor, produced in the manufacture of gas from coal, and to be procured for the trouble of carrying, at any gas work, will eventually destroy the grub and other worms, which so often defeat the hopes of the gardener; more particularly as regards his early crops. So far is this liquid from having the property of injuring even the tenderest plant, that it seems rather to invigorate than otherwise.

A paste of charcoal powder, or soot and train oil, laid on the trunks of trees, in rings or circles, by means of a brush, a few inches from the ground, will form a barrier over which snails or grubs, &c. cannot pass.

Cabbages, &c. may be easily guarded against the depredations of caterpillars, by sowing a belt of hemp seed around the borders of the ground where they are planted; for it is a well known fact, that none of these vermin will approach the place so enclosed.

Destruction by the fly in turnips may be prevented by dividing the seed intended for one day's sowing into two equal parts, and putting one part to steep in a vessel containing soft pond, or ditch water, the night previous to its being used. Next morning mix the whole together, and add to each pound of seed two ounces of flour of sulphur. It has been adopted with success for many years by the intelligent farmers of the south west of Scotland.

By the following method an eminent horticulturist near Derby, never lost a seed by vermin, although they sometimes burrowed in a direct line with almost every row of peas, beans, &c. that he sowed: it consisted merely in steeping the grain or seed for three or four hours, or during a sufficient time to penetrate the husk, in a strong solution of the sulphuret of potash, commonly known by the name of liver of sulphur.

The American farmers effectually prevent the blight or mildew from injuring their orchards, by rubbing tar well into the bark of the apple trees in the spring season: this is done about four or six inches wide round each tree, and at about a foot from the ground. Abundant crops generally follow this treatment.

The gumming of fruit trees is to be prevented by forming a compost of horse-dung, clay sand, and tar. This applied to the trunk and stems of fruit

trees, after being properly cleansed, will prevent that spontaneous exudation, called gumming, which is so injurious to their growth.

The growth of weeds around fruit trees recently transplanted does the latter much injury, and diminishes the fruit both in size and quality. Sonnini, in his *Bibliothèque Physico Economique*, states, that to prevent this the German horticulturists and farmers spread on the ground, around the fresh transplanted trees, as far as their roots are supposed to extend, the refuse stalks of flax, after the fibrous parts have been separated. This treatment gives them surprising vigour, as no weed will grow under flax after the fibrous part have been thoroughly separated and the earth remains fresh and loose. Old trees treated in the same manner, when languishing in an orchard, will recover and push out vigorous shoots. In place of flax stalks, the leaves which fall from trees in autumn may be substituted; but these must be covered with waste twigs, or other more weighty materials, to prevent the wind from blowing them away.

Mr. Macdonald, of Scalpa, in the Hebrides, having had his corn, &c. considerably injured by mice, and other vermin, put at the bottom, near the centre and at the top of each stack or mow, as it was raised, a handful of the stalks of wild mint, gathered near a brook in a neighbouring field: he never afterwards had his grain consumed. He tried the same experiment with his cheese and other articles kept in his dairy, viz. by laying a few leaves green or dry on the articles to be preserved from their attacks, and with equal success.

To prevent hares, rabbits, and rats from barking young trees and plantations, take any quantity of tar, and six or seven times as much grease, stirring and mixing them well together; with this composition brush the young trees, as high as hares, &c. can reach. This will so effectually prevent them from being barked, that if an ash plantation were made in a rabbit warren, the same would remain untouched.—GARDENER'S GAZETTE.

THURLASTON FLORAL AND HORTICULTURAL SOCIETY.—Principally set on foot for the encouragement of industrious cottagers.—The second exhibition of this interesting society took place on Tuesday, the 27th of June last at the National School-room, Thurlaston, and was attended by a very numerous and respectable company. The weather was particularly fine throughout the day, and the scene was greatly enlivened by an excellent band of music. The productions shewn by amateurs were of a superior description; more particularly the *Ranunculuses* of Mr. Smalley, the *Pelargoniums* of Captain Puckford, a beautiful pyramid of various *pelargonium* blooms by Mrs. Sheldon Craddock, and an ornamental basket of flowers by John Clarke, gardener to John Wilson, Esq.—The cottagers' tables were literally crowded with well grown flowers, prettily arranged nosegays, and vegetables of the finest quality: their rewards were as well deserved as they were gratefully received. The judges on this occasion were Mr. Cooper, gardener to the Lady de Clifford; Mr. Hobley, gardener to Sir F. Fowke; and Mr. Holland, florist, Narborough, who gave general satisfaction to the competitors.

List of prizes to the Subscribers.

Ranunculuses, the best pot of five flowers of different names, Dark, light, striped and mottled, Mr. Smalley, Oadby; mixtures, Mr. Oliver, Earl Shelton.

Pansies, the best collection of twelve varieties; named, the Rev. R. Wilson Taylor, Thurlaston; the best collection of twelve seedlings, ditto; extra prize, Mrs. Bridges Narborough.

Pelargoniums.—Light, Imogene; red, Perfection; dark, Lucassii, Captain Puckford.

Greenhouse plants, the best collection of six different varieties, J. Wilson, Esq.

Brompton Stocks.—The Rev. J. Sankey, Stony Stanton.

Ornamental basket of flowers.—J. Wilson, Esq.

Ornamental stand of flowers.—Mrs. S. Craddock

Bouquet of flowers.—Mr. Oliver.

Bouquet of hardy perennials, fifty-one varieties.—Rev. R. Wilson Taylor.

SHEFFIELD BOTANIC SOCIETY.—The exhibition of plants, flowers and vegetables for the season lately took place. The tent for the display of vegetables was fixed in the lower part of the gardens, conveniently arranged, with a table, eight feet in width down the centre, and having a space on each side for the accommodation of visitors. In this tent numerous articles were exhibited of very great beauty and excellence. Mr. Paxton's *Clerodendrum* with rich scarlet flowers, although a good deal injured by its long carriage from Chatsworth, was nevertheless much admired. Mr. Braide's *Elichrysum venusta*, and *Erica ordonata*, were pronounced by competent judges to be the finest in the kingdom. There were many other plants which displayed much skill and attention in their cultivation; such as *Fuchsias*, *Geraniums*, *Calceolarias*, *Pinks*, *Ranunculuses*, *Roses*, *Annuals*, &c. On the first day the gardens were visited by a large number of the proprietors and subscribers. On the second day the number of visitors was larger than on the first. The cavalry band was in attendance both days, and the weather being fine, many strangers from a distance, as well as persons in the town and its surrounding neighbourhood, availed themselves of this opportunity of testifying their love for the beauties of Flora, and the rich treat which such exhibitions are calculated to supply, collected, as many of the specimens not unfrequently are, by obtaining a few seeds or roots from the remotest parts of the globe, but yet seldom visited by civilized men.

The judges were for the plants—Mr. H. Shepherd, Botanic Garden, Liverpool; Mr. Rider, nurseryman, Leeds; Mr. Parkin, gardener to Mr. Stanhope, Cannon Hall; and Mr. Wilson, gardener to the earl of Surrey.

PLANTS.—Stove Plants, 1. *Clerodendrum speciosissimum*, Mr. Paxton, 2. *Brunfelsia Americana*, Mr. Appleby, Gardener to J. Young, Esq. 3. *Sinningia guttata*, Mr. Waters, gardener to Mrs. Shore, Meersbrook.

Orchideous plants, 1. *Oncidium Lanceanum*, Mr. Menzies, gardener to C. Rawson, Esq. Halifax. 2. *Egidendrum Oncidioides*. 3. *Maxillaria cristata*, Mr. Paxton.

Bulbs, or Scitamaneous, 1. *Wurmbea purpurea*. 2. *Lapeyrousia corymbosa*. 3. *Babiana rubo-cyanea*, Mr. Appleby.

Succulents in flower, 1. *Epiphyllum splendidum*. 2. *Epiphyllum Jenkinsoni*, Mr. Appleby.

Succulents not in flower, 1. *Cactus senilis*, Mr. Paxton.

Collection of Ferns, 1. *Blechnum Cavendishense*, *Adiantum trapeziforme*, and a species from Mexico. 2. *Blechnum angustifolium*, *Lygodium Scandens* *Gymnogramma*, Mr. Waters.

Green-house Plants, 1. *Elichrysum venusta*, Mr. Braide, gardener to H. Wilson, Esq. Birthwaite Hall, near Barnsley. 2. *Pimelia decusata*, Mr. Paxton. 3. *Lachenaultia formosa*.

Ericas, 1. *E. odorata*, Mr. Braide. 2. *E. ventricosa superba*, Mr. Appleby.

Dark *Geraniums*, 1. *Angustissima*, Mr. R. Turner, of Sheffield, florist. 2. *Lord Nelson*, Mr. Appleby.

Rose *Geraniums*, 1. *Statvia*, Mr. Hall, Doncaster. 2. *Tam O'Shanter*, Mr. R. Turner.

White *Geraniums*, 1. *Hillebrandii*. 2. *Cleopatra superba*, Mr. Appleby.

Collection of three shrubby *Calceolarias*, 1. *Captain Ross*. 2. *Sessifolia*, Mr. Appleby.

Collection of Herbaceous *Calceolarias*, 1. *Guttata*, Mr. Barron. 2. *Countess of Shrewsbury*, Mr. Appleby.

Greenhouse succulents in flower, 1. *Mesembryanthemum* species, Mr. Appleby. 2. Ditto, Mr. Menzies.

Annuals in Pots, 1. *Collinsea bicolor*, Mr. Paxton,

Fuchsias, 1. *Fuchsia globosa*, Mr. Braide. 2. *Globosa*, and 3. *Grandiflora*, Mr. Menzies.

Herbaceous Plants, 1. *Cypripedium spectabile*. 2. *Penstemon digitalis*, Mr. Menzies.

Hardy Shrub, 1. *Deutzia scabra*. 2. *Azalea Recentissima*, Mr. Menzies.

Display of cut Flowers, 1. The crown, with the word "Victoria," round the bottom, Mr. Paxton. 2. Splendid pyramid, Mr. Appleby.

Roses, Hybrid or China, 1 and 2, cut flowers, Mr. Hall.

Roses, Province or Garden varieties, 1 and 2 cut Flowers, Mr. Hall.

Moss Roses, 1 and 2 cut Flowers, Mr. Hall.

Extra Prize for Hardy Ferns—*Asplenium fontanum Marinum*, *Woodsia ilvensis*, *Asplenium lanceolatum*, *Polypodium calcareum*, Mr. Waters.

Extra Prize for the South American Pitcher Plant—*Cephalotus follicularis*, Mr. Paxton.

FLOWERS.—First pan of 10 Ranunculuses, Mr. William Archer; 2d ditto of 10 Ranunculuses, Mr. Birley, Earl Street, Sheffield. First Pan of 6 Ranunculuses, Mr. Smith, Ecclesall, New Road; second ditto of 6 Ranunculuses, Mr. Birley. Collection of less than 12 varieties of Panzies, Mr. Turner, florist, Sheffield. Best Pan of 12 Pinks, Mr. Smith, Ecclesall, New Road; Second ditto of 12 Pinks, Mr. Simonite, Sheffield Park.

PLANTS.—Mr. Appleby being the competitor who had obtained the greatest amount in money Prizes, in the different classes of plants, received, in addition to his prize money, an elegant fowling piece, presented by Joseph Shore, Esq. of Birmingham, value £ 15.

Mr. Paxton having obtained the second greatest amount, received, in addition to his prize money, a silver cup, value £5.

FRUITS.—The greatest amount in money prizes having been obtained by Mr. Paxton, he received in addition to the money prizes, a silver cup, value £ 10.

The second greatest amount having been obtained by Mr. Batley, of Wentworth Castle, he received in addition a silver cup, value £5.

VEGETABLES.—A silver cup, value £10, was received by Mr. Abraham, South street, who had obtained the greatest amount in money prizes.

Mr. Waterhouse, having obtained the second greatest amount, received a prize, value £2 10s.

COTTAGERS' CLASS.—Mr. Marsden Little Sheffield, received one sovereign in addition, having obtained the greatest amount of money prizes for vegetables.

Mr. Machon, Little Sheffield, received 10s. for having obtained the second greatest amount.

Mr. Fielding, Sheffield, received 5s. for having obtained the third greatest amount.

A CHAPTER OF FLOWERS.—Flowers of all created things are the most innocent and simple, and most superbly complex; playthings for childhood, ornaments of the grave, and the companion of the cold corpse in the coffin. Flowers, beloved by the wandering idiot, and studied by the deep thinking man of science! Flowers that of perishing things are most perishing, yet of all earthly things, are the most heavenly. Flowers, that unceasingly expand to heaven their grateful and to man their cheerful looks—partners of human joy, smoothers of human sorrow; fit emblems of the victor's triumphs, of the young bride's blushes; welcome to crowded halls, and graceful upon solitary graves!.....Flowers are in the volume of nature, what the expression "God is love." is in the volume of revelation.....What a dreary desolate place would be a world without a flower! It would be a face without a smile—a feast without a welcome.... Are not flowers the stars of the earth, and are not flowers the stars of heaven? One cannot look closely at the structure of a flower without loving it. They are emblems and manifestations of God's love to the creation, and they are the means and ministrations of man's love to his fellow creatures; for they first awaken in his

mind a sense of the beautiful and the good The very inutility of flowers is their excellence and great beauty; for they lead us to thoughts of generosity and moral beauty, detached from, and superior to all selfishness; so that they are pretty lessons in nature's book of instruction, teaching man that he liveth not by bread or from bread alone, but that he hath another than an animal life.

ON OBTAINING LARGE FLOWERS OF THE DAHLIA.—I have been given to understand that nurserymen who exhibit Dahlias at the shows, and produce flowers of such immense size, are accustomed to prune away the greater part of a plant, as well as the flower buds at an early stage. I wish some person who has practised these operations, would give a few instructions, at what stage of growth this may be effected, and how performed, &c.

CLERICUS.

ON IPOMEA AND CONVULVULUS.—The genera *Ipomea* and *Convolvulus* are so similar, that many unite them into one, but the best botanists keep them separate. In *Convolvulus*, the calyx sometimes has two small bracts. In *Ipomea* it is always naked. In *Convolvulus* the stamens are shorter than the limb of the corolla. Ovary is two, seldom three celled; and the stigmata are two, filiform, not capitate.

BOTANIST.

FLORICULTURAL CALENDAR FOR SEPTEMBER.

Annual flower seeds, as *Clarkia*, *Collinsia*, *Schizanthuses*, Ten-Week Stocks, &c. now sown in pots and kept in a cool frame or greenhouse during winter, will be suitable for planting out in open borders next April. Such plants bloom early and fine, and their flowering season is generally closing when spring-sown plants are coming into bloom.

Carnation layers, if struck root, should immediately be potted off

China Rose cuttings now strike very freely; buds may still be put in successfully.

Mignonette may now be sown in pots to bloom in winter.

Pelargoniums, cuttings of, may now be put off; plants of which will bloom in May.

Pinks, pipings of, if struck, may be taken off and planted in the situations intended for blooming in next season.

Plants of Herbaceous *Calceolarias* should now be divided, taking off offsets and planting them in small pots.

Verbena Melindris (*chamaedrifolia*.) Runners of this plant should now be taken off, planting them in small pots and placing them in a shady situation. It should be attended to as early in the month as convenient.

Plants of Chinese *Chrysanthemus* should be repotted if necessary; for if done later, the blossoms will be small. Use the richest soil.

When *Petunias*, *Heliotropium*, *Salvias*, *Pelargoniums* (*Geraniums*), &c. have been grown in open borders, and it is desirable to have bushy plants for the same purpose the next year, it is now the proper time to take off slips, and insert a number in a pot; afterwards place them in a hot-bed frame, or other situation having the command of heat. When struck root, they may be placed in a greenhouse or cool frame to preserve them from frost during winter. When divided and planted out in the ensuing May in open borders of rich soil, the plants will be stocky, and bloom profusely.

Tigridia pavonia roots may generally be taken up about the end of the month.

Greenhouse plants will generally require to be taken in by the end of the month. If allowed to remain out much longer, the foliage will often turn brown from the effect of cold air, &c.

Plants of *Pentstemons* should be divided by taking off offsets or increased by striking slips. They should be struck in heat.

The tops and slips of *Pansies* now be cut off, and be inserted under a hand glass, or where they can be shaded a little. They will root very freely and be good plants for next season.





Kennedia marryatti.

Isobelias.



Isobelias grandiflora



propinqua

THE
FLORICULTURAL CABINET,

OCTOBER 1st, 1837.

PART I.

ORIGINAL COMMUNICATIONS.

ARTICLE I.

ON THE CULTURE OF PHLOX DRUMMONDII.

BY A

CLERGYMAN'S DAUGHTER, IN SURREY.

THE flowers of the whole tribe of Phloxes are beautiful, and in general admiration, they are highly ornamental to a flower garden, and merit a place in every one. Nearly every species is of a desirable height for it, growing from one to two feet and a half high. The plants are of easy culture, and to be obtained at a trifling price. These facts induce me to offer some observations upon the culture, &c. of the whole genus, having in my possession every species and variety I have hitherto heard of.

During the present summer I have been quite delighted with that most charming, newly introduced kind, *Phlox Drummondii*, and its varieties. In 1836 I procured a plant of the original kind and kept it in a pot through winter; early in May I procured small plants, eight or ten inches high, of several hybrids, and immediately turned them out into a bed. The hybrid varieties were *venustum*, a most beautiful rose colour, having a dark centre; *formosum*, lilac, dark red eye, very large, round flower; *pulchellum*, very dark velvet crimson, black centre, round flower; *bellissima*, lilac with very large, crimson eye; *speciosa*, very dark velvet crimson, rather star shaped, darker centre; *carnescens*, a light rosy-pink. The original kind is of a rosy-red with a small

eye. These seven kinds I had sufficient of to plant a small circular bed, a yard in diameter, of each in my flower garden, seven plants in a bed. The beds were at a distance of about ten yards from each other, with intervening beds planted with other plants. I had each bed raised high at the centre, so that when the plants were in bloom, the bed had the appearance of a cone of splendid flowers, beautiful in appearance, and producing a neat and striking effect.

My soil is a sandy-loam what I enriched moderately with some rotten manure. I have already gathered some seeds from each kind, and I observe there is an appearance of obtaining a good supply; a paper of each I inclose for the Conductor of the Cabinet. In 1836 I had the original kind but not early enough to afford me an opportunity of obtaining any seed, but having plenty of young shoots upon the plant about four or five inches long, I took a quantity off early in September, inserted them in sandy loam, and placed them on a gentle hot-bed, within a frame, and in three weeks they had struck root. I removed the pots of cuttings at the end of October into a cool part of a greenhouse, where I kept them healthy through winter, and at the end of March I potted them off, singly, into small pots, and in May turned those I wanted for the purpose into the bed in the flower garden, and removed a few into larger pots to adorn the greenhouse, where they have flowered most profusely. The same mode of propagation will, of course, equally succeed with my hybrid varieties, so that I shall be able to keep up each kind permanently.

The seeds I shall obtain from the plants I possess this year will be sown next spring, and doubtless the produce will afford me many handsome varieties. Whether the plants be grown in the greenhouse, on beds of a sort, or singly in the general mass of a flower bed, in each, and in all nothing can be more neat and striking as a flower.

My plants, in the open border, came into bloom early in June, and have been in profusion up to the present time, September, and will continue to bloom as long as the season admits.

The tallest of my plants grow about two feet high, and have spreading heads proceeding from a single stem, more than half a yard across.

(To be Continued.)

ARTICLE II.

ON THE CULTURE OF THE PANSY.

BY S. C. COOK, COVENTRY.

SEEING several subjects in your Floricultural Cabinet on the culture of the Pansy, I herewith send you my mode of cultivating this beautiful tribe of plants. The aspects I prefer is a south-east one, the blossoms are soon shaded from the intense heat of the sun, and screened from strong winds; I always prefer growing them in beds, which beds are four feet wide, and in length according to the number cultivated. The bed is supported at the edges with iron work of a low form, as fig. 1.

Fig. 1.

The compost I use is one fourth maiden loam,  two fourths black garden mould, and one fourth rotten dung. When the bed is prepared, I draw lines longitudinally from one end of the bed to the other, by which lines I set the plants in rows, A bed four feet wide will allow of four longitudinal rows of plants; there should be one foot allotted to each plant in the rows, I always choose short strong plants, which are small in circumference. When I have finished planting, I procure some hoops and mats, for the purpose of shading the plants for a few days, until they have fully established themselves. As soon as the season of propagating commences, which I consider about the first of July, or if a late season it may be delayed till the first of August; I proceed cutting off the strongest shoots, observing to cut them off at a joint, and then putting the different varieties into separate vessels of soft water, for a few hours, which I find greatly to promote their striking. The cutting bed is composed of about one-third pit or river sand, to insure a closeness round the cuttings; then the cuttings of each variety are planted separately and numbered, and are allowed to remain in that situation until the following spring, when they are taken up and planted in beds. It greatly improves the flowers, if the plants are watered with liquid manure, twice, or three times a week; it is necessary to keep a watchful eye upon the plants that are left for seed, for it will disperse itself in a few minutes after it is matured. I would here mention the utility of impregnating the flowers of different varieties, by impregnating the best formed kinds, and those having flowers of the finest, most clear and distinct, as the remotest in colour from each other. The produce will be kinds almost certainly to be depended upon as good, and in colour what

may naturally be depended upon by a comixture of any two principal colours in the flowers. It is a most interesting attention to be paid to this charming, sweet, flower, to raise the plants, watch their progress, and to daily, in the season, see the first opening flowers of new varieties. It far more than compensates for any attention bestowed.

ARTICLE III.

DIALOGUE BETWEEN BLOOMWELL, AN OLD FLORIST; AND
WOULDKNOW, A NEW BEGINNER.

BY BIZARRE.

WOULDKNOW. Good morning to you, Mr. Bloomwell, you see I am come again to admire your carnations.

BLOOMWELL. I assure you, Sir, I am very glad that my flowers have sufficient beauty to attract your notice; allow me to introduce you to no less a personage than the Queen of Sheba.

WOULDKNOW. You mean Lasselles' Queen of Sheba, purple flocked, I suppose? I have heard much talk about it.

BLOOMWELL. Now, you see it, what do you think of it?

WOULDKNOW. I think it a most beautiful flower, and an indispensable one in every good collection.

BLOOMWELL. You are right, it has high colour, good white, and sufficient size. These are very desirable properties, but it is apt to throw the petals too much out of the calyx, and by that circumstance soon becomes loose.

WOULDKNOW. I heard Mr. M., lay a wager the other day at S. Show, that he had paid particular attention to it, and was convinced that Turner's Princess Charlotte and it, were one and the same flower, do you agree with him in that opinion?

BLOOMWELL. Certainly not, there may be, and is, a great similarity, but the Queen of Sheba was raised by a gentleman, who could not for a moment be suspected of such a gross deception, as to give out as a seedling of his own, an old and well known flower. A scientific botanist would perhaps sooner point out the difference than a florist, I think Mr. M. could not have paid a greater compliment to the Queen of Sheba than by indentifying her with the Princess Charlotte, a flower which has stood at the head of its class for many years.

WOULDKNOW. Pray what beautiful scarlet Flake is that, at the end of the stage?

BLOOMWELL. An old favourite of mine, Pearson's Madam Mara, which when well blown, is surpassed by no flower of its class that I have seen. Perhaps no flower is more universally grown, and I believe no flower has taken more prizes. The scarlet is good, the white at first has a pink shade, but bleaches as the flower expands. The petals are very apt to cup, and from that circumstance often crack at the edge which spoils the bloom.

WOULDKNOW. Pray is not Stearne's Dr. Barnes, said to be the same flower with this?

BLOOMWELL. It has been so said, and no doubt as there is a great likeness, the old flower has been frequently sold for the new one by unprincipled persons, and this has caused the two to be confounded. I have never had Dr. Barnes from the raiser which is the surest way of comparing the flowers, and I cannot believe any true Florist would be guilty of such an imposition, without the clearest evidence; another reason for doubting the identity of the two flowers in question is, from my own experience. A few years ago I raised a seedling scarlet Bizarre, from Wild's perfection, so much like the parent, that it might easily have passed for it without much danger of the cheat being discovered. This being my case, why may not others have had the same thing happen to them? The whole mystery seems to me to be thus easily accounted for. A new flower of uncommon attraction is announced, some old stager of more cunning and sagacity than honesty, finds out that it is very much like some old and cheap sort, and instigated by the love of gain, immediately substitutes the one for the other, so that in a year or two the confusion becomes complete.

WOULDKNOW. Are there many flowers in this predicament?

BLOOMWELL. Perhaps there may, in the Florist's Gazette for 1832, I find Leightons' Miss Foote, and Sir George Crewe, rose flakes, classed as one flower. Also in the same class Faulkner's Eliza, and Smalleys' Wonderful. With respect to the former of these, I can say nothing, having grown Sir George Crewe only, but for the latter, I affirm there are not in the whole class perhaps two flowers more unlike. I had 'Wonderful' from a person who had it from the raiser, and 'Eliza' from a gentleman amateur, who is very careful in his selection of plants, and in all probability had

it direct from the raiser. 'Eliza' is a Pink flake of low growth, a shy breeder, and bad striker; 'Wonderful,' on the contrary, is a high Rose flake, of taller and freer growth, a larger bloom, and in all respects a *wonderful* deal the best flower. How they came to be confounded, whether by accident or design I cannot tell, but I believe 'Wonderful' is generally sold for both. What I consider the true 'Eliza' being comparatively scarce.

WOULDKNOW. What pale coloured flower is this, it seems to be a crimson or purple Bizarre, but the quantity of dark colour is very small?

BLOOMWELL. That flower should be a caution to you not always to expect the highest priced flowers to be the best, it is called Huggin's Brilliant. But in what its brilliancy consists I have yet to learn. I have grown it these three years, and the bloom you now see on it, is the best in colour I have had. In Mr. Hogg's Catalogue for 1830, it is offered at twenty shillings per pair. If it never blooms better than I have seen it, it would be too dear at twenty pairs for a shilling; for to my fancy, a flower that is short of colour has the greatest fault possible. I would sooner have a rough edge, or a deficiency of size, or any other single defect, where the colouring was splendid, than this defect of pale colouring, though the flower was as large as a Dahlia.

WOULDKNOW. What a fine high coloured rose flake the next is, this will not loose your favour for want of colour.

BLOOMWELL. True, but it sometimes looses it by having too much, being rather subject to run, it is called Fletcher's Duchess of Devonshire, and is said to be a sport from Gregory's King Alfred, that fine old crimson Bazarre, in the next pot.

WOULDKNOW. Is it possible that this can be the case.

BLOOMWELL. It certainly is possible, but the probabilities are ten to one against it.

(To be continued.)

ARTICLE IV.

ON WATER AND WATERING PLANTS.

(Continued from p. 208.)

“Then he made choice of several sprigs of Mint, and other Plants, that were, as near as he could judge, alike fresh, sound,

and lively; and having taken the weight of each, he placed it in a phial, ordered as above; and as the plant imbibed and drew off the water, he added more from time to time, keeping an account of the weight of all he added.

“Each of the glasses were, for the better distinction and the more easy keeping a register noted with a different mark or letter as A, B, C, &c. and all set in a row in the same window, that they might all partake alike of the air, light and sun.

Thus they continued from July the twentieth, to October the fifth, which was just seventy seven days; then he took them out and weighed the water in each phial, and the plant also, adding to its weight that of all the leaves which had fallen off during the time it stood thus. And lastly, he computed how much every plant had gained, and how much water was spent upon it. The particulars are as follows.

“A. a common spear mint set in spring water.

“When the plant was put in, in July the twentieth, it weighed just twenty-four grains; when taken out, October the fifth, it weighed forty two grains; so that in the space of seventy seven days, it had gained in weight fifteen grains.

“The whole quantity of water expended during the seventy seven days amounted to two-thousand-five-hundred and fifty-eight grains; and consequently, the weight of the water taken up was one-hundred and seventy and three-thirteens times as much as the plant had got in weight.

“B, common spear mint set in rain water, the mint weighed when put in, twenty eight grains and a half, and when it was taken out forty five grains four thirds, having gained in seventy seven days seventeen grains and an half.

“The whole quantity of water expended was three thousand and four grains which was an hundred and seventy one twenty-three thirty-fives times as much as the plant had received in weight.

“C, common spear mint set in Thames water. The plant when put in weighed twenty eight grains, when taken out fifty four grains, so that in seventy seven days it had gained twenty six grains.

“The whole of the water expended, amounting to two thousand four hundred ninety three grains which was ninety five, twenty-three twenty-six times as much as the additional weight of the mint.

“D, The common solanum or nightshade set in spring water. The plant weighed when put in, forty nine grains, and when taken out one hundred and six grains, having gained in seventy seven days-fifty seven grains.

“The water expended during the seventy seven days was three thousand seven hundred and eight grains, which was sixty five three fifty seven as much as the augment of the plant.

“The spearmint D had several buds upon it, when first set in water; these in some days became fair flowers, which were at length succeeded with berries.

“Several other plants were tried that did not thrive in water, or succeed better than the cataputia.

F, lathyrus or cataputia gerb, set in spring water; it weighed when set in, ninety eight grains, when taken out one hundred and one grains and an half. The additional weight for the seventy seven days being but three grains and an half.

“The quantity of water, spent upon it during that time, was two thousand five hundred and one grains, which is seven hundred fourteen times four thirds as much as the plant was augmented.

“F, G, those two phials so marked, were filled, the former with rain, and the latter with spring water, at the same time that the other before mentioned were, and stood as long as they did, but had neither of them any plant, his design in this being only to inform himself, whether any water exhaled out of the glasses, otherwise than through the bodies of the plants. The orifices of these glasses were covered with parchment, each piece being perforated with a hole of the same bigness with the other. And he suspended a bit of stick, about the thickness of the stem of one of the aforesaid plants, but not reaching down to the surface of the included water. These he put in thus, that the water in these might not have more scope to evaporate, than that in the other phials.

“Thus they stood the whole seventy seven days in the same window with the rest; when, upon examination, he found none of the water in these wasted or gone off. Though he observed, both in these and the rest, especially after hot weather, small drops of water adhering to the insides of the glasses; that part of them that was above the surface of the inclosed waters.

“The water in these two glasses that had no plants in them, at the end of the experiment, exhibited a larger quantity of terres-

trial matter, than that in any of those that had the plants in them did. The sediment in the bottoms of the phials was greater and the nuberculæ diffused through the body of the water, was thicker."

"And of that which was in the others, some of it proceeded from certain small leaves that had fallen from that part of the stems of the plants, that was within the water, wherein they rotted and dissolved. The terrestrial matter in the rain water was finer than that in the spring water:

"In the year 1692, he made the following experiments with Hyde Park conduit water. The glasses, he made use of in this, were of the same sort with those of the former, and covered over with parchments, in like manner. The plants were all spear mint, the most kindly, fresh, sprightly shoots he could chuse. The water and the plants were weighed as before, and the phials set in a line in a south window; where they stood from June the second to July the twenty-eighth, which was just fifty six days.

"H. Hyde Park conduit water alone. The mint weighed when put in, one hundred and twenty seven grains; when taken out, two hundred and fifty five grains: the whole quantity of water expended upon this plant, amounted to fourteen thousand one hundred and ninety grains. This was all along a very kindly plant, and had run up above two feet in height. It had shot but one considerable branch, but had sent forth many and long roots from whence sprung very numerous and short fibres. These lesser came out of the larger, on two opposite sides for the most; so that each root with its fibrilla appeared not unlike a small feather. To these fibrillæ pretty much terrestrial matter adhered. There was a green substance in the water, resembling a fine, thin conserva, which was at last thick and turbid.

"The plant I. The same water alone. The mint weighed when put in, one hundred and ten grains; and when taken out, two hundred and forty nine: the water expended was thirteen thousand one hundred and forty grains.

"This was as kindly as the former; but had shot no collateral branches. The roots of it, the water, and the green substance, all much as in the former.

"The plant K. The mint was set in Hyde Park conduit water, in which was dissolved an ounce and a half of common garden earth. It weighed, when put in, seventy six grains: when

taken out, two hundred and forty four grains: water expended ten thousand seven hundred and thirty one grains. Though this plant had the misfortune to be annoyed with very small insects, that happened to fix upon it, yet had shot very considerable collateral branches, and at least as many roots as either in H or I, which had a much greater quantity of terrestrial matter adhering to the extremities of them. The same green substance here that was in the two preceeding.

“L was set in Hyde Park conduit water, with the same quantity of garden mould as in the former. The mint weighed, when put in, ninety two grains; when taken out, three hundred and seventy six grains. And the water which was expended, was fourteen thousand nine hundred and fifty grains.

“This plant was more flourishing than any of the preceedent, had several considerable collateral branches, and very numerous roots, to which terrestrial matter adhered very copiously.

“The earth in both these glasses was very sensibly and considerably wasted, and less than when first put in. The same sort of green substance here as in those above.”

“The plant M was set in Hyde Park water, distilled off with a gentle still. It weighed when put in, one hundred and fourteen grains; when taken out, one hundred fifty five: the water expended was three thousand eight hundred and three grains.

“This plant was pretty kindly, had two small collateral branches, and several roots, though not so many as that in H or I; but as much terrestrial matter adhering to them, as those had. The water was pretty thick, having very numerous, small terrestrial particles swimming in it, and some sediment at the bottom of the glass. This glass had none of the green matter above mentioned in it.

“N was set in the residue of the water, which remained in the still after that in M was distilled off. It was very turbid, and as high coloured (reddish) as ordinary beer. The mint weighed, when put in, eighty one grains; when taken out, one hundred seventy five grains. The water expended was four thousand three hundred forty four grains.

“This plant was very lively, and had sent out six collateral branches, and several roots.

“The glass O, had Hyde Park conduit water, in which was a dram of dissolved nitre.

“The mint, set in this, suddenly began to wither and decay, and in a few days died; as likewise did two more sprigs that were set in it successively.

“In another glass he dissolved an ounce of good garden mould and a dram of nitre.

“And in a third, half an ounce of wood-ashes, and a dram of nitre; but the plants in these succeeded no better than the former.

(To be continued.)

ARTICLE V.

ON IMPREGNATING CALCEOLARIAS, &c.

BY AN ENQUIRER

I HAVE just been told that Calceolarias can be successfully impregnated with blossoms of different genera, and the result is, that Calceolarias are produced from the seed, of a vast variety of colour. If my information be correct I should be glad if some person, or persons, who have tried it, would give a list in the Cabinet of the sorts of plants which have succeeded, in impregnating successfully the Calceolarias. Also when to sow the seed; how to treat the young plants, &c, so as to get them into bloom as early as possible. An article to be inserted in the November number would much oblige,

AN ENQUIRER.

ARTICLE VI.

ON RAISING CARNATIONS AND PICOTEES FROM SEED.

BY AN OLD FLORIST.

THE culture of the Carnation, though elaborately written upon by many with ability and experience, has in one point, and that a very material one, been either totally neglected or slightly or discouragingly mentioned, I mean the progressive improvement of the flower and its subvariety the Picotee, by raising new plants from seed. Hitherto we have been taught that the production of new and fine varieties of either Carnation or Picotee, is an extremely difficult and even arduous undertaking — the proportion being

from one to two good flowers to one hundred inferior and worthless plants. With this I perfectly agree, provided that the ordinary mode of obtaining the seed be pursued. We are told that it is a plant that never produces seed in considerable quantity, nor even any at all, unless in very dry and warm summers and under peculiar treatment, and even then with difficulty, arising as it is stated "from the extreme doubleness of the flower," a mistake originating either from ignorance of the natural structure of the flower and its physiology, or from want of sufficient experience in the writer. The Carnation is one of nature's most brilliant offerings to the flower garden, and although almost universally cultivated and admired for the symmetry and fine colouring of its blossoms, and for its delicate and grateful perfume, it is rarely seen in its fine varieties, some of which are really splendid and admirable, eclipsing all the flowers of its season, and making it as the pre-eminent ornament of the summer, as the Dahlia is of the autumnal months.

The scarcity of those fine flowers arises from two causes—first, from the jealousy of the few florists possessing them, who think them worthy of being exhibited and distributed to the initiated only; and secondly, from the neglect of raising plants from the seed of the best flowers, and from such only. Any florist who has sufficient energy and who wishes to derive more gratification from the culture of his Carnations, than he has yet enjoyed, may, by attending to the following directions obtain ample amusement and an abundant repayment for his time and trouble, in the production of many valuable and magnificent new flowers.

It is true that nearly all the blossoms of Double Carnations, if unaided by the hand of the gardener, will be unproductive of seed, but they are in very many cases capable of being made fertile. The organs of reproduction are in almost every instance fully developed, from the crowded state of the petals the operations of nature for production are defeated.

Every gardener and florist should know that plants are analogous to animals in their power of multiplying their kind, and require the co-operation of the sexes. In the Carnation, though ever so double, the male part of the flower or stamen is generally found, as is also the pistil of the female portion, together with the ovary, containing the embryo seeds, which may be observed by examining the blossoms of any double Carnations. The sexual distinctions are most easily distinguished. The florist, to be suc-

cessful in obtaining seed, has but to imitate nature, and by rendering his double flower as similar as possible to the single one facilitate her operations. This is done by extracting with a double pointed scissars the supernumerary petals, leaving only the outer guard leaves, taking care, however, not to injure the stamens or ovarium. This should be done before the anthers burst and shed their pollen, in order that the petals may not prevent its falling on, and being received by the stigmas, which is the usual cause of abortion in the double blossoms of the Carnation; or the florist, if he pleases, may cut away the stamens, and apply the pollen of some other admired variety to the stigmas of the flower, thus deprived of its male organs, and so fertilize the embryo seed, which is the most advantageous way of proceeding, as the variety among the seedling plants will be more marked and beautiful; and curious to say, more like the father plant, or that from which the fertilizing pollen was taken, than the mother parent, or that which produced the seed. Semi-double flowers are more easily managed this way, and may be made fruitful with the pollen of your best double flowers. The production of flowers is often effected through the instrumentality of bees and other insects, when collecting either honey or pollen from the flowers; in such cases the seed is frequently lost by neglecting to protect the blossoms from too much wet, and to extract the decaying petals, quickly lose their beauty and brilliant colouring, and being no longer needed, wither and die; they should then be cut away, lest by retaining moisture, they should communicate disease to the base of the ovarium (where the petals had been attached) which is of a spongy and light structure, and very liable to rot, if not preserved in a dry state. The stems should now be loosed from the stakes to which they were fastened, and the plants given as much air as possible. When the pericarpium has attained to half its size, it will be necessary to remove as much of the calyx or cup that contained the flower as can be done without injuring the seed-pods. The plants will now, need little further care until the maturing of the seed, when they must be carefully looked over every day, lest the pods should burst and loose their seed. When ripe, the pods should be carefully gathered and preserved unopened, until the following May, which is the most proper time for sowing, or the seeds extracted may be preserved in small well corked bottles, which is the mode usually adopted.

It has been stated, that layering Carnations prevents their

flowering as well as if it had not been done, and also prevents their producing seed. This I have found is not the case, if the plants are layered sufficiently early, the bloom will be stronger, and without doubt they will give more seed in consequence of the increased resources of the plant, each layer becoming rooted, and enabled to support itself, as well as contribute to the strength of the parent plant: they ought not, however, to be detached until the seed is gathered, else a failure of your crop will be the consequence. The seeds that have ripened in the early part of the season may be sown as soon as gathered, in a sheltered part of the garden, and the young plants placed out on a well manured south border, where (with slight protection during the very severe weather of winter) they will become strong blooming plants for the ensuing summer, thus gaining a year, as by the usual culture of the plants never show their flowers until the second year from sowing. The late saved seed is to be sown, and the plants treated in the usual way. This process may seem a little troublesome, but it is really not so; and the gratification arising from the production of very many beautiful flowers, will, I am sure, amply repay the person who pursues it.

ARTICLE VII.

ON PLANTING EVERGREEN SHRUBS.

BY THE FOREMAN OF A LONDON NURSERY.

THE season generally taken advantage of for transplanting evergreens, are spring and autumn; that is, about the month of May, after the spring frosts are supposed to be over, or the month of August, before the frosts set in. I have invariably found, that such plants as were removed in April and May, had a very great advantage over those transplanted during the preceding autumn. The reasons for this circumstance are, that such plants as are lifted in August cannot be supposed to have their young wood so well ripened off as plants that remain undisturbed at that season of the year; if the plants be checked by being transplanted at that season of the year, when the young wood is imperfectly ripened, generally in place of their pushing away vigorously in spring, the young wood is apt to die back, the leaves assume a sickly yellow appearance, and the whole plant is rendered an eye-sore. The advantage of moist weather for re-

moving the plants, and having fixed on the various situations where they are to be placed, cause the pits to be made before the plants are lifted, then take them up with good roots and balls as entire as possible ; the plant, if large, should be put into a hand-barrow, made for the purpose, and carried to its destination by two or four men, according to its size or weight ; let it carefully down into the pit, then adjust the roots and cover them with fine mould, then gently press the mould down with the foot, and give a slight watering through the rose of a watering pot, afterwards fill up the pit and level off ; gentle waterings should occasionally be given in the course of the season, in ordinary seasons two or three waterings will be sufficient. On stiff soils, or under large trees, the plants are much benefitted by trenching and loosening the earth a few feet all around them the following winter or spring, after being transplanted. On dry soils and sheltered situations, evergreens may be transplanted during the winter months with success ; but on low lying retentive soils, it is advisable to defer the transplanting of large evergreens till at least the beginning or middle of April.

ARTICLE VIII.

ON PRUNING TIMBER TREES, &c.

AN EXTRACT FROM LOWE'S ELEMENTS, &c. BY CLERICUS.

I AM aware that the subject of pruning a timber tree is not strictly Floricultural, yet their being usually found in the pleasure ground as matters of ornament, shelter, &c. will justify the insertion of some remarks on pruning them. The pruning away branches to make room from the successful growth of shrubs, is often required in the belts which form the exterior parts of the ground, as well as to give trees a proper form to make the best timber. A great deal of mismangement often occurs by persons performing it in a most injudicious manner, and in order to afford the readers of the Cabinet an opportunity of knowing how to perform the required particulars, I have extracted the following excellent observations from Professor Low's Elements, &c. for insertion therein.

The natural tendency of many trees is to rise with a conical stem shooting forth lateral branches from the base upwards. Some species of trees, as most of the resinous and some of the willow and poplar kind do not tend to deviate from this form, the

main trunk rising erect, surrounded from the summit to the base by smaller horizontal branches. But other trees, and these may be said to comprehend the greater part of the hard wood, do not rise with the same regularity. Instead of one leading upright trunk, they send out many large boughs, which rival in size the principal trunk: such trees become forked near the base, and the principal trunk below is short, while the top is largely branched.

Now this is a form of a tree which, however conducive to beauty, is not so to utility. The main object for cultivating wood is for the timber, and the greater part of the useful timber of trees is contained in the trunk before it begins to shoot out into boughs. In the artificial cultivation of wood, therefore, it is important to produce as great a length of trunk, in proportion to the branched top, as a due attention to the natural habits of the tree will allow.

Further, it is important for the obtaining of useful timber for the purposes of the carpenter, that the trunk shall be what is termed clean for as great a space upwards as possible. To understand the meaning of this term, when a branch shoots out from the side of a trunk of a tree, a part of the vegetable circulation is carried on through that branch; and hence there is at this place an interruption of the continuity of the circulation and thus alters its course. The fibres of the branch lie in a different direction from these of the main stem, and this, when carried to a certain extent, is injurious to the texture of the wood. These twisted fibres frequently constitute as it were a distinct mass of wood within the the body of the trunk. They often form what are called knots, which greatly take from the usefulness of the timber for the purposes of carpentry.

For these reasons, it is important that as great a part of the lower trunk as possible, be freed from the lateral shoots.

Nature in part performs this process. As the tree rises in height, the lower branches decay and fall off, so that there are few trees in which, even if left to themselves, there will not be a certain portion of the lower stems, cleared of lateral branches. When trees are close together, this natural falling off of the lower branches takes place more quickly, and to a greater extent, than when they are distant from each other.

(To be continued.)

PART II.

LIST OF NEW AND RARE PLANTS,

Noticed since our last.

1. BEGONIA PLATINIFOLIA. *Plane leaved.* [Bot. Mag. 359].

BEGONIACEÆ. MONÆCIA POLYANDRIA.

This very large and handsome species was received in 1834 into the Edinburgh botanic garden from Berlin. It is a hothouse plant, growing to six feet high. The leaves are about ten inches across. The flowers are produced in cymes, each blossom being two inches or more across, nearly white. *Begonia*, in compliment to M. Begon.

2. BOLBOPHYLLUM COCOINUM. *The cocoa-nut Bolbophyllum.* [Bot. Reg. 1624.

ORCHIDEÆ. GYNANDRIA MONANDRIA.

A native of Sierra Leone, and introduced into the country by Messrs. Loddiges, with whom it has bloomed, and the cocoa-nut scent is so powerful as strongly to perfume a whole house. The plant has also bloomed at J. Bateman's, Esq. Knypersly. Staffordshire. The blossoms are of a pale flesh colour.

3. CLARKIA RHOMBOIDEA. *Entire petalled*

ONAGRACEA. OCTANDRIA, MONOGYNIA. SYNONYM. C. GAUROIDES.

Seeds of this plant were sent from North West America by Mr. Douglas, and sown in the London Horticultural Society's Garden where the plant has bloomed. It is an annual, growing about two feet high. The flowers are an inch across, purple, and white near the bottom of each petal, spotted with purple. It much more resembles *Clarkia elegans*, than *C. pulchella*. Mr. Douglas has left some remarks on another species in California, closely allied to *C. rhomboidea*, viz. *C. unguiculata*.

4. CLEMATIS FLORIDA; var. SIEBALDI. *Siebold's Virgin's Bower.* [Brit. Flower Gard. 396.

RANUNCULACEÆ. POLYANDRIA POLYGYNIA.

This handsome flowering plant is a native of Japan, from whence it was introduced into this country by Dr. Siebold. It had been considered a distinct species, from that highly ornamental species, long known in the gardens of this country, viz. *Clematis florida*; but on a careful comparison, it is found to be a variety of it. The present kind deserves a place in every flower garden, or against a trellis, verandah, or wall. It is a free-growing sort, producing a profusion of blossoms, of considerable beauty. The petals are of a pale cream colour, suffused with a rich purple, having the appearance of a dark eyed centre; if the plant be grown on a dry subsoil, and in equal parts of peat and loam, it will flourish freely. It is easily propagated by layers.

5. CYMBIDIUM ENSIFOLIUM; var. ESTRIATUM. *Sword-leaf streakless variety.* [Bot. Reg. 1976.

ORCHIDACEÆ. GYNANDRIA MONANDRIA SYNONYMIS, EPIDENDRUM ENSIFOLIUM, LIMNODORUM ENSATUM. CYMBIDIUM STRIATUM.

The present plant grows freely in the greenhouse, where it produces a profusion of pretty, fragrant, blossoms. The petals are whitish, sepals greenish white, the labellum is spotted and marked with crimson.

6. DELPHINIUM VIMINEUM. *Slender upright Larkspur.* [Bot. Mag. 3593.

RANUNCULACEÆ. POLYANDRIA TRIGNYIA.

The late Mr. Drummond sent seeds of this plant from the Texas to the Glasgow Botanic Garden, where it has bloomed. It is a hardy perennial species growing about a yard high. The stems are slightly branching. The flowers are produced in rich racemes, and are of a bright azure blue colour. It deserves a place in every flower garden, being highly ornamental from July to September.

7. DELPHINIUM TENUISSIMUM. *Short slender Larkspur.* [Botanist.

A hardy annual plant, introduced into this country in 1836, seeds of it were gathered by Dr. Seethorp, near Athens. It has bloomed in the Liverpool Botanic Garden, producing a profusion of flowers and seeds. The plant grows to about a foot high, producing its flowers in loose panicles, they are of a violet blue colour,

8. DIPODIUM PUNCTATUM. *Dotted flowered.* [Bot. Reg. 1980.

ORCHIDACEÆ. GYNANDRIA MONANDRIA, SYNONYM, DENDROBIUM PUNCTATUM.

This terrestrial species of Orchidæ has been found in Van Dieman's land, as well as in New Holland, but more plentiful in the latter country. Mr. Jackson found it there flowering in December. It has bloomed in the collection of Messrs. Loddiges's. The stem is of a dark purple colour, rising from eighteen inches to two feet high. The flowers are numerous produced on a cylindrical raceme. Each blossom is of a dark purple, spotted with blood colour, and are about an inch across, producing a very pretty effect. *Dipodium*, from *dis* two; and *podos*, a foot; alluding to the two stalks of the pollen masses.

9. EPIDENDRUM CORIACEUM. *Leathery leaved* [Bot. Mag. 3595

ORCHIDACEÆ. GYNANDRIA MONANDRIA.

Charles, Parker, Esq. sent this species from Demerara to the Liverpool Botanic Garden, where it has bloomed. It had been considered by Mr. Shepherd to be a variety of *E. variegatum* but it appears now to be a distinct species; the leaves are more coriaceous, more lanceolate, shorter and less striated and acute; the spotting of the flowers are also very different. The flowers are produced in a spike, and the raceme contains from eight to ten. Each blossom is about an inch across, whitish, beautifully spotted with red. *Epidendrum*, from *epi* upon, and *dendron*, a tree; referring to its native situation.

10. HABRANTHUS ANDERSONII var. TEXAMUS. [Bot. Mag. 3596.

AMARYLLIDÆÆ. HEXANDRIA MONOGYNIA.

Grows in a native state in Monte Video, and in Buenos Ayres. The scape is one flower. The flower is an inch and a half across, of a golden yellow colour, with the outside of the petals, striped with redish brown. *Habranthus*, from *ubras* delicate, and *anthos* a flower.

11. HOSACKIA STOLONIFERA. *Creeping rooted* [Bot. Reg. 1977

LEGUMINOSÆ. DIADELPHIA DECANDRIA.

The late Mr. Douglas sent seeds of this plant from California. It is a hardy herbaceous plant, forming a bush of a yard high, and has much the appearance of a shrub during summer. The flowers are produced in nodding umbels. Each blossom is small greenish, with chocolate coloured middles. The plant blooms in June and growing rapidly and bushy, is found to be valuable, has an under shrub, filling up vacancies between shrubs. It increases rapidly by its creeping roots.

12. LUPINUS VERSICOLOR. *Party coloured Lupine.* [Bot. Reg.

LEGUMINOSÆ. DIADELPHIA DECANDRIA.

A hardy perennial species, a native of California, and has bloomed in the garden of the London Horticultural Society. The stems grows about two feet high, much branched. The flowers are produced in terminal spikes; the blossoms are variable between rose-colour, pale blue, violet, pink, and greenish white on the same raceme, but the lighter colours are generally towards the top of the raceme. It is a beautiful flowering species, and well deserves a place in every flower garden. The flowers are fragrant, something like the perfume of the field bean. It blooms from May to July, and produces abundance of seeds.

13. PLATYSTEMON CALIFORNICUS. *Californian.* [Brit. Flow. Gard. 394.

PAPAVERACEÆ. POYANDRIA POLYGYNIA.

An hardy annual introduced into this country by the late Mr. Douglas. The plant grows about eight or ten inches high, branches terminating with pale straw coloured blossoms, each about an inch across. The flowers much resemble the wild wood Anemone of Britain, only differing in colour. *Platystemon* from *platus* broad, and *stemon* a stamen, alluding to the broad filaments.

14. RHODENDRON ARBOREUM var. CINNAMOMEUM. *Cinnamon colourred tree Rhododendron.* [Bot. Reg.

ERICACEÆ, DECANDRIA MONOGYNIA.

In 1822 Dr. Wallich sent to this country, from India, a quantity of seeds of this plant, one of which has bloomed in the nursery of Messrs. Rollison at Tooting, Surrey. The present variety is very like the white sort which has previously been noticed and been cultivated in our gardens for ten or twelve years, but the clusters of flowers are more compact, and the purple spots on the white petals are larger, darker and more numerous. The white of the flower is not quite so clear as in the old kind. The present kind deserves a place in every shrub border.

15. BLUMENBACHIA MULTIFIDA. *Multifid-leaved.* [Bot. Mag. 3599.

LOASÆ. POLYDELPHIA POLYANDRIA.

A native of Buenos Ayres, and discovered there by the late Dr. Gillies. It has since been discovered by the late Mr. Tweedie, and by him seeds were sent to the Glasgow Botanic Garden. This species is very distinct from *B. insignis*, being a much stronger growing plant, more compact, and more hispid with strings. It is perfect hardy. The leaves are much larger, but like *B. insignis*, they are much lobed. The flowers are about an inch across, white, with a yellow, and red centre.

16. BRODIÆA GRANDIFLORA. *Large flowered.* [Botanist.

LILIACIA. TRIANDRIA, MONOGYNIA.

A bulbous rooting plant, a native of Georgia, on the north-west of America. Bulbs were sent by the late Mr. Douglas, to the London Horticultural Society. The flower stem rises to eight or ten inches high, terminating with an umbel of about six flowers; each flower is campanulate, about an inch across, of a pretty blue colour. It is quite hardy and flourishes freely if grown in a shady situation, and planted in peat soil. *Brodiaea*, named in compliment to James Brodie, Esq. of North Britain.

17. SILENE CHLORÆFOLIA. *Armenian catchfly.* [Bot. Reg. 1829.

SILENACE DECANDRIA TRIGYNIA.

A hardy perennial plant, producing numerous pretty flowers, of a pure white, delightfully fragrant. Each flower is rather more than an inch across. It is a most desirable plant for either the flower border or a rock work.

PART III.

MISCELLANEOUS INTELLIGENCE.

QUERIES

ON THE COLOURS OF DAHLIAS.—The difficulty which occurs in ascertaining the real colours of Dahlias, causes very considerable confusion, and unpleasantness between exhibitors have frequently arisen in consequence. Would it not effect the desired object if each Floricultural Society were to have a specimen card of colours, and for each exhibitor to purchase one, or have them gratis, at the time each exhibitor enters for competition.

If such cards of colours were obtained by every society from one source, a general correct understanding of each colour would prevail.

Middlesex, Aug. 18th.

W. W.

ON PRUNING RHODODENDRONS.—What should be done with respect to Rhododendrons when they grow straggling, as I am afraid of cutting them, lest I should injure the bloom for next spring. If some reader of the Cabinet, who has had practical instruction, would favour me with a reply, I should be greatly obliged.

KALMIA.

[We have frequently cut in straggling growing Rhododendrons, and they have made fine showy plants by the second summer. The time we have cut in the branches was early in April. Several young shoots were generally produced upon each branch, and lest they should be too close we thinned out a portion, and left not more than three or four. By cutting in the branches at this early season, the plants were not only more certain to push shoots than if cut late, but the young shoots had time before the autumn to grow vigorously, and be sufficiently ripened to withstand the effects of severe frosts without injury; whereas, if cut late in summer, the young shoots would be so tender as to be very liable to suffer by frost.]

The young shoots produced by cutting in the branches, has never produced bloom till the second season. Where a plant has a few short branches, and a number of straggling ones, the latter may be cut and the former left, which, if they have flower buds upon them, will produce a bloom, and the branches cut in push new shoots.—CONDUCTOR.]

REMARKS.

NEW PLANTS, &c.—*Calchortus venustus* and *C. splendens*, these are now in bloom, and are highly deserving a place in every flower garden, we gave figures of them soon after their introduction into this country.

Spiraea Japonica. This new species, producing white flowers, is very neat and handsome, and well deserves cultivation. It is a hardy herbaceous plant, flowering very profusely.

Anagallis Philippii. We gave a figure of this plant some time ago. It is a most profuse bloomer, of a splendid blue colour, and the flowers of a large size. It is a charming plant for the greenhouse or open border. A bed of it is splendid.

Penstemon Murryanus, is a most splendid flowering plant, producing when grown in the open border in summer, spikes of flowers six feet high. We have seen some even higher.

ON THE SENSITIVE PLANT.—The movement of the leaves of the *Mimosa pudica* have their origin in certain enlargements, situated at the articulation of the leaflets with the petiole, and of the petiole with the stem. Those only which are situated in the last articulation are of sufficient size to be submitted to experiment. If, by a longitudinal section, the lower half of this swelling be removed, the petiole will remain depressed, having lost the power of elevating itself:—if the superior half be removed, the petiole will remain constantly elevated, having lost the power of depressing itself. These facts prove that the motions of the petiole depend on the alternate turgescence of the upper and lower half of the enlargement, situated at the point of articulation: and that contractibility is not the principle of these motions.

If one part of the plant be irritated, the others will soon sympathise, or bear witness, by the successive falling of their leaves, that they have successively felt the irritation.—thus, if a leaflet be burnt slightly by a lens, the interior movement which is produced will be propagated successively to the other leaflets of the leaf, and thence to the other leaves on the same stalk. A very clever French experimentalist, Mons. Dutrochet, found.

1st—That this interior movement is transmitted equally well, either ascending or descending.

2nd—That it is equally well transmitted, even though a ring of bark has been removed.

3rd—That it is transmissible, even though the bark and pith be removed so that nothing remain to communicate between the two parts of the skin: except the woody fibres and vessels.

4th—That it is transmissible, even when the two parts communicate merely by a shred of bark.

5th—That it may be transmitted, even when the communication exists by the pith only.

6th—But that it is not transmissible, when the communication exists merely by the cortical parenchyma.

From these very interesting experiments, it results that the interior movement produced by irritation, is propagated by the ligneous fibres and the vessels.

The propagation is more rapid in the petioles than in the body of the stem:—in the former it moves through a distance of from three to six tenths of an inch in a second; in the latter, through from eight to twelve hundredths of an inch, during the same portion of time. External temperature does not appear to exert any influence on the rapidity of the movement, but very sensibly effects its extent.

Absence from light, during a certain time, completely destroys the irritability of the plant. Such change takes place more rapidly when the temperature is elevated, than when it is low. The return of the sun's influence readily restores the plant to its irritable state. It appears, therefore, that it is by the action of light, that the vital properties of vegetables are supported, as it is by the action of oxygen that those of animals are preserved, consequently, etiolation is to the former what asphyxia is to the latter.

Gardener's Gazette.

C. MACKENZIE.

THE CAUSES OF THE VARIETY AND VIVIDNESS OF COLOURS IN FLOWERS.—The petals of flowers do not owe their beauty to the colour that paints them; for that, when drawn off, is dull and dead; neither do they owe their brilliant tints to the skin that covers them. Their lovely appearance is derived chiefly from the bubbles of water which compose their pabulum. Receiving the sun's rays, they are enlivened and brightened by reflection and refraction from those drops of water; and from that spot or point of light being seen in every bubble, and striking to the focus underneath. By these means the whole flower would at times be one blaze of light had not nature to soften the same, covered the petal with an upper and an under skin which curtails their diamond-like rays, and leaves them, instead, a lightness and beauty unequalled by the most exquisite art of the painter.

In order to prove that bubbles of water are the true cause of the beauty which flowers transmit, either in vivid flashes or tender tints, to the human retina: we have only to take the dullest colour that was ever mixed or painted, and filling a small glass bubble with water, let the rays of the sun fall through it on the said colour, it will become the brightest and most beautiful imaginable, and exactly resemble the tint of flowers. The moist petal is so filled with water, that it only excites our astonishment how such a thin gauze like matter can contain such a quantity of liquor, and yet the flower reposes on the hand without wetting it.

To shew, however, that some of our flowers may owe their beauty to other contrivances besides pabula filled with water, we may instance a common one which adorns our fields. viz. the ranunculus or butter cup. The petals of this very pretty wild flower appear to be varnished. but, on examination, we find that this is owing to a white powder resembling magnesia which lies between the pabulum and the upper skin. "To try the effect." says Mrs. Ibbetson, whose experiments on the physiology of plants have placed her in the first rank of natural philosophers, "I got a quantity of extremely small glass bubbles containing water blown for me, and I placed them in a petal, in rows: although infinitely larger, yet they appeared to be a petal greatly magnified. I covered them with a piece of gauze, painted so as to resemble a flower, and truly did it imitate the sort of brightness and brilliancy which it was intended to represent."

GARDENER'S GAZETTE.

LONDON HORTICULTURAL SOCIETY. August 1st.—Dr. Lindley read a paper from Mr. J. Ingram, gardener at Southampton, on a simple and effective mode of killing the red spider, thrip, scale, and green fly, without injury to the plants. It merely consisted in putting the pots into a frame well closed, and then putting laurel leaves well bruised between them, when in the course of one hour, the whole of the red spiders and green flies would be destroyed by the odour: the plants were then to be removed into a hot place. For a house twenty feet by twelve, the quantity of two bushels of leaves would be amply sufficient, which might be bruised in the place which was to be covered and surrounded by matting, so as to prevent the escape of the odour. For the destruction of thrips and scales about eight hours was sufficient, and the experiment succeeded best at night; the plants afterwards to be removed to a hot place, when the insects would soon die and drop off.

Dr. Lindley read the following address from the Council of the Society to her Majesty, which had been presented on the throne by the Duke of Devonshire, requesting her to become the patroness of the society.

TO THE QUEEN'S MOST EXCELLENT MAJESTY.

Most gracious Sovereign:

We your Majesty's most dutiful and loyal subjects, the president, vice presidents, and council of the Horticultural Society of London, beg leave most respectfully to approach your royal presence, and in the name of the Society to offer our sincere condolence on the decease of his late Majesty our gracious patron.

Yet whilst in common with all classes of his Majesty's subjects we deplore the loss which the nation has sustained, by the removal of so munificent a patron of science, we are not the less sensible of the gratitude we owe to Divine Providence, for having blessed us in the person of your Majesty, with a successor, whose accomplished mind and enlightened views, are the theme of universal applause, and eminently calculated to adorn the throne of a kingdom, now justly celebrated above all others for the splendour of its gardens, and the devotion of its inhabitants to the peaceful occupation of horticulture.

While we humbly presume to take credit to our society for the improvement in public feeling, which has taken place in this respect, we gratefully acknowledge the service which we have derived from the royal countenance; and as the love of natural beauty, and the cultivation of the fine

arts are especially innate in the female breast, we confidently anticipate that a pursuit which is so completely identified with the advance of civilization, will flourish with renewed vigour, under the fostering auspices of your Majesty.

We therefore beg to offer our most heartfelt congratulations on your Majesty's accession to the throne of your ancestors, and venture humbly to solicit your Majesty's renewal of that patronage which has been accorded to this society by your royal predecessors since the period of its institution, and earnestly pray that your Majesty's reign may become illustrious by the general cultivation of all those arts of peace which are so eminently conducive to the wealth and beauty of the country, and the enjoyment of all classes of your Majesty's subjects.

Given under our corporate seal, at the rooms of the Horticultural Society, Regent Street, London, 22nd day of July, 1837.

Signed on behalf of the council, DEVONSHIRE.

A letter was read from his Grace, addressed to the secretary intimating that her Majesty has signified her intention to be the patroness of the society.

The first objects pointed out to the meeting were several orchideous plants contained in different collections in the room. The most interesting of these were *Zygopetalum rostratum*, from Mrs. Lawrence, a specimen of the same from Mr. Bateman, as also of *Acropera Loddigesii*, *Stanhoea insignis*, and *Gongora atropurpurea*. Mr. Pratt, of Cheshunt, exhibited a strange and interesting variety of *Stanhoea insignis*, and Mrs. Marryat, a new variety of *Oncidium Carthaginensis*, a little modified in the formation of the flowers. The most remarkable specimen was, however, *Cattlea crispa*, from Mr. Paxton, than which it would be difficult to find anything displaying more skill or beauty in cultivation, whether in shape, form or flower. It had been previously never seen with more than three, four or five flowers, but the present specimen contained seven, in which the interesting characters of the plant were all apparent. Accompanying this were three specimens of *Stanhoea insignis*, the cultivation of which had never before been so perfect but in the hands of Messrs. Loddiges, and these with the former specimen, exhibited the display of no ordinary skill.

Mr. Cox, of Cranford exhibited a beautiful tray of Carnations and Picotees; Mr. Hogg, a tray of Carnations; Mr. Salter, of Shepherd's bush, several Dahlias which were very good for the season. Mrs. Marriot exhibited a tray of Verbenas, of almost every variety and colour, *Tasconia pinatispula*, and *Campanula fragrans*, a plant which has lately come a great deal into cultivation in the neighbourhood of London, although it was thought it would be unsuccessful. It grows wild in Naples, and other parts of Italy on rocks and other wild places, having a magnificent appearance, covering the crevices of the former with its large and beautiful blue flowers. Mr. Hooker exhibited a large collection of roses. Mr. Moore, gardener to Miss Garnier of Wickham, Hants, exhibited a new Orchidea from South America, a variety of *Petunia* from P. *Nyctaginiflora*; and a variety of *Dianthus* from D. *Superbus*.

From Mr. Lawrence were 13 Heaths, many new and interesting varieties, particularly *Erica viridiflora* bearing a small and neat green flower.

REFERENCE TO PLATE.

LOBELIA PROPINQUA, a most splendid flowering species quite hardy. It likes a deep rich soil, and as all the other Lobelias of its section do, plenty of water in the growing season. If thus attended to, it will produce numerous spikes of flowers rising to the height of four or five feet. It deserves a place in every flower garden or greenhouse.

LOBELIA CÆRULEA GRANDIFLORA, this fine Hybrid variety, is quite hardy, producing numerous flower spikes, which rise from two to three feet high, and make a very striking contrast when placed near to the *Propinqua* fol-

gens, &c. Like those kinds, the present is free of production, and easy to cultivate,

KENNEDIA MARRYATTI, Mrs. Marryatt's *Kennedia*, a most beautiful flowering greenhouse climber, well meriting a situation in every collection of this tribe of plants. It flourishes well in sandy peat, having a good drainage.

FLORICULTURAL CALENDAR FOR OCTOBER.

PLANT STOVE.—Plants of Cactuses that have been kept in the open air or greenhouse, now put into the stove, will bloom immediately.

GREENHOUSE PLANTS.—Those plants that were removed into the greenhouse last month, should have plenty of air given them every mild day; but the lights should be close shut up at night, also when cold, damp, wet, or other bad weather prevails, excepting a little at the doors, about the middle of the day. The plants should not be watered in the "broad-cast" manner as it is termed; but should be attended to singly, so that no plant may be watered but what is actually dry. Water should not be given in the evening but in the early part of the day, so that damps may be dried up before the house is closed. If watered in the evening, the damp arising during the night will cause the leaves to decay, and encourage moss, lichens, &c. upon the soil. This will invariably be the consequence, unless fire heat be applied to counteract the effect. The soil in the pots should frequently be loosened at the surface, to prevent its forming a mossy or very compact state.—Camelias, if wanted to flower early, should be placed in a stove.

FLOWER GARDEN.—&c. Auriculas must now be removed to their winter habitation, all dead leaves must be picked off as they appear, or the plants will be liable to injury from rotting, &c. Carnation layers potted off should be placed for protection during winter. Offsets of the herbaceous kinds of *Calceolarias* in beds or borders, should now be potted off, having well-drained pots and a light soil. The plants should be kept in a cool frame, or a cool greenhouse; very little water must be given them, or they will damp off. Cuttings of all kinds of greenhouse plants that have been grown in the open border, in beds, &c., such as *Heliotropes*, *Geraniums*, shrubby *Calceolarias*, &c. should be taken of as early as possible in the month, and be stuck in heat, in order to have a supply of beds, &c. the next year. If frost is likely to cut off the tops by the end of the month, the plants should be taken up, and placed very closely in boxes, large pots, &c. for preserving during winter. Water freely after potting off, but little afterwards at the roots till the plants have struck root, they may occasionally be sprinkled over the tops. Do not place the plants in heat, to cause them to strike, for if this be done, most of the plants will fail, a cool frame or greenhouse is suitable. Hyacinths and other bulbs, should be potted early in the month, for forcing, &c. Seeds of *Schizanthus*, *Stocks*, *Salpiglossis* and similar kinds of plants, desired to have in flower early next season, should be sown the first week in the month in pots, and be kept from frost during winter. Seeds of *Pansies* may be sown early in the month, in pots, and be protected in a cool frame, also plants taken up and to be protected unless they be grown in a sheltered dry situation. *Pinks*, if not already planted off should be done early. Perennial and biennial flowers, may be divided, and planted off where intended to bloom next year. Flower beds, borders, &c. should be dug, and an addition of fresh soil be laid in them so as to raise the surface, and the roots of all plants may be covered, to be a protection during winter; this should be attended to by the end of the month. Any tender kinds of border plants that are liable to injury during winter, should be potted and placed for protection. To *Dahlias*, a cover of soil round the roots should be given, lest a sudden frost coming should injure the crown buds; seeds should be collected before damaged by frost. Seeds of all kinds of flowers not yet gathered, should be collected early in the month, or they will be liable to injury by frost.





Helianthus aegyptius



Pentstemon acutianthus



Asclepias speciosa
suberba.



Cyrtocarpus sibiricus

THE
FLORICULTURAL CABINET,

NOVEMBER 1st, 1837.

PART I.
ORIGINAL COMMUNICATIONS.

ARTICLE I.

ON PRUNING, THINNING, &c. OF TREES IN PLANTATIONS, WITH
OTHER REMARKS UPON THEM.

BY MR. JOSHUA MAJOR, LANDSCAPE AND ARCHITECTURAL GARDENER,
KNOSTHORPE, NEAR LEEDS.

I HAVE taken the liberty of sending you a few remarks on the very defective manner in which plantations are generally managed, as far as regards ornament, hiding disagreeable objects and effecting convenient and secure places of retirement; trusting through the medium of your widely circulated Cabinet, should you deem them worthy of insertion, that my remarks may have some tendency towards abolishing the evil I have to complain of.

I find wherever I travel, and in whatever country my profession calls me, very great and glaring defects in plantations, arising in nine cases out of ten from the want of judicious and early thinning. Now, could we but persuade gentlemen, and persons who have the management of such plantations to commence thinning a few years after planting, and to continue to do so, at least once in two or three years, as it is necessary, the defects I complain of would be prevented, and the objects I have in view would be effectually attained.

The method I would recommend to be pursued, is as follows :

1st, Make choice of such trees, as are likely to remain where they are planted, and at each successive thinning, clear off a few of their lower branches, Wych, Elm, Birch, Lime, &c. should be trimmed to the lowest stem ; and the formal upright kinds, such as the Horse-chesnut, Sycamore, Mountain-ash, &c. to the shortest stem.

2nd, Cut down from time to time, as occasion requires, such other trees as appear to crowd these, by this means the adopted plants will have room to bestir themselves, and they will be found severally to form extensive and massy branches, calculated at once for ornament and use, and one single tree, will eventually afford a screen equal to a hundred of these neglected skeletons we are at present confronted by wherever we turn ourselves. I do not mean that plantations should be always equally thinned : let the trees be occasionally at various distances ; for instance, two, three, four, five, or more may stand in a group, set from three to five yards from each other ; which, although near together, may still become fine ornamental trees, provided sufficient room be left all round to allow their branches to extend with freedom ; and indeed, in order to produce a proper effect, and to have groups and masses of different sizes, different distances must be adopted ; instead of which, we generally find plantations almost totally neglected for the space of fifteen or twenty years, and sometimes even longer, and that too, although the trees were planted at first at no greater distance than three or four feet from each other. Such mismanagement must necessarily cause the branches to decay and fall off ; and consequently leave the trees little better than mere naked poles, but miserably ill calculated to form a screen, and ornament the surrounding landscape.

The other day on a journey into Derbyshire, I was forcibly struck with the necessity of something being immediately said on a subject so important.

I noticed on each side of the high road plantations that have stood at least thirty years ; the trees were from three to four feet distant ; in consequence of which they had long been divested of their principal branches, which rendered them entirely useless as a screen, for which purpose they appeared originally to have been planted. I am not sure whether they did not belong to some nobleman, but, however, it is no uncommon thing

for similar defects to present themselves in large domains, even where woodmen are kept, which certainly reflects no credit on the owners.

I frequently find it a difficult matter to persuade gentlemen to allow their plantations to be thinned, and their trees to be cut down; but wherever I have prevailed, the alterations have never failed to give entire satisfaction. I was called in some few years ago, to alter the grounds of a baronet; who, while I was inspecting, directed my attention in particular to a plantation of at least fifteen years standing, formed for the purpose of concealing the kitchen garden. This partly from want of thinning, and partly owing to the prevalence of that odious tree (the black Italian Poplar), appeared to be a complete wilderness. I immediately directed the gardener to mark with white paint at least one half of them to be cut down. The baronet expressed his surprise at the number, and said he was sure Lady ——— would be distressed at the idea of so many being removed; however, it was agreed upon that they should be taken down before her ladyship took her morning walk. I left before the operation was performed; and to my great surprise, although all my other plans had met with their unqualified approbation, in the course of a few days I received a letter stating, that only one half of the number I had caused to be marked, had been cut down, and that the rest were to remain till I had paid another visit; and hoping that I should consider that sufficient, so reluctant was my kind employer to cut down his trees. Notwithstanding which, I still persevered in recommending the rest to come down, which was very reluctantly agreed to, and down they came, and undergrowths of common Laurels, Hollis, Yews, Dogwoods, to be introduced in their room; for it may naturally be supposed that their having been suffered to crowd each other so long, would entirely prevent them from ever assuming the form and beauty they would otherwise have done, had early pruning been attended to. My advice was followed and the nobleman has since called upon me, and expressed himself highly gratified with the improvements produced. On these grounds were several masses of silver firs, which would certainly have been the finest of the kind I ever saw, had they been properly managed; they were seventy or eighty feet high, but I am sorry to say it, destitute of branches to within ten or twelve feet of the top, instead of being furnished nearly to the ground, as

they might have been, had they been planted at a proper distance at first, and judiciously thinned afterwards.

A similar feeling prevailed with another baronet a year or two ago, who, although he professed to know a good deal about Landscape Gardening, had not acquired sufficient of the art to enable him to preserve either the form, or grandeur in the growth of his trees; for many old ones about the house were crowded to excess, and drawn to an immense height nearly destitute of branches; and there they remain to this day, as if to reproach him for his obstinacy.

I am employed at present in laying out a park and pleasure grounds, and the only obstacle that has occurred to frustrate the whole of my designs, is that of cutting down trees. The opposition rose on the part of the lady of the house, who, I must confess, possesses considerable taste, though in this particular case she was decidedly wrong. I was two years in obtaining her consent to remove two trees standing in a large mass, in order to open out a narrow vista. At last, on a late visit, I so far prevailed, by the aid of another gentleman, who happened to be dining with us, as to be allowed to remove one first in order to see the effect; and although this shewed a good deal of my object, I was not allowed to take down the other. However, we hit upon another expedient, we contrived to cut the top off the other, so as not to disfigure the tree, and this entirely answered the end I had in view, and opened one of the prettiest vistas I ever beheld: in short we were all highly delighted with it. I have adduced these instances which have come under my observation, to shew the necessity of drawing the attention of gentlemen towards the management of their trees, as far as regards effect and ornament, and to encourage them to dash away their fears, and not to allow them to predominate to the injury of the landscape.

These are not fanciful speculations, they are the result of much practice and careful observation. Before I conclude, allow me to remark that the general practice of introducing nurse plants, as they are termed, into plantations, seldom proves to answer the purpose intended, resulting in a great measure from the want of early attention. The Italian Poplar and the Larch, for instance, are of such rapid growth, that in four or five years they will overpower, and materially injure the Oak, the Beech, and in short, nearly every other kind of tree; consequently, at that

period care should be taken to relieve such by lopping off the branches of the nurse plants, and cutting down others as may be required.

I am decidedly against the introduction of the black Italian Poplar, either as a nurse plant for shelter, or any other purpose, unless it is quite certain that the whole are to be removed in due time: as it is at no period of its growth to be admired, but generally exclusively ugly. When young it never harmonizes with other trees, and as it advances in growth, it soon becomes disproportionate, top heavy, and in the end so over-balanced as invariably to bear on one side, and frequently to become nearly prostrate. Indeed I am opposed to the family of Poplars generally, except the Lombardy, which I should be sorry to condemn; on the contrary, when judiciously planted in groups, of from three to fifteen, in deep vallies, in dense masses of trees, or woods, and in connexion with churches or other buildings, especially those of the Gothic and Elizabethian style, a happy effect will be produced: but the country generally has become barbarously disfigured, by the introduction of most of the other kinds, (but more especially the black Italian) that could I raise a hue and cry against them, so as to have them totally banished from the country I should consider I had done justice to my own feelings, and to those of every one possessing true taste to Landscape scenery; but am I not speaking too hastily? Is not the Poplar the darling of a Professor of Landscape Gardening, who has scarcely known how to say enough in its praise? Ought he not to possess a taste for Landscape Gardening, he ought, and does, but what kind of taste is it, such a one it is hoped he now heartily repents of, let him look round and see what frightful objects he has reared in many parts of the country; and surely his conscience will tell him he has done mischief enough already, and the only way in which he can redeem his credit with the country, is to recommend the axe instantly to be laid to their roots, and at one fell sweep, exterminate them all.

I will now conclude with a hope that my early remarks on thinning, &c. may be of service, if not to those who have plantations of long standing, at least to those who are forming new ones—and advising that they will above all things keep out that frightful object, the black Italian Poplar.

J. MAJOR.

ARTICLE II.

A LIST AND PROPORTIONS OF COMPOST SUITED TO THE SUCCESSFUL GROWTH OF THE PLANTS AS DESCRIBED IN THE FOLLOWING LIST

BY AN OLD SUBSCRIBER, PIMLICO.

AGREEABLY to my promise I now send you a list of composts for plants, which I have selected from the excellent practical observations given upon each, in various papers that have been inserted in the Cabinet; and I doubt not but bringing the subject into this condensed form, will be a ready reference, and prove useful to the readers of the Cabinet.

COMPOSTS FOR PLANTS.

Name.	Loam.	Peat.	Hot-bed Manure.	Vegetable Mould.	Sand
Acacia	1	1	0	0	1-half
Anagallis	2	1	0	1-half	1-4th.
Anemone	1	0	1	1	1-3rd
Annuals	2	0	1	0	0
Arctotis	1	1	0	0	0
Asters	1	0	Tf.Ash. 1-6	1-sixth	0
Auriculas	1	0	Cow D. 1 each.	1	1-4th.
Banksias	1	1	0	0	1
Bouvardias	2	1	1-half	1-half	1-4th.
Bulbs, Cape	1	1	0	1	1
Do. Dutch	2	0	1 C. D.	1-half	2
Brugmansia	2	0	1	1	0
Begonias	1	1	0	0	0
Calceolarias	1	1	1 fourth	0	0
Campanulas	1	1	1	0	0
Camellias	1	1	1 half	1-half	1-half
Carnations, Pinks & Picotees	2	0	1	0	1-4th.
Chrysanthemums	1	0	1	0	0
Cistus	1	1	0	0	0
Commelinas	1	1	0	0	0
Correa, speciosa	1	1	0	0	1-4th.
Cyclames	1	1	0	0	1-4th.
Cyrilla, pulchella	1	1	0	1	1-half
Dahlias	2	0	1	0	1-3rd
Daisies	2	0	1	1	0
Eccremocarpus, scabre	2	0	1	1	0
Epacris	0	2	0	0	1-half
Ericas	0	2	0	0	1
Eutaxias	2	1	0	1-half	1-4th.
Fuchsias	2	1	1	1	0
Gardenias	1	2	0	2	0

Name.	Loam.	Peat	Hot-bed Manure.	Vegetable Mould.	Sand
Gloxinias	1	0	1	0	1
Green-house Perennials....	2	1	0	1	1
Heliotropes	1	1	1	1-half	0
Hydrangeas.....	2	0	1	1	0
Lobelia	2	0	0	1	1
Lophospermum, scandens..	2	0	0	1	1-half
Maurandia	2	0	0	1	1-half
Mesembryanthemums	1	1	0	0	1
Mignonette.....	1	0	0	1	1
Mimulus.....	2	0	1	1	1-half
Myrtles } hot-bed dung rot- ted to mould.	0	0	0	0	0
Nierembergias	2	0	0	1	1-half
Oxalis	1	2	2	0	0
Oranges	4	0	0	1	0
Pansies.....	2	1	1	0	0
Pelargonium	1	1	1	1	0
Pimelias	0	2	0	0	1
Polyanthus	1	0	1-8th.	1-8th.	1-8th.
Primula sinensis	1-half	2-3rds.	0	1	1-3rd
Ditto. common	1	1	0	1	0
Ranunculus	1	0	1	1	1-3rd
Roses, Climbers.....	1	0	1	0	0
Ditto. Noisette	1	0	1	0	0
Ditto, Perpetual	1	0	1	0	0
Ditto, Odorata	1	1	1-half	1-half.	0
Ditto, Standard	1	0	1	0	0
Salpiglossises	1	0	0	1	1-3rd
Salvias	1	1	1	0	0
Senecio, elegans	1	0	0	1	0
Succulent } 2 turfy, & 1-part Plants } Lime Rubbish from old buildns.	0	0	0	0	0
Tuberoses	2	0	1	0	1-4th.
Tulips in pots	2	0	C.D. 1.	1-half.	2
Ditto, in Borders.....	3	0	1	1	1-hal.
Verbenas.....	1	1	1	0	0
Violets.....	1	0	1	1	0

ARTICLE III.

ON THE CULTIVATION OF ALSTROMERIAS.

BY MR. W. SCOTT, GARDENER TO CHARLES BARCLAY, ESQ. M.P., F.H.S.
As the Alstromerias exhibited by Mr. Barclay, on the 7th of June, 1831, at the Gardens at Chiswick, were so generally admired that

the Society's large silver medal was awarded for them, we trust a description of his mode of treating them may not be unacceptable to our readers. "When I first came to Bury Hill," he says, "in April, 1831, I found several varieties in small pots of the size generally termed sixties, which were suffering from being kept too moist, and *Alstromeria tricolor* or *Flos Martinia*, and *pulchella* or *Simsii*, were planted in the border in front of the stove. Being very partial to the genus, although I had never seen any of the varieties before, except *ligtu* and *peregrina*, I began immediately to turn my attention towards them. Being well aware, from what I had seen of the two kinds with which I was acquainted, that they require rest for a few months in the course of the season, I removed all the plants I could find, (which, as well as I can recollect, were *Hookeri*, *pulchella*, *pallida*, *peregrina*, *acutifolia*, *peregrina alba*, *psittacina*, *edulis*, *ligtu*, and a variety from Mr. Nuttall, raised by him from Peruvian seeds, and which had never flowered here,) to a small pit in front of the pine stove, giving them no water till the earth about their roots got quite dry; as soon as they began to recover, I potted them in the size called forty-eights, and kept them on a shelf against the back wall of the greenhouse, about three feet from the top lights; and although I lost *hookeri*, *peregrina alba*, and *edulis*, I had the satisfaction of seeing the others thrive much better than they had done the previous year. I also took up from the border in front of the stove, *tricolor* and *pulchella*, and gave them the same treatment. When the leaves began to decay, at the end of July or beginning of August, I withheld water, and allowed the plants to rest till the beginning of November, 1832, when they again began to vegetate: I then repotted them, and gave them every encouragement, in rich mould composed of loam, rotten dung, and leaf mould, with a little sand; this I find to be the best compost for growing them in. As they filled their pots with roots I shifted them progressively to a larger size: and had in June, 1833, the pleasure of flowering the species from Mr. Nuttall and *pallida*, for the first time since they had been at Bury Hill; and I succeeded in growing *tricolor* to the height of two feet three inches, well covered with flowers: none of my pots that season were larger than what are termed sixteens. When the flowering was over and the leaves beginning to decay, I then resorted to the plan of drying, or resting, the plants till the following November; I afterwards gave them the same course of treatment as before; but as the

roots had attained a greater degree of strength, the size of the pots was enlarged, until some of the stronger varieties were planted in the size No. 6, in which they arrived at the state in which they were exhibited at the Society's garden in June, 1831. During the time of growing, I keep them on a shelf, or trellis, in front of the greenhouse, having upright lights about five feet high, and I gave them plenty of air, carefully avoiding the least application of heat, which would draw them up weak, cause the flowers to be much smaller, and very much injure their colours. By these means I have had them continue in bloom for full four weeks."— Read before London Horticultural Society.

ARTICLE IV.

ON PRUNING TIMBER TREES, &c.

(Continued from page 240.)

In natural forests the trees rise with very tall upright stems, and are gradually divested of all their branches below to a vast height. It is from natural forests accordingly that our finest, tallest, and most valuable timber is derived.

But in the artificial culture of wood we cannot imitate the natural process, and allow the lateral branches to fall off by themselves. In the culture of wood we must admit the air to the trees, by keeping them at a distance from each other: and under these circumstances, the tree tends greatly to shoot out into branches, and thus to produce a smaller growth of upright stems, as well to have a smaller extent cleared of branches towards the base.

In the cultivation of wood, then, we must generally resort to artificial means to form the tree to what we wish it to possess. We must then endeavour to promote the upright in place of the lateral extension, and then to have a sufficient portion cleared of lateral branches.

Further, the later branches should be taken off at as early a stage in the growth of the tree as is consistent with its health; for it is to be observed, that when a branch shoots from a tree, the twisting of the fibres begins at the point where the branch had originated, and not, as from a cursory inspection might be supposed, from the surface of the stem.

Thus, in a following section of a portion of the stem, a lateral branch having first appeared on the surface, continues to increase

in thickness as the main stem incrases, and in the same manner, namely, by the adding each year of a layer of wood all round. It does not therefore commence at the surface of the tree, but in the interior, and each year increase in diameter. The sooner, therefore, that this branch is removed, the less will be the twisting of the main stem at this part.

As in the practice of pruning there are two distinct purposes to be aimed at; first, giving the vertical tendency to the tree; and, second, obtaining as great a portion as possible of clean stem; so there are two periods in the growth of the tree at which these objects are to be attended to. The first in the order of time, is giving the vertical tendency to the tree, and the second, the denuding it of its lower branches.

Until the tree has attained the height of fifteen or sixteen feet, the only object that need to be attended to is to give it the upright tendency in question, and to prevent its becoming forked.

The pruning for this purpose consists in merely shortening such branches as may be rivalling the leading shoot, or stretching out laterally with a growth disproportioned to that of the others. Frequently the mere nipping off of the terminal bud will be completely effected by shortening the shoot, making it about half the length of the shoot above; this is the sole purpose of pruning during the first period of the growth of the tree; and it is to be observed, that if a tree be of itself tending to grow upright and without forking, no pruning, even of this simple kind, is required. For of all pruning it is observed, that it is a violence done to the plant, and is to be avoided as much as possible. By cutting off branches and leaves, we cut off organs of nutrition. We do not prune that we may increase the quantity of wood, for the operation has quite a different tendency and effect; but we prune that we may give to the tree that form which is calculated to produce the greatest quantity of timber in the proper place.

The other branch of pruning, and next in the order of time, consists in denuding the lower part of the trunk of branches, so that there may be obtained a sufficient extent of clean wood. Although, for the reasons given, it is important that the taking off these branches be at as early period as possible, yet this must be done always under the conditions necessary to preserve the health of the tree. The tree should, in the first place, have attained sufficient strength and age to bear the being deprived of

its branches; and in the next place, the process should be carried on so slowly as not to effect the healthy growth of the plant, and so gradually, that it may have vigour to cicatrize, or cover with bark, the wounds that have been made upon its surface. The period when we may safely commence this process of denudation, is when the tree has attained the height of fifteen or sixteen feet.

Now, every tree adds to the length of its leading shoots and branches from buds which grow on the end of the shoots. Every year a new shoot is made from the end of the buds, of a length proportioned to the vigour of growth of the plant. The shoots thus formed in one year, produce each a bud, which, in like manner produce shoots in the following year; and thus while the tree is growing, there is a continued increase of the length of its leading shoots and branches. Further, when the annual shoot of any branch is produced, there is usually sent forth at the place where it originates one or more lateral shoots, so that there is a succession of branches, or tier of branches from the base to the summit. Were these lateral branches not to fall off, we could, by means of them, ascertain the age of the tree, and in the case of many of the Coniferæ, we can frequently ascertain the number of years which they have lived, or that each individual branch has taken to grow, from the number of these annual shoots alone. A knowledge of this mode of growth will conduct us to a simple rule in practice for removing, without violence, the lower branches of the trunk.

When we commence this process of pruning off the branches of the stem, let us cut off the lowermost branch or tier of branches, that is, the branch or branches of one year's growth, and no more: in the second year let us cut off a second tier, in the third year a third tier, and so on. In this manner, while the tree in each year makes one shoot vertically, the lateral shoots of another year is cut off below. Thus, a tree having made fifteen shoots, and having risen, we will suppose, to the height of fifteen feet, we commence the process of pruning by cutting off the lowermost set or tier of branches. The tree then makes a shoot at the top, so that while we have cut off the lateral shoots of one year, another year's vertical shoot will be made. The next year we prune away the branch or tier of branches, and again the tree makes a shoot at the top. In the third year we cut off as before, and again the tree makes a shoot upwards; and so we

take off each year the lateral shoots of one year, and never any more.

By this method we shall gradually denude the stem of its lateral branches from below upwards, while it is increasing in vertical growth. The extent of clear trunk will thus gradually become larger in proportion to the uncleared portion or top. Thus, suppose we begin to prune when the tree has made fifteen years' shoots, then when it has made thirty years' shoots, we shall have cleared off fifteen; that is, half the height of the tree.

Now, when we have cleared half the height of the tree, or a very little more, we should pause in our further operations, and mark its state of growth. If it continue to grow vigorously, we may resume our operation of close pruning, but at longer intervals than before, so as never in any case to have cleared away more than one half, or at the utmost three-fifths, of the height of the tree, and never taking off more than one year's lateral growth of branches in a season.

Every tree, it is observed, must possess a sufficient top; that is, it must extend horizontally as well as vertically, so as to bear branches and leaves. The leaves are organs of nutrition of the plant, essential to the healthy exercise of the vegetable functions, and we must be careful to deprive it of no more of these organs than consists with our purpose of pruning. Now, by proceeding slowly in this gradual manner, never taking off more in any one year, than the growth of one year's lateral branches, we shall not usually interfere with the healthy growth of the tree, but shall always leave it a sufficient power of expansion at top, as to afford it the means of nutrition and growth. Further, by never cutting off more at a time than the growth of one year, the tree will generally have vigour to cicatrize the wounds that have been made upon its trunk; whereas, were we to lop off many branches at a time, according to the practice too prevalent, the tree might not have vigour to cover them with fresh growth of bark, and thus the wounds might remain, to the lasting injury and frequent destruction of the tree.

In pruning in this manner the branches are to be cut off quite close to the stem, so that the bark may quickly cover the wound; and although trees may be pruned in summer, the fittest period for pruning, as of all operations upon the living plant, when vegetation is inert: that is, from the fall of the leaf, to the period of the ascent of the sap in spring.

Thus, then, the operation of pruning may be said to be begun in the nursery, but at that time with an extreme degree of temperance, all the object of pruning at that early period being to prevent the plant becoming forked. When the trees are transplanted to their ultimate situation, we may examine them in the third, or at latest, the fourth year afterwards, and then, if more than one leading shoot is formed on any tree, we are to select the best, and shorten the others to about half the length of that which had been selected. And in like manner, when any branch or set of branches is seen to be extending laterally, with a growth disproportioned to that of the others, then, by merely shortening them, the tendency to the lateral extension will be sufficiently checked to allow the other branches to extend in an equal degree. And should we find that all the branches of a tree are tending to extend too much laterally, by merely shortening them in a slight degree, we shall give the ascendancy to one leading shoot, and so promote the upward tendency; and this is all the pruning required until the tree has attained, as has been said, the height of fifteen or sixteen feet, when the process of pruning the lower branches is to be begun and carried on by the slow process described. But even after we have begun the process of close pruning, we may still observe that the tree is ascending vertically, and, if required, give this tendency from time to time by shortening of any of the lateral branches.

It is not essential to the success of this method of pruning, that it be carried on every year. It will be sufficient to approach as near to the perfect practice as circumstances will allow, observing merely the general rule that not more than the growth of one year shall be taken off at a time, and that the process shall not be carried further than to the clearing off three fifths of the height of the tree.

The method of pruning by the shortening of the lateral branches, was brought into notice in England by the writings of Mr. Billington, who had charge of a portion of the royal forests: and it was further developed and explained, with the addition of the gradual denudation of the lower branches, by Mr. Cree, in Scotland. To these most deserving individuals is due the merit of having introduced, and to the latter that of having perfected, a system of pruning very greatly superior to that which had been before in use.

Pruning as it is commonly practised can scarcely be said to be

found on any principle. Branches are loped off without limit or caution, and thus the growth of the tree is injured, and wounds formed upon its surface, which are never afterwards cicatrized. Often in the case of the young trees, we see the entire branches of successive years' growth loped off in a season, and nothing left but a bush at the top. By this system of mutilation, millions of trees are sacrificed. A great proportion indeed of the whole cultivated wood of the country is annually destroyed, and it were better that the pruning knife were never used at all than thus misapplied. The practice so common has probably been derived from that of the garden; but it is to be observed, that, in the garden, the object of pruning is to repress the growth of the wood and produce that of fruit; and the principle therefore, is in no degree applicable to the pruning required in the forest.

The principal instruments to be employed in pruning are a sharp knife, chisels with handles for reaching the higher branches, and sometimes a small saw for the larger branches. The hatchet is on no occasion to be used in pruning. The Indian saw ought to be used, which is made to act by being pulled towards the operator, in place of being pushed away from him like the common saw of Europe. By being fixed to a long handle, this instrument is adapted to the cutting off the higher branches.

When the proper direction has been given to the growth of the tree, and the lower branches have been pruned to the height to which it has been thought expedient to carry the operation, art has done all that it can do to render the tree useful. The natural growth of the tree must effect the rest. The trunk will increase in diameter by the addition of concentric layers of wood, yearly formed between the bark and the stem. The longer a tree stands while in a growing state, the thicker will its trunk become, and the more valuable. It makes wood rapidly to use a familiar expression, when the trunk has become of a good size: and it is an error, therefore, to fell wood which is intended for timber too soon.

In the pruning of forest trees, one of the most frequent errors committed is to delay the process till too late. By this delay the form of the tree is rendered such that it cannot be restored; and the loping off of large branches in the manner often practised, in order to give the tree a better shape, is for the most part attended with the evil of disfiguring it more, and enfeebling its growth. We constantly see those mistaken attempts to repair

past neglect, by the lopping off of large limbs, the places of which the tree now wants vigour to heal. Vast number of trees are destroyed by this system of mutilation, when all further object in pruning is at an end. Sometimes a large branch may be loped off a tree top heavy, or when a branch is likely to be split, or for some other good reason. But it is an error which must end in disappointment, to begin this system of lopping a full grown tree, with the design of compelling it to resume its process of increase when it has naturally ceased.

When a tree has naturally been neglected, but is not yet so far advanced, but that we may hope to restore it, we have merely to apply the principle of pruning explained to the case of the particular tree. We have to shorten the lateral branches which are forming forks, so as gradually to produce the upright tendency of the leading stem required. The rule is to proceed with the greatest temperance, taking care never to do too much in one season, lest, by depriving the tree of its branches, we enfeeble its vigour and impede its growth.

ARTICLE V.

ON THE CLIMATE OF HOT HOUSES.

BY PROFESSOR DANIELL, KING'S COLLEGE, LONDON.

THE principal considerations which generally guide the management of gardeners in this delicate department, are those of temperature; but there are others, regarding moisture, which are, I conceive, of at least equal importance. The inhabitants of the hot-house are all natives of the torrid zone, and the climate of that region is not only distinguished by an unvarying high degree of heat, but also by a very vaporous atmosphere. Captain Sabine, in his Meteorological Researches between the tropics, rarely found, at the hottest period of the day, so great a difference as ten degrees between the temperature of the air and the dew-point; making the degree of saturation about 730, but most frequently 50. or 850; and the mean saturation of the air could not have been below 910. Now, I believe, that if the hygrometer were consulted, it would be no uncommon thing to find in hot-houses, as at present managed, a difference of 20° between the point of condensation and the air, or a degree of moisture falling

short off 500. The danger of over-watering most of the plants especially at particular periods of their growth, is in general very justly appreciated; and, in consequence, the earth at their roots is kept in a state comparatively dry, the only supply of moisture being commonly derived from the pots; the exhalations of the leaves is not enough to saturate the air, and the consequence is a prodigious power of evaporation. This is injurious to the plants in two ways; in the first place, if the pots be at all moist, and not protected by tan or other litter, it produces a considerable degree of cold upon their surface, and communicates a chill to the tender fibres with which they are lined. The danger of such a chill is carefully guarded against in the case of watering, for it is one of the commonest precautions not to use any water of a temperature at all inferior to that of the air of the house; inattention to this point is quickly followed by disastrous consequences. The danger is quite as great from a moist flower-pot placed in a very dry atmosphere.

The custom of lowering the temperature of fluids in hot climates, by placing them in coolers of wet porous earthenware, is well known; and the common garden pot is as good a cooler for this purpose as can be made. Under the common circumstances of the atmosphere of a hot-house, a depression of temperature amounting to 15 or 20 degrees, may easily be produced upon such an evaporating surface. But the greatest mischief will arise from the increased exhalations of the plants so circumstanced, and the consequent exhaustion of the powers of vegetation. The flowers of the torrid zone are, many of them, of a very succulent nature, largely supplied with cuticular pores, and their tender buds are unprovided with those integuments and other wonderful provisions by which nature guards her first embryo productions in more uncertain climates. Comparatively speaking, they shoot naked into the world, and are suited only to that enchanting mildness of the atmosphere for which the whole system of their organization is adapted. In the tropical climates the sap never ceases to flow, and sudden checks or accelerations of its progress are as injurious to its healthy functions, as they are necessary in the plants of more variable climates to the formation of those hybernacula which are provided for the preservation of the shoots in the winter season.

(To be continued.)

REVIEW.

The Suburban Gardener and Villa Companion;—By J. C. LONDON, F. L. S., H. S., &c.; London: Longman, & Co.

IN MONTHLY NUMBERS. The fifth number, for October 1837 48 pages, has been sent us, on looking it over, we find it contains many useful observations, and as the present number is doubtless a fair specimen of the entire work, we have no hesitation in recommending it to our readers. The following is an extract from the number now before us.

On Planting Flower beds with fibrous-rooted Perennials and Bulbs alternately.

“THE advantage of introducing bulbs in flower-gardens is, that their flowers make a greater show than those of fibrous rooted plants generally do in spring; and as, in small suburban residences, it seems more desirable that the gardens should look well in spring than in summer (because at the latter season many families go out of town for a few months), the use of bulbs appears very desirable. The manner of introducing them may either be in beds by themselves, to be succeeded by fibrous-rooted plants when they go out of flower; or intermixed with fibrous-rooted perennials, by using only half the number of the latter, and those of larger growth; and by placing the bulbs and the perennials alternately. As the bulbs come all into flower in March, April or May, they will have faded before the perennials have come to their full growth; and hence, notwithstanding the increased size of the perennials, the bed will not appear crowded. In the selection of both perennials and bulbs, we shall give, as far as practicable, only one species of a genus, in order to produce as much botanical variety as possible within the given space.

The perennials for the bed *a* may be the 8 following kinds; none of which come into flower earlier than June and which are all about 1 ft., or from that to 1 ft. 6 in., in height:—

- Betonica grandiflora, large flowered betony; red, June.
- Campanula atriæfolia, the beam-tree-leaved bell flower; white, June.
- Oenothera undulata, the waved-leaf evening primrose, yellow, July.
- Delphinium elegans, perennial larkspur, blue, July.
- Dianthus carthusianorum, Carthusian pink, red, August.
- Scutellaria peregrina, white helmet-flowered, August.
- Gentiana Saponaria, the soapwort-leaved Gentiana, blue, September and October.
- Aster diffusus, white Michaelmas daisy September and October.

- The bulbs may be the 8 following:—
- Scilla bifolia, blue two-leaved squill, March.
 - Crocus albiflorus, white-flowered crocus, March.
 - Anemone pavonia, the peacock's eye anemone, red, April.
 - Hyacinthus orientalis, white hyacinth, April.
 - Narcissus minor, small narcissus, yellow, April.
 - Fritillaria tenella, slender fritillary, purple, May.
 - Erythronium Dens canis, the dog tooth violet, reddish lilac, May.
 - Muscaria pallens, pale-blue musk hyacinth, May.

The bed *b* may be planted with the 3 following perennials:—

- Ononis rotundifolia, the round-leaved restharrow, red, June.

Silene chloræfolia the Armerian catch-fly, white, July.

Commelina erecta, the upright commelina, blue, August.

The bulbs may be:—

Tulipa suaveolens, the sweet-scented wild tulip, variegated, March.

Galanthus nivalis, the common snow-drop, white, March.

Allium amœnum, the red flowered allium, April.

Narcissus tenuifolius, the slender-leaved narcissus, yellow, May.

The perennials for the bed c may be:—

Valeriana dioica, the dioecious valeriana, red, June.

Gypsophila arenaria, the sand gypsophila, white, July.

Tagetes lucida, French marigold, yellow, shining, perennial, August.

The bulbs may be:—

Corydalis albiflora, the white-flowered fumitory, March.

Iris tuberosa, the tuberous rooted iris, variegated, March.

*Gagea bracteolaria*s, the yellow star of Bethlehem, April.

Lilium concolor, the self-coloured lily, red, May.

The perennials for the bed d may be:

Papaver orientale, the scarlet poppy, June.

Campanula persicifolia, the peach-leaved bell-flower, white, July.

Veronica candida, the white-leaved speedwell, blue, August.

The bulbs may be:—

Leucojum vernum, the snow-flake, white, March.

Eranthis hyemalis, the winter aconite, yellow, March.

Oxalis floribunda, the abundant flowering wood sorrel, red, April.

Scilla peruviana, the Peruvian squill, Purple, May.

The perennials for the bed e are:—

Lychnis sibirica, Siberian lychnis, white, June.

Potentilla Russelliana, Russell's potentilla, scarlet, July.

Baptisia tinctoria, the dyer's baptisia, yellow, August.

The bulbs are:—

Allium Chamæmoly, the dwarf moly, white, March.

Muscaria botryoides, the grape hyacinth, blue, April.

Tulipa præcox, early tulip, red, April.

Narcissus Bulbocodium, the hoop-peticoat narcissus, yellow, May.

The perennials for the bed f may be the 6 following:—

Clinopodium vulgare, common wild basil, red, June.

Lychnis neglecta, white lychnis, June.

Hypericum pulchrum, yellow St. John's wort, July.

Campanula carpatica, the Carpathina bell-flower, blue, July.

Phlox suaveolens, the sweet scented phlox, white, August.

Malva moschata, musk-scented mallow, red, August.

The bulbs may be the 5 following:—

Scilla italica, Italian squill, blue, March.

Fritillaria lutea, yellow fritillary, March.

Ornithogalum umbellatum, the umbel-flowered star of Bethlehem, white April.

Narcissus Jonquilla, common jonquil, *Lilium aurantium*, the orange lily, May.

The perennials for the bed g may be the 5 following:—

Anthyllis coccinea, the scarlet kidney vetch, June.

Dianthus cæsius, the grey pink, white June.

Geranium ibericum, Spanish crane's bill, blue, July.

Enothera serotina, late evening primrose, yellow, August.

Pentstemon diffusus, spreading pentstemon, purple, September and October.

The bulbs may be:—

Fritillaria præcox, early fritillary, white, March.

Allium incarnatum, flesh coloured moly, red, April.

Tulipa sylvestris, wood tulip, yellow, April

Scilla campanulata, bell flowered squill, purple, May.
Narcissus poeticus, the poet's narcissus, white, May.

The perennials for the bed *h* may be:—

Dianthus deltoides, the deltoid pink, red, June.
Yerbena sulphurea, the yellow verbena, July.
Erigeron bellidifolius, the daisy-leaved erigeron, purple, July.
Aster conyzoides, the fleabane-like aster, white, August.

Scabiosa australis, the southern scabious, blue, September and October.

The bulbs may be as follows:—

Bulbocodium vernum, spring bulbocodium, purple, March.
Leucojum aestivum, summer snowflake, white, April.
Gladiolus communis, common cornflag, red, May.
Fritillaria imperialis, crown imperial yellow, May.

By this mode of planting we have 36 species of perennials, and 38 bulbs; and the advantage that it has over the preceding mode is, that a much greater show will be made in the months of March, April, and May; because, as already mentioned, the flowers of bulbous-rooted plants are much larger in proportion to the foliage than those of fibrous-rooted plants. The flowers are also much more conspicuous; because, in general, they expand before the leaves have attained their full size. On the whole, however, the culture of bulbs in mixture with perennials is inconvenient; except when florist's bulbs only are employed, that come into flower and fade all about the same time, and the roots of which may be taken up annually in June or July, and replanted in November or December. This admits of taking up the perennials every year, or every other year, stirring, refreshing or renewing the soil, and pruning or otherwise reducing the plants, and then replanting them. On the other hand, if what may be called botanical bulbs were introduced, as these are best allowed to remain in the soil for several years, the perennials cannot be so conveniently taken up, reduced, replanted, when they get too large. Another reason against intermixing permanent bulbs with perennials is, that, the moisture required during summer to keep the fibrous rooted plants in vigorous growth, has a tendency to rot the bulbs, they being at that time in a dormant state, and, in their native habitats, comparatively dry; almost all bulbs being natives of countries which have alternate seasons of drought and moisture, and flowering only in the latter. The best florist's bulbs to intermix with perennials are the different varieties of the common hyacinth, the crocus, the tulip, and the narcissus.

On Planting flower beds with showy Perennials, which are common and cheap.

The following list consists of showy species and varieties, quite hardy, that will grow with ordinary care, in any common soil, and may be procured in any good nursery, at prices varying from 3d. to 1s. each, when purchased by the single plant; or from 2s. 6d. to 10s. per dozen, as will be seen by the priced lists at the end of this work. Those who wish to know something more of any particular kind than what has been here stated, may refer to our descriptive catalogue, in which they will also find short directions for their culture; and to the priced lists for their prices.

February and March.

Viola tricolor, different varieties of heartsease.
Viola odorata, the sweet-scented violet.
Bellis perennis, the double red, dou-

ble white, variegated, and hen and chickens, daises.
Gentiana acaulis, the dwarf gentian, purple.
Hepatica triloba, the double red, double white, and double blue, hepaticas.

(To be Continued)

PART II.

LIST OF NEW AND RARE PLANTS,

Noticed since our last.

- 1.
- CEREUS AKERMANNII*
- .
- Akermann's Mexican Cereus*
- . [
- Bot. Mag.*
- 3598.

CACTEÆ. ICOSANDRIA MONOGYNIA.

This splendid flowering plant has generally been considered an hybrid between *C. speciosa* and *speciosissimus*, but seeds of the original plant were first sent to this country from Mexico. The flowers are as large as *speciosissimus*, of a fine reddish-scarlet colour, but destitute of the fine azure colour which tinges the flower of that species.

- 3.
- COWANIA PLICATA*
- ,
- Plaited-leaved*
- . [
- Brit. Flower Gard.*
- 4001.

ROSACIA ICOSANDRIA POLYGYNIA.

An hardy evergreen, much branched shrub, a native of the uplands of Mexico. The blossoms are about an inch and a half across, of a rich rosy lilac colour. The flower in form very much resembles a single rose, of the size stated. They are produced numerously, and make a showy appearance. The plant is a valuable acquisition to our dwarf shrub; the plant was raised from seeds by Mr. Thomas Blair, Gardener to Mr. Clay, Stamford Hill. *Cowania*, in commemoration of the late Mr. James Cowan, who introduced into this Country a number of interesting plants from Mexico and Peru.

- 3.
- CYPRIPEDIUM PURPURATUM*
- .
- Purple stained Lady's slipper*
- , [
- Bot. Fcg.*
- 1991;

ORCHIDACEÆ, GYNANDRIA DIANDRIA.

This new species has been recently introduced into this country by Mr. Knight, of King's Road, Chelsea, from the Malayan Archipelago. It has bloomed in the collection of Messrs. Loddiges's of Hackney Nursery. Its purple flower has a very pretty appearance. The foliage is very much like that of *C. venustum*.

- 4.
- GESNERIA LATERITIA*
- ,
- Brick-coloured flowered*
- . [
- Botanist*
- .

GESNERIACEÆ. DIDYNAMIA, ANGIOSPERMIA.

This species is a native of Brazil, received from that country to the London Horticultural Society's Garden, in 1832, and has bloomed in the plant stove at that place. The flower stem rises about two feet high, producing a number of brick-red flowers, each about an inch a half long. This species has, till very recently, been considered to be *Gesnera Sellowii*, but it is now ascertained not to belong to the section of *Gesnera*, to which *G. Sellowii* belongs, but to that of *G. bulbosa*. *Gesneria*, so named in compliment to Conrad Gesner of Zurich, who died in 1565.

- 5.
- GESNERIA LINDLEYI*
- ,
- Dr. Lindley's Gesneria*
- . [
- Bot. Mag.*
- 3602

SYNONYM, *G. RUTILA*, var *ATROSANGUINEA*.

This handsome flowering species is a native of Brazil. It differs from *G. rutila* in many particulars. That species has axillary, solitary, flowers, and has a wider mouth. The hypogynous glands are only two, whereas in *G. Lindleyi* they are constantly five. The flowers of this latter species are of a bright scarlet colour, each about an inch and a quarter long; they are produced numerous on a raceme of near two feet long. The flower stem rises from three to four feet high.

6. GRABOWSKIA BOEHAAVI-FOLIA, *Boerhaavia-leaved*. [Bot. Reg. 1985]

SOLANACEÆ. PENTANDRIA MONOGYNIA. SYNONYMS. LYCIUM, BOERHAAVI-FOLIA. LYCIUM HETERPHYLLUM. EHRETIA HALIMIFOLIA.

A spinous shrubby plant, introduced to the London Horticultural Society's Garden, from Brazil, where it is a common shrub in the woods and fields, and grows to the height of eight or ten feet. It has been found hardy enough to bear the open air of this country, when trained against a south aspected wall. It is a very branching shrub, with leaves much resembling those of *Psidium Catleyanum*. Each flower is about half an inch across, of a pale-violet blue. They are produced in small branching panicles. *Grabowskia* in compliment to Mr. N. Grabowsky, an Apothecary at Ohlaf, an author of a work on flowers,

7. LOBELIA CAVANILLESII, *Cavanilles's Lobelia*. [Bot. Mag. 3600.

CAMPANULACEÆ. PENTANDRIA MONOGYNIA. SYNONYM, LOBELIA PERSICIFOLIA.

A native of New Spain, and requires to be grown in the stove in this country. It blooms in August and September. It is an herbaceous plant, having a flower stem about a yard high, with scarcely any branches. The flowers are produced numerously, upon long foot-stalks. Each flower is about an inch and a half long of an orange-red colour. The stamens are united their whole length, and forms a long red tube, which adds to the beauty of the flower. The plant has bloomed in the Glasgow Botanic Garden. *Lobelia* in compliment to Mr. Lobel.

8. LOBELIA SIPHILITICA, var MILLERII, *Miller's Blue American Lobelia*.

[Bot. Mag. 3604.

LOBELIACEÆ, PENTANDRIA MONOGYNIA.

This beautiful flowering hybrid has been raised from seed, between *L. siphilitica*; and *L. fulgens*; or *L. splendens*, or some fine scarlet flower. The colour of the flower is the blue of the former, with the fine scarlet or crimson of one of the others. It is quite hardy, and produces numerous flower stems rising to the height of two feet, which continue in bloom from July to the end of summer. The plant deserves a place in every flower garden. We have twelve other fine varieties.

9. MAXILLARIA STEELI, *Mr. Steel's*. [Bot. Reg. 1986.

ORCHIDACEÆ. GYNANDRIA MONANDRIA. SYNONYM. MAXILLARIA FLAGELLIFERA.

It is a native of Demerara, from whence it was introduced in 1835. The plant is of very singular growth; the stems are pendulous, and the leaves are very long, extending three or four feet. They are like so many very strong rushes. The flowers are produced solitary, each rather more than two inches and a half across. They are yellow, irregularly spotted and striped with large spots, and stripes of dark purple. The labellum is of a sulphur colour with dark purple veins, altogether singularly handsome. The plant has bloomed in the collection of Messrs Loddiges's of Hackney.

In the Botanical Register, Dr. Lindley has noticed the following new species of *Maxillaria*, viz. 1. *Maxillaria Rollissoni*, in Messrs Rollisson's collection, at Tooting Nursery. The flowers are of a pale Lemon colour, with the Labellum dotted in the middle with fine purple.

2. *M. acicularis*; a native of Brazil, in the collection of the Honourable and Reverend W. Herbert. The flowers are of a purplish chocolate colour.

3. *M. uncata*; a native of Demerara, in Messrs. Loddiges's collection.

4. *M. chlorantha*; a native of Demerara; in Messrs. Loddiges's collection. The flowers are of a yellowish green, small they are sweet scented.

5. *M. variabilis*; a native of Mexico. The flowers are small of a deep purple colour. This species has been known by the following names *M. atropurpurea*, *M. concinna*.

6. *M. tenuifolia*; a native of Mexico. The flowers are of a rich purple, spotted, and broken into small yellow patches.

PART III.

MISCELLANEOUS INTELLIGENCE.

 QUERIES

ON *STENACTIS SPECIOSA*.—I have raised from seed a number of plants of the *Stenactis Speciosa*. I can find no such name in Sweet's catalogue, or any other book of reference in my profession, will you have the kindness to inform me in your November number, whether they are worth keeping, and if they are hardy, or will live through the winter in the open ground. I cannot recollect from whence I had the seeds unless it was Chiswick Gardens.

Sep. 6th, 1837.

S. W.

[The plant is quite hardy, herbaceous perennial. When raised from seed the first season it usually produces a large proportion of foliage, but in successive seasons, less foliage and more bloom, and the large bluish purple aster like flowers are very showy.—CONDUCTOR.]

ON PRESERVING GERANIUMS THROUGH WINTER.—Can you advise me of any plan to save through the winter, geraniums turned out of pots into borders early in September, and are grown so large as to become doubtful if they can again be got into pots with a hope of preserving their lives?—can you or any of your readers inform me if the plan of the Rev. Mr. Williamson, by cutting off the leaves, and fibres, and preserving them in sand in a cellar or dry place has been found to answer? any information you can afford me (early) on this subject, will greatly oblige your sincere well wisher.

PEDRO.

If the plants be taken up with as many of the fibrous roots as can be got, and they are placed in pots, boxes, or baskets, with good soil, well watered at the time of planting, and then put where they can be protected during winter, in a greenhouse, frame, or room, they will survive well. Care must be taken after the first watering, not to repeat it frequently at the roots, till the shoots begin to push, or the tender fibres would most likely perish. If the heads be too large, they may be cut in at the time of replanting in the boxes, &c., only allow a shoot, or shoots to remain upon the plants which has foliage, this materially contributes to their rooting. A sprinkling of water occasionally over the foliage after planting in the boxes, &c., will be beneficial. We have kept a hundred plants in a small box, in this way, and not one died. Early in April we usually took off a lot of new shoots and struck them for turning out in May, the larger old plants, for the middle of a bed, and the younger (new struck ones) for the sides. These made uniformity of appearance in the bed, being highest at the centre, and gradually declining to the side. We have not tried the plan of the Reverend Mr. Williamson.—CONDUCTOR.

 ANSWERS.

ON *DELPHINUM CHINENSIS ALBA*.—John Young begs to say to the Enquirer for *Delphinium chinensis alba*, that he will be happy to supply it at list prices sent to the Editor, (1s. 6d. each) and if the order amounts to twenty shillings, he will pay carriage to London Nursery, Taunton, Somersetshire.

REMARKS.

NEW PLANTS, &c.—*Lilium atrosanguineum*. This fine flowering species has been most abundantly and splendidly in bloom, in the Nursery-grounds of Mr. Groom, Walworth, London. The flower scape rises about a foot high. The plant is perfectly hardy, and on this, as well as its splendour, deserves a place in every flower garden.

Duranta Elesii. This has recently been introduced, and the character sent with it, was, "it is a most superb flowering plant." We saw fine plants of it growing in the open ground in the beautiful Nursery of Mr. Young of Epsom. If the present new species has the habit of its flowers, and bear a resemblance to the *Duranta Plumierii*, it certainly deserves a place in every collection. It is most likely to require the protection of a greenhouse during winter, and probably to bloom it well in its proper season.

Gesneria Sellowii. This very fine species we saw in the exhibition at the Egyptian Hall, London, and in some of the London nurseries. It is the finest flowering species we have seen. The flowering stems rises about four feet high, producing an immense number of flowers, each about three inches long, of a most brilliant scarlet colour. It deserves a place in every stove.

Fuchsia Fulgens. This new and most striking species has been introduced from Mexico, by Mr. Lee of Hammersmith Nursery. The leaves are about five inches long and four broad of a bright green, tinged near the middle, and at the underside with purple. The flowers are very different in appearance from any other species, approaching the nearest to *fexcorticata* in form, but are much larger. Each flower is about three inches and a half long. The calyx (outer portion of the flower) is a light scarlet-red, having the curved segments green. The corolla (inner portion of the flower) of a deep scarlet-red. The flowers are produced at the extremities of the shoots, hanging most gracefully pendant, in clusters of from ten to thirty, or even more. The plant deserves a place in every greenhouse, and, as we suppose, it will do as well in the open border as any other kind, it deserves a place in every border or flower garden. It is a most desirable plant, having noble foliage, and most beautiful bloom.

Correa Milnerii. The flowers are larger than *C. speciosa*, of a fine rose colour. The plant well merits a place in every greenhouse. We saw fine plants of it at Mr. Grooms, Walworth.

Chorizema. A new species introduced to Mr. Lowes of the Clapton Nursery. The species appears most extraordinary. The leaves are as large as *Hovea Cellsii*, and we are informed the flowers are of a size proportioned to the foliage, and produced in very long spikes. This, in addition to its fine foliage, renders it a most valuable acquisition, and worthy a place in every greenhouse. It will certainly very far exceed any other of its species yet introduced into this country. It was sent from the Swan River.

Naeturium tuberosum. This very fine species we have seen in most profuse bloom, at Mr. Young's Nursery. The flowers are, calyx, of a fine deep orange red: corolla of a light fine yellow, striped in the inside with dark crimson. Each flower is an inch and a half long, and an inch across the mouth of its corolla. It is a very valuable acquisition, growing and blooming profusely in the open ground in summer. The large roots, six inches across, are said to be very agreeable when eaten.

Verbena Drummondii lilacina. We have seen plants of this fine large lilac variety, that had been pegged down for a bed, one mass of bloom, and growing in contrast with a bed of each of the following, viz. *Tweediana*. *V. melindris*, and *Valbiflora*. The effect was very striking. The *V. Tweediana* was pegged down as the *Drummondii*. and both kinds had taken root, similar to the *V. melindres*.

Nuttallia grandiflora. This is the finest of this showy genus. The flowers are of a deep rosy purple, very large, and renders it very valuable for the flower garden. It continues to bloom till the end of the season.

REFERENCE TO PLATE.

LOBELIA AZUREA. A newly introduced species by Mr. Groom of Walworth. It is a hardy annual of great beauty, well deserving a place in every flower border, or as an ornament in summer, in the greenhouse. It grows about two feet high, branching profusely.

CUPEA SILENOIDES. A very pretty flowering hardy annual, in the collection of Mr. Groom. It grows about a foot high, and is very neat and beautiful.

PENTSTEMON GENTIANOIDES. This very fine species grows four or five feet high, producing a very extended spike of numerous flowers, rendering it one of the most splendid plants that can be introduced into the flower garden, (it ought to be in every one.) We saw fine specimens at Mr. Groom's, and at Mr. Young's. We repeat, no flower garden should be without it.

NUTTALLIA GRANDIFLORA. A hardy, border plant which we saw in most profuse bloom at Mr. Grooms, in pots. The flower stems rise from two to four feet high. It is a most desirable plant, its blossoms being produced profusely, and are very neat and showy. No flower garden should be without it. It is very ornamental too in the greenhouse, as a summer and autumn ornament.

FLORICULTURAL CALENDAR FOR NOVEMBER.

GREENHOUSE PLANTS.—If any are not yet housed, they should now be without delay. All possible air should be admitted to the greenhouse, excepting when frosty. The plants should not be watered in the "broad cast" manner, as it is termed; but should be attended to singly, so that no plant may be watered but what is actually dry. Water should not be given in the evening, but in the early part of the day, so that damps may be dried up before the house is closed. If watered in the evening, the damp arising during the night will cause the leaves to decay, and encourage moss, lichens, &c. upon the soil. This will invariably be the consequence, unless fire heat be applied to counteract the effect. The soil in the pots should frequently be loosened at the surface, to prevent its forming a mossy or very compact state.

FLOWER GARDEN.—All decayed stalks should be cleared away. Seeds of all kinds of flowering plants should be collected, if neglected hitherto. The borders should be dug over, and additional fresh soil be added where required. All kinds of perennial border flowers should be planted. If any plant has become too large, it should now be reduced in size, and vacancies filled up. Bulbous roots, Ranunculuses, Anemones, &c., should be planted without delay. For Auriculas, Carnations, &c., see last month's Calendar, where suitable directions are given. Evergreen and deciduous shrubs may be planted this month. Protect beds of bulbous flowering plants in unfavourable weather. Newly planted shrubs, in exposed situations, should be secured to stakes. All kinds of border flowers kept in pots for winter protection, &c., should be removed to winter quarters, either in pots, frames, or some warm dry situation. Composts for floricultural purposes should be turned, &c. Calceolarias that have been in borders should be taken up, and kept in pots, in a cool, dry situation, either in the greenhouse, frame, or pit. Let the plants of Chrysanthemums in-doors have abundance of air. In taking up dahlia roots, be careful not to twist or injure the tubers near to the crown: this attention is particularly necessary with small roots; never cut down the stems till the roots are to be taken up, for the stem being hollow holds rain, and half the lost Dahlias may be traced to this. Care should be taken to have the names or numbers well secured to the root by means of copper-wire fastenings: it often happens that the stalk perishes before spring, and names attached thereto are liable to be removed, and to cause confusion. Tubers of Commelina, and bulbs of Tigridias, should be taken up and preserved dry through winter.

THE
FLORICULTURAL CABINET,

DECEMBER 1st, 1837.

PART I.

ORIGINAL COMMUNICATIONS.

ARTICLE I.

ON THE BEST SEASON FOR PLANTING EVERGREEN SHRUBS, &c.

BY A CONSTANT READER.

THERE is an article in the last Number of the Cabinet, by a London Nurseryman upon planting Evergreens, which, after having read attentively, I am inclined to believe may be the cause of misleading some of your readers.

I am neither a nurseryman or gardener, but having, during my leisure hours, had some experience in horticulture, it may not be presumption in me, to give my reasons for dissenting from the observations contained in your Correspondent's communication. He recommends removing Evergreens in April or May, giving as a reason that the young wood cannot be ripened sufficiently in autumn without suffering (I suppose from frost) Now here we are at issue, I admit that a few of the extremities of our shrubs, many perish, but that evil I have always prevented by heading down, say from twelve to eighteen inches, according to the size of the shrub. Nothing would induce me to plant in May unless my ground was of a wet clayey consistence, if so, no matter when. Evergreens grow nearly all the year; plant them in September or October, take one up at Christmas, and you will find an immense number of new fibres pushed from the old roots;

establish a good bottom and then there is no fear of a good bushy head. On the other hand, plant in April or May, suppose in a light sandy soil, the spring and summer may be extremely dry as they have been for three years past, what becomes of your Evergreens? Why, the whole head is withered before the autumn, with the exception, perhaps, of a pale weakly shoot, proceeding from the extremity of the root, which, with great difficulty is able to endure the trials of the following winter. I have now many hundreds of shrubs growing luxuriantly which have been planted during the last and previous autumns, which I am quite sure would have gone to the tomb of the Capulets, had they been planted according to the recommendation of a London Nurseryman. I have been induced to offer these observations, because I am quite confident that the best and surest way to elicit truth, is to excite discussion upon any given subject.

A CONSTANT READER.

ARTICLE II.

ON THE CULTURE OF IXIAS.

BY FORTUNATUS.

MESSRS. LOCKHART, Seedsmen, London, having most successfully cultivated *Ixias* in the open air in this country. I solicited a few remarks as to the plan pursued, and the following particulars are what Messrs. Lockhart favoured me with. Believing the remarks would be serviceable to the readers of the Cabinet, I forward them for insertion therein:—they say,

Take a frame, such as is used for cucumbers, and fill it within three inches of the glass with a compost consisting of one-third of river sand, one-third of leaf-mould, and one-third of decomposed cow manure.

The bulbs are planted by the middle of October, or beginning of November, two or three inches deep. During the winter, care must be taken to keep out the frost, giving them, however, as much air as possible on fine days.

About the beginning of March, the glass ought to be taken off entirely during the day when the weather is fine, but it must be replaced again at night.

In April, the glass may be taken off for good, both by day and

night, and a fine bloom may thus be obtained by the end of May.

If required to bloom in pots, sink them on a level with the surface of the mould in the frame, and treat them as above. *Ixia* should be watered slightly if the mould becomes dry.

Brixton Hill, Sept. 26th.

ARTICLE III.

A DESCRIPTIVE LIST OF CAMELLIAS.

BY CAMELLIA.

HAVING derived both amusement and instruction from your useful and interesting publication, the Floricultural Cabinet, and feeling desirous of promoting the object, for which it is intended, I herewith send you a descriptive list of fifty-two varieties of the *Camellia japonica*.

Donkelaarii, semi-double, dark red with white spot or stripe.

Mutabilis, double rich crimson, red, very good.

Chandelerii, double dark red, with white stripe.

Picturata, very large double white with pink or blush stripe.

Rosea pleno, very double rose, beautiful form.

Lefeveriana, double fine red, beautiful shape.

Variiegata, double light red, white stripe.

Eclipse Pressis, double white, with pink spot or stripe.

Alba pleno, double pure white, beautiful shape

Nobilissima, double white, very beautiful.

Althæeflora, double dark red, with white spot, fine.

Insignis, single large red, with white spot, fine.

Colvilea, Double white blush spot or stripe, fine.

Rubro pleno, double rich red, large flower.

Coralina. semi double dark crimson red, white spot, very fine.

Striata, simplex, single white, blush spot or stripe.

Hendersonii, double light rose, beautiful form,

Lepida, double light rose good.

Venusta, Cunningham's double dark red, large and fine.

Tricolor, Double white with blush and red spots or stripes.

Speciosa, very double dark red.

Myrtifolia, double light red, beautiful form.

Florida, double light red, large flower, good.

- Spatulata*, single blood red, white spot or stripe.
Pressii, single red large flower.
Miltonia, double red with white stripe.
Timbreata, double white fringed, beautiful.
Woodsii, double dark rose, good.
Actonia, single light red, large flower.
Punctata, very double white, blush spot or stripe, large flower.
Simboldii, single rose, large and fine.
Bedfordii, double dark red, very good.
Welbankii, double pale white, large flower.
Dorsettii double dark red, white spot or stripe, fine
Elphinstonii, very double dark red, fine.
Candidissima, double white, fine form, good.
Triumphanus, double rose, good.
Anemoneflora rubra, double dark red, good.
Rosa Mundii, double white with red spot or stripe.
Cliveana, double dark red, very good.
Lankranii, single rose, large flower.
Conspicua, double light rose, good.
Campbellii, double white, with pink spot or stripe, fine
Flavescens, double buff, beautiful shape.
Elegantissima, semi double, dark rose, good.
Carswelleana, double red, white stripe, fine form.
Hetropetta alba, double white very good.
Hetropetta rubra, double dark red, very fine.
Juliana, double white with pink stripe, very beautiful
Herbertia, single red, large flower.
Semiduplex alba, sensu, double white.

(To be continued.)

ARTICLE IV.

CONVERSATION BETWEEN BLOOMWELL AND WOULDKNOW.

(Continued from page 222.)

WOULDKNOW. Do you think so.

BLOOMWELL. Yes, in the course of my experience, I have frequently had bizarres of this class lose the pink stripe, and become purple or crimson flakes, but never met with an instance either in my own garden, or elsewhere, of a bizarre which had softened down to a rose flake; Huggin's Brilliant, indeed is

sometimes little more, but there is always enough of the dark colour to denote the class it belongs to.

WOULDKNOW. I should think, if it were really a sport, it would sometimes return to its original state, under so many different methods of culture.

BLOOMWELL. That might or might not happen, run flowers rarely return to their original state, though there are some instances in which they do, so Cartwright's Rainbow, C. B. is said frequently to return, and I have had Waterhouse's Summit of Perfection, return to the bizarred state, after being a flake three or four years, but I never heard of Fletcher's Duchess changing to a bizarre. The person who first sent it out, if living, could certainly set the question at rest, unless it was a sport or raised from seed.

WOULDKNOW. Is not this generally said to be the best rose flake grown?

BLOOMWELL. That is perhaps but matter of fancy, it has deservedly many admirers on account of its high colour, and when in a fine state is almost invincible, for my own part, I have seen no rose flake yet that I can prefer to Tyso's Victoria, when you can get it clean (which by the bye is not so often as might be wished) the beautiful flaking of this flower, its fine form, good size, and free growth, render it a valuable acquisition to any collection, it is a pity the white should be so seldom free from speckles. But come Sir, the day is very warm, let us sit down in the arbor and chat awhile and moisten our throats with a glass of ale.

WOULDKNOW. With all my heart. (*they sit down*). You mentioned of raising a seedling like Wild's Perfection; Have you been the raiser of many good seedlings, Mr. Bloomwell?

BLOOMWELL. Why, yes, I have no reason to complain, I have succeeded in raising above a score of as good flowers as most.

WOULDKNOW. You must have been very fortunate then, as Mr. Hogg declares the man that raises six in his life-time, has had his endeavours crowned with success.

BLOOMWELL. I suppose Mr. Hogg means six such, as would set all competition at defiance, for there are many persons, and (Mr. Hogg no doubt, among the number) who have raised four or five times half a dozen flowers of as good properties as at least half those enumerated by Mr. Hogg in his book, but this may be partly owing to the improved state of the collection, now

kept for several years. On my first attempt to raise seedlings I got none worth keeping, but as my stock of flowers increased, both in quantity and quality, I found my seedlings began to be better, and I at length saved seed from first-rate flowers only, sometimes resorting to artificial means of impregnation, and sometimes trusting entirely to nature, the former is decidedly the surest means of procuring seed, but is by no means the surest way of raising fine flowers, the seed raised naturally producing, as often as the other superior flowers.

WOULDKNOW. The odds then against raising good seedlings are not quite so great as I thought them?

BLOOMWELL. Perseverance will do much; some people having had no success for a year or two give up the raising seedlings as a useless pursuit; but I would impress upon the mind of the young Florist, that if he wishes to succeed I have no doubt but there are many novelties yet to be raised, and new ones to be added to our present stock. In 1835 I raised a scarlet and pink bizarre, which is a variety I had not seen before; I have seen several Piccotees slightly bizarred, as pink and crimson, lilac and deep purple. I had one seedling this season beautifully laced with pink and purple, but unfortunately it was single. A friend of mine has a heavy edged red Piccotee, curiously shaded with black: these variegations, I have no doubt, will be in time more fully developed, as many others which have never met my notice. There is such a pleasure in raising seedlings, so much to anticipate, so much to exult in, when you see one of your own productions at the head of its class, triumphing, perhaps, over some of the most renowned veterans of the day; that I would never be without a bed of seedlings if I could help it.

(To be continued.)

What in the name of Mr. Thomas Hogg, can an 'Old Florist,' (page 229) mean by advising us to fertilize some double flowers with the pollen of our best double ones which in many cases is not to be found; the reverse of the method is much more rational and likely to succeed. Semi-double generally having the male organs in abundance, these should be handsome coloured flowers, the hybrids generally partaking most of the colour of the male parent, and the form and habit of the female.

BIZARRE.

ARTICLE V.

ON THE CLIMATE OF HOTHOUSES.

(Continued from page 256.)

SOME idea may be formed of the prodigiously increased drain upon the functions of a plant, arising from an increase of dryness in the air, from the following consideration. If we suppose the amount of its perspiration, in a given time, to be 57 grains, the temperature of the air being 75° , and the dew-point 70, or the saturation of the air being 849, the amount would be increased to 120 grains in the same time, if the dew-point were to remain stationary, and the temperature were to rise to 80° ; or, in other words, if the saturation of the air were to fall to 726.

Besides this power of transpiration, the leaves of vegetables exercise also an absorbent function, which must be no less disarranged by any deficiency of moisture. Some plants derive the greatest portion of their nutriment from the vaporous atmosphere, and all are more or less dependant upon the same source. The *Nepenthes Distillatoria* lays up a store of water in the cup formed at the end of its leaves, which is probably secreted from the air, and applied to the exigencies of the plant when exposed to drought; and the quantity which is known to vary in the hothouse, is no doubt connected with the state of moisture of the atmosphere.

These considerations must be sufficient, I imagine, to place in a strong light the necessity of a strict attention to the atmosphere of vapour in our artificial climates, and to enforce as absolute an imitation as possible of the example of nature. The means of effecting this is the next object of our inquiry.

Tropical plants require to be watered at the root with great caution, and it is impossible that a sufficient supply of moisture can be kept up from this source alone. There can, however, be no difficulty in keeping the floor of the house and flues constantly wet, and an atmosphere of great elasticity may thus be maintained in a way perfectly analogous to natural process. Where steam is employed as the means of communicating heat, an occasional injection of it into the air may also be had recourse to; but this method would require much attention on the part of the

superintendent, whereas the first cannot easily be carried to excess.

It is true that damp air, or floating moisture of long continuance, would also be detrimental to the health of the plants, for it is absolutely necessary that the process of transpiration should proceed; but there is no danger that the high temperature of the hot-house should ever attain the point of saturation by spontaneous evaporation. The temperature of the external air will always keep down the force of the vapour; for as in the natural atmosphere the dew-point at the surface of the earth is regulated by the cold of the upper regions, so in a house the point of deposition is governed by the temperature of the glass with which it is in contact. In a well ventilated hot-house, by watering the floor in summer, we may bring the dew-point within four or five degrees of the temperature of the air, and the glass will be perfectly free from moisture; by closing the ventilators, we shall probably raise the heat 10 or 15 degrees, but the degree of saturation will remain nearly the same, and a copious dew will quickly form upon the glass, and will shortly run down in streams. A process of distillation is thus established, which prevents the vapour from attaining the full elasticity of the temperature.

The action is beneficial within certain limits, and at particular seasons of the year; but when the external air is very cold, or radiation proceeds very rapidly, it may become excessive and prejudicial. It is a well known fact, but one which, I believe, has never yet been properly explained, that by attempting to keep up in a hot-house the same degree of heat at night as during the day, the plants become scorched. From what has been premised, it will be evident that this is owing to the low temperature of the glass, and the consequent low dew-point in the house, which occasions a degree of dryness which quickly exhausts the juices.

Much of this evil might be prevented by such simple and cheap means as an external covering of mats or canvass.

The heat of the glass of a hot-house at night, does not probably exceed the mean of the external and internal air; and taking these at 80° and 40° , 20° of dryness are kept up in the interior, or a degree of saturation not exceeding 528° . To this in a clear night, we may add at least 6° for the effects of radiation, to which the glass is particularly exposed, which would reduce the saturation to 434° , and this is a degree of drought which

must be nearly destructive. It will be allowed that the case which I have selected is by no means extreme, and it is one which is liable to occur even in the summer months. Now, by an external covering of mats, &c., the effects of radiation would be at once annihilated, and a thin stratum of air would be kept in contact with the glass, which would become warmed, and consequently tend to prevent the dissipation of the heat. But no means would of course be so effective as double glass, including a stratum of air; indeed, such a precaution in winter seems almost essential to any great degree of perfection in this branch of horticulture. When it is considered that a temperature at night of 20° is no very unfrequent occurrence in this country, the saturation of the air may, upon such occasions, fall to 120° , and such an evil can only at present be guarded against by diminishing the interior heat in proportion.

By materially lowering the temperature, we communicate a check which is totally inconsistent with the welfare of tropical vegetation. The chill which is instantaneously communicated to the glass by a fall of rain or snow, and the consequent evaporation from its surface, must also precipitate the internal vapour, and dry the included air to a very considerable amount, and the effect should be closely watched. I do not conceive that the diminution of light which would be occasioned by the double panes, would be sufficient to occasion any serious objection to the plan. The difference would not probably amount to as much as that between hot-houses with wooden rafters and lights, and those constructed with curvilinear iron bars, two of which have been erected in the garden of the Horticultural Society. It might also possibly occasion a greater expansion of the foliage; for it is known, that in houses with a northern aspect, the leaves grow to a larger size than in houses which front the south. Nature thus makes an effort to counteract the deficiency of light, by increasing the surface upon which it is destined to act.

The present method of ventilating hot-houses is also objectionable, upon the same principles which I have been endeavouring to explain. A communication is at once opened with the external air, while the hot and vaporous atmosphere is allowed to escape at the roof; the consequence is, that the dry external air rushes in with considerable velocity, and becoming heated in its course, rapidly abstracts the moisture from the pots and foliage. This is the more dangerous inasmuch as it acts with a rapidity

proportioned in a very high degree to its motion. I would suggest, as a matter of easy experiment, whether great benefit might not arise from warming the air to a certain extent, and making it traverse a wet surface before it is allowed to enter the house.

There is one practice universally adopted by gardeners, which is confirmatory of these theoretical speculations; namely, that of planting tender cuttings of plants in a hot bed, and covering them with a double glass. Experience has shown them that many kinds will not succeed under any other treatment. The end of this, is obviously to preserve a saturated atmosphere; and it affords a parallel case to that of Dr. Wells, of the anticipation of theory by practice.

The effect of keeping the floor of the hot-house continually wet, has been already tried at the Society's garden, at my suggestion, and it has been found that the plants have grown with unprecedented vigour; indeed their luxuriance must strike the most superficial observer.

To the human feelings, the impression of an atmosphere so saturated with moisture is very different from one heated to the same degree without this precaution; and any one coming out of a house heated in the common way, into one well charged with vapour, cannot fail to be struck with the difference. Those who are used to hot climates, have declared that the feel and smell of the latter exactly assimilate to those of the tropical regions.

But there is a danger attending the very success of this experiment, which cannot be too carefully guarded against. The trial has been made in the summer months, when the temperature of the external air has not been low, nor the change from day to night very great. In proportion to the luxuriance of the vegetation, will be the danger of any sudden check; and it is much to be feared, that unless proper precautions are adopted, the cold long nights of winter may produce irreparable mischief.

I am aware that a great objection attaches to my plan of the double glass, on account of the expense; but I think that this may appear greater at first sight than it may afterwards be found to be in practice. It is, however, at all events, I submit, a point worthy of the Horticultural Society to determine; and if the suggestion should be found to be effective, the lights of many frames which are not commonly in use in winter, might, without much trouble, be fitted to slide over the hot-houses during the severe season; and in the spring, when they are wanted for other pur-

poses, their places might be supplied at night by mats or canvas.

The principles which I have been endeavouring to illustrate should be, doubtless extended to the pinery and the melon frame, in the latter of which a saturated atmosphere might be maintained by shallow pans of water. An increase in the size of the fruit might be anticipated from this treatment, without that loss of flavour which would attend the communication of water to the roots of the plants.

I have but few additional observations to offer upon the artificial climate of a green-house. The remarks which have been made upon the atmosphere of the hot-house are applicable to it, though not to the same extent. The plants which are subject to this culture seldom require an artificial temperature greater than 45° or 50° , and few of them would receive injury from a temperature so low as 35° . When in the house, they are effectually sheltered from the effects of direct radiation, which cannot take place through glass; but the glass itself radiates very freely, and thus communicates a chill to the air, which might effectually be prevented by rolling mats. With this precaution, fire would be but rarely wanted in a good situation to communicate warmth; but in this damp climate it may be required to dissipate moisture. The state of the air should be as carefully watched with this view, as where a high temperature is necessary to guard against the contrary extreme. Free transpiration, as I have before remarked, is necessary to the healthy progress of vegetation; and when any mouldiness or damp appears upon the plants, the temperature of the air should be moderately raised, and free ventilation allowed. When the pots, in the proper season, are moved into the open air, it would contribute greatly to their health, and preserve them from the effects of too great evaporation, to imbed them well in moss or litter: as a substitute for this precaution, the plants are generally exposed to a northern or eastern aspect, where the influence of the sun but rarely reaches them, but which would be very beneficial if their roots were properly protected. The advantage of such a protection may be seen when the pots are plunged into the soil, a method which communicates the greatest luxuriance to the plants, but unfits them to resume their winter stations.

When a green-house is made use of, as it often is after the removal of the pots, to force the vine, the same precautions should be attended to as in the management of the hot-house, and the

elasticity of the vapour should be maintained by wetting the floor but after a certain period, a great degree of dryness should be allowed to prevail, to enable the tree to ripen its wood, and form the winter productions for its buds. In this its treatment differs from that of the tropical plants, which require no such change, and to which, on the contrary, it would be highly detrimental. The same observation applies to forcing-houses for peaches, and other similar kind of trees. As soon as the fruit is all matured, they should be freely exposed to the changes of the weather.

HORT. TRANSACTIONS.

ARTICLE VI.

ON ORNAMENTAL PLANTING.

BY J. STUART MENTEITH, ESQ. OF CLOSEBURN.

HAVING perused the following article with great satisfaction, we have been induced to insert it in the Cabinet from the belief that it will be both interesting and beneficial to our readers:—

A taste for improvement of this kind has, no doubt, already commenced amongst us; but it might be greatly promoted by calling the attention of the public more frequently to the beauties and advantages of this species of ornament.

The few following hints are offered for the purpose of awakening a taste for this elegant pursuit.

Though there are not many ornamental plants natives of Scotland, yet nature has furnished not a few which may be readily naturalized to our climate.

Of these there are various kinds and varieties; and to select from among them what will best answer particular soils and situations, must be left to the skill of individuals. Those which we are about to enumerate, with few or no exceptions, thrive in most ordinary situations, or in any soil.

The following, denominated the tree-evergreens, deserve the first attention, viz., the Scotch, the silver, and the spruce firs. The last is by far the handsomest of the fir tribe, having its branches long and tapering, beautifully curved or bended upwards, and with its tall elegant stem rising like a lofty pyramid, towers over all the trees of the grove.

The cedars require a more sheltered situation, and with that indulgence, there are few places in Scotland in which they would not grow.

A great number of the evergreen shrubs may be easily and quickly raised in Scotland. The spurge laurel, the common or bay laurel, the Portugal laurel, and sweet scented bay laurel, from which the poet gathers his wreath, will thrive in most situations. The last is more delicate ; but with a little care in severe winters, it may be reared. The *laurustinus* grows almost any where, and has the peculiar quality that it will, if the winter be mild, be in bloom at that season. A variety with shining leaves, lately introduced, will be found preferable. The strawberry tree, or *arbutus fluedo* ; the holly, and the evergreen thorn, or *mespilus pyracantha*, with their deep blood-red berries, are strikingly beautiful. Of the yew, the holly, and the evergreen-privet, hedges can be formed, and they are most pleasing of all objects to shelter our winter walks. The *pyracantha*, the ivy, particularly the large-leaved Irish variety, the *Pyrus japonica*, and the *Rosa indica*, which bloom in winter and early spring, are well fitted for ornamenting walks.

Of the American evergreens, several may be domesticated with us, such as various species of *rhododendron*, and of *kalmia*, all of which give an interest and beauty to our shrubbery. Many of the smaller but not less beautiful evergreen plants, are to be found ; as all the varieties of the periwinkle, with its pretty blue flower ; the daphne, and the heaths. Of the last of these are about twenty hardy varieties, fit to stand our climate, flowering at different times of the year, and bearing a certain degree of clipping with the shears. These are admirably adapted to form the fringe or edging of the flower-garden ; much superior, from their delicately formed flowers, to the box, as the present to the eye a continued succession of varied colours.

All the above mentioned evergreens are easily propagated. Some of them, requiring a little nicety in managing the young plants when raised from seeds, are more readily grown by slips, or laying in the branches. With all these methods of raising them every gardener is acquainted.

Having described the means of ornamenting our residences during winter, we have now to mention those plants by which they may be embellished in the other seasons of the year ; and for that purpose it is recommended to plant more of the flower-

ing trees and shrubs in our woods and shrubberies: such as the horse-chesnut, the lime, the mountain ash, the elder, which is readily propagated from cuttings, and growing well on elevated situations, is fitted to make excellent hedges in upland countries,—sheep and cattle will not browse it; the green or wild cherry, the Siberian crab, the laburnum, the acacia (*Robinia pseud-acacia*), the lilac, particularly the liberian or varin, the azalia of different species, the variegated thorn, *Aucuba japonica*, *Pittosporum tabiri*, and such like. These being planted in fit places, would, by their fragrance and flowers, add much to the comfort and beauty of our dwellings.

The advantages of planting such evergreens and ornamental trees and shrubs around our houses, are obvious: they will afterwards afford shelter and warmth; and if walks or avenues of them were formed, they would present us, in the dreary, naked, cold season of winter, when the other trees are stripped of their foliage, always something on which the eye might rest, and on which it might be refreshed. Besides, most of the evergreens, from their varnish-coated leaf, have the peculiar property of suffering little injury from the drop of the taller forest trees, and consequently they will grow under the shade. Nay, some of them, as the rhododendron, will be found more at home under such shade, than when exposed to the glaring sun. In North America, this forms much of the underwood of the immense forests that cover that vast continent. Intermingled with other planting, these evergreens will afford the sportsman the best of all covers for game; and the lover of the music of nature's sweet concert, will find them always the favourite resort of the most interesting part of feathered creation—the birds of song.

There is no doubt that such improvements are best fitted, or most suitable, to the taste and circumstances of the higher ranks, and must of course begin with them. It is, however, very desirable that the cultivation of the ornamental plants should not be exclusively confined to the palace, but that it should also be extended to the cottage. This might be accomplished at little or no expense, as most of the cottages in Scotland are wisely allowed by the proprietors or land-holders to have a garden. A spot is accordingly ready prepared to receive such plants; and if a little encouragement were given to the landlord, some plants gratuitously distributed, and a few kind words spoken, we should, in a short time, see the cottages and their gardens, which now too

often present any thing rather than order or neatness, assuming a gay appearance ; and their walls, which now are generally naked and cheerless, would be covered with some or other of the evergreens, mixed with the jessamine and the rose, the Virginia creeper, and the prettiest of all, Scotland's wild plants—the woodland.

From such improvements in their gardens, it may reasonably be expected that the inmates of the cottages would gain not a little in point of taste and good feeling ; order and cleanliness would supplant disorder and filthiness ; and, above all, if the cottage child, during his hours of leisure and relaxation, were trained to look after, and take an interest in a few flowers and evergreens, he would, from such salutary and healthful occupations, form a kind of attachment to the vegetable kingdom, and instead of wantonly destroying, impairing, or cutting the trees, of which we have so many disgraceful proofs, he would feel a disinclination to offer them any injury.

The mutilating of statues, even in our church yards, the destruction of the cope stones of walls and bridges, and of the very mile stones on our public highways, are instances of wanton mischief which we believe to be more often seen in Scotland than elsewhere, and it is a disgrace to the most enlightened and virtuous peasantry in the world. We have sometimes thought that this moral phenomenon is to be traced to the remains of the spirit of destroying statues and temples, to which the horrors of the oppression, usurpations, selfishness, and corruptions of the Church of Rome, drove our ancestors at the era of the Reformation. Means ought to be employed to counteract this tendency and that which we have suggested may not be altogether devoid of use in this respect.

It is well known how much a regard for the lower animals is cherished by youth, by having some favorite to look after and fondle ; and how indifferent to the brute creation, and how reckless of human life, are those who have never been accustomed to take an interest in it. On the same principle, those who have been brought up in heaths and districts bare of wood, are generally observed to do the most wanton mischief to trees.

With a view to such objects, it might be advisable to attach to every parochial school, indeed to all schools, a small plat of garden ground, ornamented with flowers, and most of the plants used for domestic purposes. Such a garden, but upon a larger

scale than would be adopted in ordinary schools, is to be seen at the academy of Dollar, to which the youth have constant access.

It should also be made a part of the master's duty to direct the attention of his scholars to the plants of the garden, to teach them their history, describe their uses, and point out their culture. All this might be easily done, as any master could soon learn all that it is useful to know of such plants, and take pleasure in communicating this knowledge to his youthful charge; and it might be so conducted as to cause little or no interruption to the other laborious exercises of the school. The instructions given as a recreation in the play hours would not be the least valuable, as knowledge is always more readily acquired by the young when it is possible to combine pleasure with mental exertion. As the parochial clergy are now so attentive to this taste for adorning their own dwellings, they would no doubt readily take an interest in such a plan, and encourage the love of it in the schoolmaster and his pupils. Such gardens, small in extent, might be laid out at little expense. They should be kept in order by the master, with the assistance of his scholars, who would soon take much interest and delight in such occupations. Any trifling expense the proprietor might be at in ornamenting these small gardens around the parochial school house, would be amply repaid in the security of his woods from the mischievous schoolboy's knife.

HORT. TRANSACTIONS.

ARTICLE VII.

ON WATER AND WATERING PLANTS.

(Continued from page 227.)

“ In other glasses he dissolved several sorts of earth clayey marles, and variety of manures, &c., and set mint in distilled water, and made other experiments of several kinds, to get light and information, as to what hastened or retarded, promoted or impeded vegetation.

“ The glass P, was Hyde Park conduit-water: in this he fixed a glass tube ten inches long, the bore about one sixth of an inch diameter, filled with very fine and white sand, which he kept from falling down out of the tube into the phial, by tying a thin piece of silk over that end of the tube that was downwards.

“Upon immersing the lower end of it into the water, this (by little and little) ascended quite to the orifice of the tube: and yet in all the fifty six days that it stood thus, a very inconsiderable quantity of water had gone off, viz. scarcely twenty grains, though the sand continued moist up to the top until the very last.

The water had imparted a green tincture to the sand, quite to the very top of the tube: and in the phial it had precipitated a greenish sediment mixed with black.

Pretty much of the green substance, described above, adhered to the bottom and sides of the tube, as far as it was immersed.

Other like tubes he filled with cotton, lint, pith of elder, and several other porous vegetable substances; setting some of them in clear water, others in water tinged with saffron, cochineal, &c. and made several other trials, to give a mechanical representation of the motion and distribution of the juices in plants, and some other phænomena observable in vegetation.

Several plants being also set in phials, Q, R, S, &c., were ordered after the same manner with those above, in the following colder months; these thrived not near so much, nor did the water ascend in nigh the quantity it did in the hotter seasons, in which the before cited trials were made.

From these experiments, the observations proceed.

Observation 1. In plants of the same kind, the less they are in bulk, the smaller quantity of the fluid mass in which they are set, is drawn off; the dispendium of it, where the mass is of equal thickness, being pretty nearly proportioned to the bulk of the plant.

Thus the plant in the glass marked A, that weighed twenty-seven grains, drew off but two thousand five hundred and fifty-eight grains of the fluid; and that plant in B, that weighed twenty-eight and one-fourth, took up but four thousand and four grains of the fluid; whereas that plant in H, which weighed one hundred and twenty-seven grains, took up fourteen thousand one hundred and ninety grains of the liquid mass.

The water seems to ascend up the vessels of plants, much after the same manner as up a filter; and it is no strange thing, that a larger filter should draw off more water than a lesser one; or a plant, that has more and larger vessels, should take up a greater share of the fluid in which it is set, than one that has fewer and smaller ones can.

This he does not note, as a thing very considerable in itself, but chiefly in regard to what he is to offer anon; and that it may be seen, that in other collations of things he has made due allowance for this difference.

Observation 2. The much greatest part of the fluid mass that is first drawn off, and conveyed into the plants, does not settle or abide there, but passes through the pores of them, and exhales up into the atmosphere.

It is certain that the water in these experiments ascended only through the vessels of the plants. The glasses F and G which had no plants in them, though they were disposed of in the like manner as the rest were, remained at the end of the experiment as at first, and none of the water was gone off: and it is certain, that the greatest part of it flies off from the plant into the atmosphere.

“ The least proportion of the water expended, was to the augmentation of the plant, as forty-six or fifty to one; and in some the water drawn off was a hundred, two hundred, nay, in one above seven hundred times as much as the plant had received of addition.

This so continual an emission and detachment of water, in so great plenty from the parts of plants affords a manifold reason why those countries which abound with trees and the larger vegetables, especially, should be very obnoxious, owing to damps, great humidity in the air, and more frequent rains than others which are more open and free.

The great moisture in the air was a mighty annoyance to those who first settled in America, which then was much overgrown with woods and groves; but as they were burnt and destroyed to make room for habitations and the culture of the earth, the air mended, and cleared up apace, and became of a temperature much more dry and serene than before.

Nor does this humidity go off pure and alone, but usually carries out along with it many parts of the same nature, whereof the plants, through which it passes, do consist.

It is true, the crasser are not so easily born up into the atmosphere, but are usually deposited on the surface of the flowers, leaves, and other parts of the plants. Hence are produced our mannas, our honies, and other gummous excudations of vegetables.

But the finer and lighter parts are, with so much the greater

ease they are sent up into the atmosphere; and thence are conveyed to our organs of smelling, by the air we draw in by respiration, and are either pleasant or offensive, beneficent or injurious to us, according to the nature of the plants from whence they arise.

And since these owe their rise to the water which ascends out of the earth through the bodies of plants, we cannot be far to seek for the cause why they are more numerous in the air; and we find a greater quantity of odours exhaling from vegetables, in warm, humid seasons, than in any other whatever.

Observation 3. A great part of the terrestrial matter, that is mixed with the water, ascends up into the plant, as well as the water.

At the end of the experiment, there was much more terrestrial matter in the water of the glasses F and G, that had no plants in them, than in those that had plants. The garden mould in the glasses K and L was considerably diminished and carried off: nay, the terrestrial and vegetable matter was born up in the tubes filled with sand, cotton &c. and in that quantity, as to be evident even to the sense. And the bodies in the cavities of the other tubes, which had their lower ends immersed in water, wherein Saffron, Cochineal, &c., had been infused, were tinged with yellow, purple, &c.

If it may be permitted to look abroad a while towards the shores and parts within the verge of the sea, there will be found a large scene of plants, that along with the vegetable, take up the mere mineral matter also in great abundance; such as Sea-Purslains, the several sorts of Alga's Samphires and other marine plants.

These contain common sea-salt which is all one with the fossil, in such plenty, as not only to be plainly distinguished on the palate but may be drawn forth from them in considerable quantities. And some affirm, that there are plants found that will yield nitre and mineral salts.

As to vegetable matter, it is manifest how apt and how much disposed it is (being so very fine and light) to attend water in all its motions, and to follow it into each of its recesses, not only from those instances that have been alledged above, but from many others.

If you percolate it with all the care imaginable, if you filter it with never so many filtrations, yet there will remain some ter-

restrial matter: it is true, the fluid will be thinner every time than other, and more disengaged from the same matter, but never wholly free and clear. He says he has filtered water through several, wholly, free, and clear sheets of thick paper, and after that through very close and fine cloth, twelve times doubled, nay, has done this over and over again, and yet after all there was a considerable quantity of this matter discoverable in the water.

Now, if it passes thus through interstices that are so very small and fine, along with the water, it is less strange that it should attend in its passage through the ducts and vessels of plants.

It is true that filtering and distilling of water does intercept and make it quit some of the earthy matter it was before impregnated with; but then that which after this continues with the water is fine and light, and consequently such as in a peculiar manner is fit for the growth and nourishment of vegetables; and this is the case of rain-water.

The quantity of terrestrial matter that it bears up into the atmosphere is not great; but that which it does bear up is mainly of that light kind, of vegetable matter, and also that perfectly dissolved, and reduced to single corpuscles, all fitted to enter the tubules and vessels of plants; and upon this account it is that rain-water is so fertile and prolifick.

The reason why, he says in this proposition, that only a great part of the terrestrial matter, that is mixed with the water, ascends up with it into the plant, is, because all of it cannot.

The mineral matter is a great deal of it not only gross and ponderous, but scabrous and inflexible, and so not disposed to enter the pores of the roots; and a great many of the simple vegetable particles do by degrees unite and form some of them small clods or *Moleculæ*, such as before mentioned in H. K. and L, sticking to the extremities of the roots of those plants.

Others of them entangle in a more loose manner, and form the *Nubeculæ*, and great bodies, that are commonly observed in stagnant water. When these are thus conjoined, they are too big to enter the pores, which they might have done singly.

(To be continued.)

REVIEW.

The Suburban Gardener and Villa Companion; — By J. C. LONDON, F. L. S., H. S., &c.; London: Longman, & Co.

(Continued from p. 259.)

- Primula vulgaris*, the double, white, double red, and double lilac primroses.
- Primula elatior*, the double oxlip.
- Primula Auricula*, different border varieties of auricula.
- Primula vulgaris Polyanthus*, varieties of double and single polyanthus
- Arabis rosea* and *albida*, white and red urabis, or wall-cress.
- Adonis vernalis*, spring-flowering adonis, yellow.
- Anemone apennina*, alpine anemone, blue.
- Iris pumila*, dwarf iris, blue.
- Omphalodes verna*, spring-flowering Venus's navelwort, blue.
- Orobis vernus*, spring bitter vetch, purple.
- Corydalis bulbosa*, the bulbous-rooted fumitory, red.
- April.*
- Phlox subulata andsetacea*, awl-leaved and bristly-leaved phlox, red red.
- Corydalis longiflora*, long-flowered fumitory, red.
- Aquilegia canadensis*, Canadian columbine, red.
- Dodecatheon Meadia*, Mead's Virginian cowslip, lilac.
- Lychnis Viscaria*, the bladder Lychnis, red.
- Arabis alpina*, alpine arabis, or wall-cress, white.
- Anemone nemorosa*, the wood anemone, white.
- Phlox nivea*, the snowy phlox, white.
- Draba aizoides*, whitlow grass, yellow.
- Alyssum saxatile*, rock madwort, yellow.
- Phlox divaricata*, spreading phlox, blue.
- Anemone pratensis*, meadow anemone, blue, and *A. Pulsatilla*, pulsatilla anemone, purple.
- Anemone coronaria*, the common anemone, variegated.
- May.*
- Pæonia officinalis*, numerous varieties of the common pæony, crimson, red, and white:
- Papaver brateata* and *corientalis*, scarlet poppies.
- Campanula glomerata*, double and single white and blue bell-flower.
- Dianthus Caryophyllus*, different varieties of the common pink, clove, and carnation, white, red and variegated.
- Lupinus polyphyllus*, purple and white lupine.
- Iberis Tenoreana*, Tenore's candy-tuft, white.
- Lamium album*, white dead nettle.
- Orobis anguatifolius*, narrow-leaved bitter vetch, white.
- Ranunculus aconitifolius* fl. pl., the double white batchelor's buttons, or fair maid of France.
- Tradescantia virginica*, white and purple spiderwort.
- Geranium pratense*, purple and white-flowered crane's bill.
- Alyssum creticum*, Cretan madwort.
- Mimulus moschatus*, yellow musk plant.
- Mimulus luteus rivularis* and *guttatus*, varieties of the monkey flower, yellow and brown.
- Galardia bicolor* and *aristata*, yellow and red galardias.
- Asphodelus luteus*, yellow asphodel.
- Ranunculus acris* fl. pl., the double yellow bachelor's buttons.
- Linaria alpina*, blue toadflax.
- Phlox procumbens*, trailing phlox, blue.
- Aquilegia grandiflora* and *vulgaris*, purple and common columbine.
- Lathyrus venosus*, blue and purple pea
- Lupinus perennis*, perennial lupine, blue.

Pulmonaria virginica, Virginian lung-wort, blue and purple.
Nepeta grandiflora, large-flowered cat-mint, blue.
Anchusa italica, Italian buglos, blue,
Aster alpinus, alpine starwort, purple.
Lamium Orvala, purple dead nettle.
Pentstemon atropurpureus, campanulatus, and *diffusus*, dark purple, bell-flowered, and spreading pentstemons.
Anemone hortensis, garden anemone, variegated.
Verbascum cupreum and *ferrugineum*, the copper-coloured and rusty mullein, variegated.

June.

Dianthus alpinus, *deltoides*, and *atrorubens*, varieties of pinks, red.
Silene acaulis, the stemless catchfly, red.
Valeriana dioica, common red rian.
Orobis sylvaticus, wood vetch, red.
Antirrhinum majus, double, single, white, red, and variegated snapdragon.
Lychnis chalcedonica, the scarlet lychnis.
Lychnis diurna, the rose campion, red.
Aconitum Napellus, the common monk's-hood, purple.
Lathyrus grandiflorus, the large-flowered pea, red.
Campanula rotundifolia, purple and white bell-flower.
Oenothera speciosa, the showy evening primrose.
Hesperis matronalis fl. pl., double white rocket.
Dictamnus albus, white fraxinella.
Linum perenne, perennial flax, white.
Polemonium cæruleum and *album*, the common purple and the white Greek valerian.
Asphodelus ramosus, the branchy asphodel, white,
Epilobium angustifolium, white and red French willow-herb, red.
Caltha palustris fl. pl, double-flowered marsh marigold, yellow.
Oenothera macrocarpa, and other species of evening primroses, yellow.
Aconitum grandiflorum, and other species and varieties of monk's-hood.

Chryseis (Eschscholtzia) californica, Californian eschscholtzia, yellow.
Asphodelus luteus, yellow asphodel.
Trollius europæus, common globe flower, yellow.
Pentstemon confertus, crowded pentstemon, yellow.
Gegiana lutea, yellow gentian.
Ajuga pyramidalis, the pyramidal bugle, blue.
Delphinium elegans, and various garden species and varieties of larkspur, blue and purple.
Iris germanica, the German iris, blue and white.
Pentstemon speciosus, showy pentstemon, blue.
Lamium maculatum, spotted dead nettle, purple and reddish lilac.
Lychnis diurna, rose campion, red and white.
Verbena Lambertii, Lambert's verben, purple.
Verbascum phoeniceum, dark purple mullein.
Dictamnus Fraxinella, purple fraxinella.
Anchusa angustifolia, narrow-leaved bugloss, blue and purple.
Geranium lancastriense, the Lancaster crow's bill, variegated.

July.

Oenothera rosea, red evening primrose.
Phlox stolonifera, *glaberrima*, *pyramidalis*, and various other phloxes, red, lilac, and purple.
Veronica incarnata, the flesh-coloured speedwell.
Saponaria officinalis, and fl. pl, single and double soapwort, red and white.
Monarda didyma, scarlet monarda.
Chelone barbata, the bearded chelone, red.
Lathyrus tuberosus, the tuberous-rooted vetch, red.
Campanula persicifolia, double and single white peach-leaved bell-flower.
Gentiana Saponaria, soapwort-leaved gentian, white
Phlox suaveolens, the sweet-scented phlox, white.
Alyssum montanum, mountain madwort, yellow.
Galardia aristata, bristly galardia, yellow.

Coreopsis grandiflora, large-flowered coreopsis, yellow.
 Hypericum Elatum, St. John's wort.
 Dracocephalum grandiflorum, large-flowered dragon's head, blue.
 Campanula carpatica, Carpathian bell-flower, blue.
 Veronica azurea, maritima, and others, different kinds of speedwell, blue,
 Aster alpinus and amelloides, purple asters.
 Statice reticulata, purple sea lavender.
 Pentstemon atropurpureus, and various purple-flowered species of pentstemon.
 Lobelia speciosa, showy lobelia, purple.
 Lythrum Salicaria, willow herb, purple.
 Monarda fistulosa, purple monarda.

August.

Veronica carnea, flesh-coloured speedwell.
 Pentstemon angustifolius, narrow-leaved pentstemon, red.
 Phlox pyramidalis, and other red phloxes.
 Gypsophila prostrata, trailing gypsophila, white.
 Aster albus, white aster.
 Coreopsis tripteris, aurea, and verticillata, and different kinds of yellow coreopsis.
 Gentiana asclepiadea, asclepias-like gentian, blue.
 Commelina erecta, upright commelina, blue.
 Aster spectabilis and Novi Belgii, New York asters, blue.
 Verbena venosa, veiny verbena, blue.
 Aster alpinus, purple asters.
 Stenactis speciosa, showy stenactis, purple.
 Lythrum virgatum, twiggy-willow herb, purple,
 Aster concolor, self-coloured aster, purple.

Campanula versicolor, variegated bell flower.
 Calendula stellata, starry marigold, yellow.
 Polygonum orientale, persicaria, red.

September and October.

Epilobium alpinum, alpine French willow herb, red.
 Gentiana incarnata, flesh-coloured gentian, red.
 Aster vimineus, twiggy aster, red.
 Phlox triflora and Wheeleriana, three-flowered and Wheeler's phlox, red
 Aster humilis, diffusus, and other dwarf-spreading and other asters, white.
 Achillea cretica, Cretan milfoil, white.
 Boltonia asteroides, aster-like boltonia, white.
 Coronilla minima, the least coronilla, yellow.
 Solidago humilis, dwarf golden rod, yellow.
 Oenothera serotina, late evening primrose, yellow.
 Gentiana Catesbæi and others, Catesby's and other gentians, blue.
 Scabiosa australis, the southern scabiosa, blue.
 Aster corymbosus, spectabilis, and others, different kinds of asters, blue.
 Veronica elatior, the taller speedwell, blue.
 Statice reticulata, the netted sea lavender, purple.
 Gentiana intermedia, intermediate gentian, purple.
 Phlox Carolina and suffruticosa, Carolina and suffruticose, or half-shrubby, phloxes, purple.
 Aster Novæ Angliæ and others, New England asters, purple.
 Veronica altissima, the highest speedwell purple."

THE BIBLE GARDEN,—containing a brief description of all the Trees and Plants mentioned in the Holy Scriptures; by JOSEPH TAYLOR. The Illustrations selected and etched on Steel by W. H. BROOKE, F. S. A.—London: Dean & Munday, 1836.

PALM TREE

Phœnix dactylifera.

“AND they came to Elim, where were twelve wells of water and three score and ten *palm-trees*: and they encamped there by the waters.”—*Exodus*, xv. 27.

“THE Palm-tree is found in a variety of the warm countries in the south of Asia, and the north of Africa; they were numerous on the banks of Jordan, but the best were those around Jericho and Engiridi, which latter place is for that reason called Hazazon-tamor, the cutting of the Palm-trees. This tree grows very tall and upright, and its leaves retain their greenness through the whole year; the more it is exposed to the sun the better is its growth.

Palm-trees produce but little fruit, till about thirty years old, after which while their juice continues, the older they become the more fruitful they are, and will bear three or four hundred pounds of dates every year. The date is a most sweet, luscious kind of fruit, on which most of the inhabitants of Persia, Arabia, and Egypt, entirely subsist.

A species of rich honey or syrup, and a spirituous fermented liquor called *Arâky*, are obtained from it; there is also extracted from the palm-tree a kind of wine, which is perhaps what the Scripture calls *shichar*, or strong drink.

As the sap is chiefly in the top of the tree, when they intend to extract a liquor from it, they cut off the top, where there is always a tuft of spring leaves about four feet long, and scoop the trunk into the shape of a basin: here the sap ascending lodges itself at the rate of three or four English pints a day; for the first week or fortnight, after which it gradually decreases, and in six weeks or two months the whole juice will be extracted.

As palm-trees were accounted symbols of victory, branches of palm were carried before conquerors in their triumphs; and in allusion hereto, the saints are said to have *palm* in their hands, to denote the victory over sin, Satan, the world, the persecutions of Antichrist, &c. *Rev.* vii. 9.

A remarkable experiment to prove the fructification of this tree, occurs in the 47th volume of the *Philosophical Transactions*. There was a great palm-tree in the garden of the Royal Academy at Berlin, which flowered and bore fruit for thirty years, but the fruit never ripened, and when planted did not vegetate; this tree Linnæus discovered to be a female plant, and as there was no male palm in its vicinity, the flowers never came to maturity.

At Leipsic, twenty German miles from Berlin, was a male plant of this kind, from which, in April 1740, a branch of flowers was procured, and shaken, so that the dust, or farina, fell upon the flowers of the unfruitful tree. This experiment was so successful, that the palm-tree produced more than a hundred perfectly ripe fruit, from which they had eleven young palms; on repeating the experiment next year, the palm-tree produced above two thousand ripe fruit. This experiment fully established the fact attested by the ancients concerning the Palm-tree; which some have regarded as fabulous.

This tree exhibits great variety in fruit, size, quality, and colour: twenty different kinds have been enumerated. Perhaps no tree whatever is used for so many and such valuable purposes as the Palm, or date tree; even the stones are given to camels and sheep as food.”

The Orchidaceæ of Mexico and Guatemala.—By James Bateman, Esq. Part I. Imp. folio. Ridgway and Sons, London, 1837.

The 1st. Part of this splendid work has appeared, (one of which we borrowed) 120 copies have been printed, and it is highly gratifying to learn that about eighty of them have been subscribed for. And the others will doubtlessly soon be bought up, when the copies of the subscribers are perused. In the introductory remarks the Author notices the great extent of this noble family of plants, and observes:—

“Asia, Africa, and America will, perhaps, be found to divide the species of the order amongst them into three nearly equal proportions (for the few which Europe produces need scarcely be taken into the account); and the closer we approach the tropics, the more numerous and beautiful they become. Arrived, at length, within the precincts of the torrid zone, we find them no longer ‘prone on the ground,’ as heretofore, but conspicuous on the branches of the most rugged trees of the dampest and wildest forests, attracting the eye of the naturalist from afar, by the dazzling brilliancy of their colours, or arresting his attention by their delicious fragrance. And here we must take occasion to observe, that, although plants of this description are not unfrequently termed ‘parasitic,’ the epithet is altogether misapplied; for, while the parasites prey upon the vital juices of their victims, and perish with them, the ‘epiphytes’ derive nothing but their stay, or local habitation, from the plants on which they have established themselves: and continue to flourish and flower, indifferent whether their supporters live or die. The great majority of the Orchidaceæ of the tropics belong to the latter, or epiphytic, class; there are, however, a few that do not, as was long ago observed by the same ingenious Rumphius to whom we have already had occasion to advert. After noticing, in terms of due commendation, the dignified habits of most of the tribe, he proceeds, with a sigh, to remark that ‘among these vegetable nobles, just as among the nobles of mankind, some degenerate individuals are ever to be found, who are on the ground always, and seem to constitute a class of their own.’ But it is not merely in their habits that the terrestrial species are placed below the epiphytes, they are also greatly inferior to them in singularity and beauty.

“The Orchidaceæ of each of the three great divisions of the globe have features of their own, so marked and peculiar, that, in most cases, a practised eye would have little difficulty in referring even a totally new form to its proper habitation. Thus, for example, the pendent stems and graceful flowers of many of the dendrobiums, arides, and their allies, give a character of beauty and lightness to the orchidaceous flora of tropical India, which contrasts most strongly with the clumsy pseudobulbs of the *bolbophyllums*, or the long tails of the *anagræcums* of Africa. Again, in America, the characteristic features are, the upright vegetation (as distinguished from the pendent) of the *epidendrums*, the long straggling flower-spikes of many of the *oncidiums*, and a much greater variety of grotesque and marvellous forms than is to be met with in any part of the Old World.

“The uses to which the plants of this family are applied are few; but, in several instances, highly romantic. In Demerara, that most dreadful of all poisons, the ‘Wourali,’ is thickened by the juice of the *catasetums*; and in Amboyna, the true ‘Elixir of Love,’ is prepared from the minute farina-like seeds of the *Grammatephyllum speciosum*, which plant has just been received in England, in a living state, from Mr. Cumming. We tremble for the consequences, if what Rumphius says of its properties be true; asserting, as he does, ‘Mulierem prosequi amore talem, a quo hanc farinam cum cibo, vel

potu, accepit !' In Mexico, where the ' language of flowers ' is understood by all, the Orchidaceæ seem to compose nearly the entire alphabet. Not an infant is baptised, not a marriage is celebrated, nor a funeral obsequy performed, at which the aid of these flowers is not called in by the sentimental natives, to assist the expression of their feelings. They are offered by the devotee at the shrine of his favourite saint ; by the lover, at the feet of his mistress ; and by the sorrowing survivor, at the grave of his friend ; whether, in short, on fast days or feast days, on occasions of rejoicing, or in moments of distress, these flowers are sought for with an avidity which would seem to say that there was no sympathy like theirs ;—thus ' Flor de los Santos,' ' Flor de Corpus,' ' Flor de los Muertos,' ' Flor de Maio,' ' No me Elvides' (or forget me not), are but a few names out of the many that might be cited to prove the high consideration in which our favourites are held in the New World. Nor are these the only honours that are paid to them ; for Hernandez assures us that, in Mexico, the Indian chiefs set the very highest value on their blossoms, for the sake of their great beauty, strange figure, and delightful perfume ; while in the East Indies, if Rumphius is to be credited, the flowers themselves positively refuse to be worn, except by princesses or ladies of high rank. In Honduras, again, the large, hollow, cylindrical stalks of a fine species of Epidendrum are made into trumpets by the little boys and girls of the country ; and the pseudo-bulbs of several of the more succulent species are used instead of resin for the strings of their guitars. The following are, however, almost the only known instances in which the tribe do any direct service to mankind. The bulbs of *Maxillaria bicolor* contain a large quantity of an insipid watery fluid, which is greedily sucked by the poor native of Peru in the dry season. A fluid of a similar nature is obtained from what is probably a *lælia* in Mexico, and is administered as a cooling draught in fevers. From the roots of some of the orchises, even in Europe, the nutritive substance called ' salep ' is obtained ; in New Zealand, certain species, are of considerable importance as esculents ; and, in Guiana, the soles of the shoemaker are much indebted to the viscid matter obtained from the catasiums and cyrtopodiums, as are the poisoned arrows of the Indian. In this list the vanilla is not included, as that plant has recently been separated (no doubt, most judiciously) by Dr. Lindley from the natural order Orchidaceæ, and constituted the type of a new order of its own." (page 3.)

The Drawings, Engravings, Colouring, &c. are in a very superior style: Every admirer of this truly interesting and beautiful flowering tribe of plants, who can afford the expense, ought to possess a copy of the work.

AGAVE AMERICANA.

We understand that the fine specimen of this magnificent exotic in the ladies' flower-garden at Clowance, the seat of Sir John St. Aubyn, Bart, is now in a state of blossoming, and upwards of two thousand of the flowers are expanded ; and so richly are these blossoms supplied with honey, that it actually drops from them. From the vast number of flower buds, there is no doubt but this curious and interesting flower will continue in bloom for the space of five or six weeks. No fewer than one thousand three hundred and sixty persons have already seen and admired this most beautiful plant, and we have every reason to believe many hundreds more will be added to the number. (*West Briton*, October 6, 1837.)

PART II.

LIST OF NEW AND RARE PLANTS,

Noticed since our last:

1. MIMULUS HARRISONIA. *Harrison's Mimulus*. [Pax, Mag. Bot. 173.]

SCROPHULARINÆ. DIDYNAMIA ANGIOSPERMIA.

This very showy variety was raised in the nursery of Mr. Lowe of Clapton near London. It is from impregnation between *M. cardinalis*, and *M. roseus* being sown, the present variety was one of them. The habit of the plant approaches that of the vigorous *cardinalis*. The flowers that of *roseus* but they are much larger, and of a much finer rosy-red colour, than any we have seen produced by the most vigorous of *roseus*. It is very showy, growing three feet high, and we think the finest kind in cultivation in the country. It deserves a place in every flower garden or greenhouse.

2. MONACHANTHUS DISCOLOR, var. VERIDIFLORENS. *Dingy Mint flower, green flowered variety*, [Bot. Mag. 3601.]

ORCHIDÆ. GYNANDRIA MONANDRIA.

A native of Demerara. The present variety has bloomed in the Glasgow Botanic Garden. The flower scape is about half a yard long producing a loose raceme of from seven to nine flowers, of a yellowish green colour nearly destitute of fragrance. Each flower is about an inch across. *Manachanthus*, from Monah, a monk; and *Anthos*, a flower.

3. ONCIDIUM LURIDUM. *Dingy flowered*. Bot. Mag. 3603.

ORCHIDÆ. GYNANDRIA MONANDRIA. SYNONYMS. ONCIDIUM CUNEATUM, EPIDENDRUM GUTTAUM, CYMBIDIUM GUTTATUM.

The scape rises about three feet high, producing numerous flowers, each near two inches across; they are of a pale yellow with large brown confluent spots. It has bloomed in the collection at the Edinburgh Botanic Garden, where it had been received from Trinidad.

4. OXALIS ALBA. *White flowered Wood Sorrel*. [Brit. Flow. Gard. 393.]

This species is probably a native of America, but of this there is no certainty. Dr. Neill of Edinburgh, possesseth the plant, and it has bloomed in that Gentleman's collection. The flower stem rises about nine inches high, one flowered. The flower is about an inch and a half across of a pure white.

5. CONVULVULUS DIVERSIFOLIA. *Three lobed Convolvulus Major*. (Bot. Reg. 1988.)

An half hardy annual plant, a native of Mexico, seeds of which were sent to the London Horticultural Society, by G. F. Dickson, Esqr. The plant grows to about half the size of the *Convolvulus major*. The flowers too are about half the size of the *C. major*, of a fine azure blue, with five red plaits. The under side of the flower is rather inclined to a flesh colour. Altogether a very handsome flowering species, which would be very ornamental

to the flower garden. *Pharbitis*, from *pharba*; colour. Referring to the elegance and variety of colours in the flowers.

6. *PODOLOBIUM STAUROPHYLLUM*. *Cross leaved*, (*Pax Mag. Bot.* 171.

LEGUMINOSÆ. DECANDRIA MONOGYNIA. SYNONYME *PODOLOBIUM ACQUIFOLIUM*.

The plant is a native of New Holland. It is a highly ornamental greenhouse shrubby plant, growing from three to four feet high. It flowers most profusely, each flower is about half an inch across, of a fine rich yellow, having a deep red streak along the under side of the keel. It has bloomed in the very select collection of W. Bowes, Esq., Broughton, near Manchester. *Podolobium*, from *podos*, a foot, and *lobos*, a pod.

7. *SCUTELLARIA ALPINA*, var. *SANGUINEA*. *Red Alpine scullcap*. [*Brit. Flow. Gard.* 399,

A hardy perennial plant, whose flower stalks rise to about five or six inches high, each terminating in a large headed spike of flowers, much resembling in form those of the common *Prunella vulgaris*. The blossoms are of a pretty reddish-purple, it continues in bloom a considerable time. It is a very showy flowering plant, very suitable for a rock work, or edging for a bed or border. It is cultivated at the Birmingham Botanic Garden. *Scutellaria*, from *scutella*, a little dish or saucer; alluding to the form of the calycine appendage.

8. *MILTONIA SPECTABILIS*, *Showy Miltonia*. [*Bot. Reg.*

ORCHIDACEÆ. VANDEÆ. GYNANDRIA MONANDRIA.

This very beautiful species would appear to be a native of Brazil, and to have been brought into notice about the same time, both by George Barker, Esq. and Messrs. Loddiges: in the latter collection it flowered during July last. It is allied to and in habit resembles *Brassia*. The flowers are solitary but very large, of a whitish yellow above, and the lip or sepal of a rosy purple. Dr Lindley observes, I had promulgated the name of *Miltonia spectabilis* previously to hearing that Messrs. Knowles and Westcott had called the plant *Machrochillum Tryannus*, and as the former name was published a month earlier, the latter will have to give way.

"The genera *Brassia*, *Miltonia*, *Cyrtochilum*, *Odontoglossum*, and *Oncidium*, are closely related, and no doubt form the nucleus of a group of Vandææ, the limits of which remain to be ascertained. Of these *Oncidium* has a column with two ears and a distinct lobe; *Miltonia*, a column with two ears and an entire lip, partially united to the base; *Odontoglossum*, a winged column and entire lip, partially united to it at the base; *Cyrtochilum*, a winged column and a distinct and entire lip; and finally, *Brassia* has a column that is neither winged nor eared, and a distinct entire lip. I say nothing of the tubercular process upon the lip of all the genera, for I do not see how they will serve with any certainty to distinguish them. Moreover, *Oncidium* and *cyrtochilum* should have unguulate (narrowed part at the base, as in the pink and the carnation) sepals (thoral leaves) and petals, while all the other genera have them sessile. While, however, such are the real distinction between these genera, I am by no means sure that all the species now stationed under them are rightly placed. But that is a question I cannot enter into at this time."

As standing connected with the above, the following species are also noticed:—

Cyrtochilum Karwinshii—said to be a noble species, with flower two inches and a half in diameter; flowers blotched with brown on a yellow ground.

Odontoglossum Angustatum—three and a half inches in diameter, beauti-

fully blotched with brown, on a yellow ground. *Miltonia*, so named in compliment to a most distinguished patron of Floriculture, the Earl of Fitzwilliam.

9. *PHILIBERTIA GRACILLIS*, *Slender Philibertia*. [Brit. Fl. Gard.

ASCLEPIADEÆ. PENTANDRIA DIGNYIA.

"This new and well-marked species of a very distinct, hitherto little but known genus of the curious family of *Asclepiadæ*, was discovered by Mr. Tweedie, in the country between Buenos Ayres and Tucuman, and he forwarded seeds of it to his correspondents, under the name of green flowering *Asclepias*, of saint Katherino."

The plant was raised in the garden of our worthy friend Dr. Neill, at Canonmills, near Edinburgh, and in other collections in the spring of 1836.

It is nearly allied to the genus *Sarcostema*; for the opportunity of figuring this plant, Mr. Don expresses himself indebted to Mr. James Macnab, of the Experimental Gardens, Edinburgh, and to Mr. Lawson, gardener to Mr. Neill, who also supplied him with the following information relative to its culture. "The specimen sent is from a plant raised here out of Tweedie's seeds, of 1836, collected between Buenos Ayres and Tucuman, last year; the plant grew about a foot and a half, and was very slender; I kept the plant all winter, trained to a rafter in the vinery, where it retained its leaves, and it did not appear to suffer in being occasionally exposed to a little frost; very little fire having been employed.

10. *BEGONIA INSIGNIS*, *Noble-flowered Begonia*. [Bot. Reg

NAT. ORD. BEGONIACEÆ. CLASS MONOECIA POLYANDRIA.

An upright growing plant, with fleshy stems, of a green colour; leaves oblique, as are most of the genus, heart-shaped, oblong lanceolate, hairy, much gagged and serrated on a purple margin. The racemose clustered flowers are of a rose-colour, and produced in great profusion.

It is said to grow freely in a good greenhouse, but that it attains its greatest perfection, at least during its growing season, when placed in a stove. The season at which it flowers, renders it, as well as many of the same genus, desirable as a stove plant, bearing its largest clusters of beautiful rose-coloured flowers, in the months of December and January. "Many species are conspicuous for the size and richness of their foliage, but more from the greatness and the fineness of their blossoms." It was introduced from the Berlin Garden, and it is probably a Brazilian species. We have not, however, seen any wild specimens. *Begonia*, in compliment to M. Begon.

11. *TWEEDIA CÆRULEA*, *Blue-flowered*. [Brit. Fl. Gard. 407.

ASCLEPIDACEÆ. PENTANDRIA DIGNYIA.

Mr. Tweedie discovered this pretty flowering plant in Buenos Ayres. Plants were raised in the Glasgow Botanic Garden, where seeds were sent by Mr. Tweedie. Seeds have also been distributed to other places, so that the plant will soon become common. It is very ornamental, and deserves a place in every flower garden. The flower stems rise from two to three feet high, producing fine spikes of pretty blue flowers, the underside rather of a rosy colour. Each blossom is more than an inch across. *Tweedia* so named after the late Mr. Tweedie.

12. *ROSA INDICA*; var. *BLAIRII*, *Blair's New China Rose*.

This is a very handsome variety, raised a few years ago by Mr. Blair from seeds of the yellow China, impregnated by the pollen of the Tuscan. The flower is very double, the petals are yellowish towards the base, and some of them striped towards the middle.

PART III.

MISCELLANEOUS INTELLIGENCE.

QUERIES.

ON A NEW ARCTOTIS.—Let me mention that I had an *Arctotis* in flower during the summer sent from the Cape under the name of *A. dentata*, which species I cannot find in London's latest catalogues; it is a yellow flower, much like a marigold. When in flower, I will send you a drawing of it if you think it worthy of attention. Its name, I conclude, is derived from the leaves.

Arctotis's, if we had a leaf and description of its habit, it would afford us a better opportunity of judging of its specific distinction, and whether if it be entirely new to this country. A specimen left at our publishers would be forwarded to us. We should be glad of a drawing of the flower.—CONDUCTOR.

ON INDIAN BULBS.—I have just received some East Indian Bulbs, among others a *Crinum*, about a foot and a half long. Would you cover them entirely with earth, or, a nurseryman tells me, to insert four or five inches? I should like much that somebody would describe the treatment of them, whether they will do with greenhouse temperature, to be left on the shelf, or covered with ashes?

Planted at the depth above-named is quite sufficient. We hope some of our readers will furnish our correspondent with an article on their general culture at an early opportunity.—CONDUCTOR.

ON CALOCHORTUS.—Perhaps you, or some of your correspondents will inform me whether the varieties of *Calochortus* have been grown successfully in the open border, without being forwarded by a greenhouse temperature. Also where all the varieties are to be obtained, and at what price per bulb.

C. P. O.

ON A LIST OF HERBACEOUS PLANTS.—Mr. Brown has done the Florists great service by his List of Herbaceous Plants given in Vol. IV. page 274, and I hope Mr. Brown will favour us with a list of after species and varieties as soon as opportunity will permit.

A LOVER OF HERBACEOUS PLANTS.

ON A LIST OF DAHLIAS.—I hope Mr. Conductor you will furnish us with a list of all the new rare varieties of the Dahlias which have been exhibited at the different exhibitions this year, as early as possible which will much oblige a

DAHLIA GROWER.

We have a list in preparation, which will appear in January or February Numbers. We have visited nearly all the principal collections purposely to ascertain the merits of the best, and to take notes of them.—COND.

ANSWERS.

Being just returned from a tour round Norfolk, Essex, and Cambridgeshire, I am enabled to answer a query in page 211 concerning where *Delphinium Chiuensis grandiflora* is to be obtained. Being in the line, I have visited many gardens lately, but saw the plant in none save at the botanic Garden,

at Bury St. Edmunds, where that and many other rare hardy plants grow in a style that we Londoners never dream of. AN OLD SUBSCRIBER.

ON KEEPING GERANIUMS IN WINTER.—If "Pedro" would rather keep his Geraniums in the ground during the winter, he has but to cut them down to within a few inches of it. I cover them with wool or cotton, tied tightly round the stems. Myrtles, he will find, make splendid plants in this manner.

Nov. 1st. 1837.

J. G.

REMARKS.

ON THE WIRE WORM.—Having seen many enquiries respecting the manner in which the wire worm might be destroyed, induces me to send you my method of treatment for their destruction. For nearly two or three seasons I had nearly all my Dahlia plants destroyed by these destructive pests the wire worm. After having tried various experiments, that of burnt earth succeeded entirely to my satisfaction, not having a plant the following season injured. Thinking this might prove beneficial to numbers of your readers, if you think it worth insertion it is at your service,—The burnt earth may be made, by burning the refuse of the garden in dry weather.

ON MANURES.—Manures which stand next to the mineral mixtures of sandy clay, and chalk, are Potash and Carbon, which may be obtained in a mass, cheaply and readily, by digging a hole, paving the bottom, and by putting into it all weeds and refuse vegetables, and occasionally a layer of quick lime, refuse water from the house, particularly soapsuds, (which contain potash), chamberlye, refuse from the pigs, cows, slop pail, &c., these will in a few months, be so decomposed and enriched by the aid of the lime, that a mass of potash and carbon will be obtained, and these are the origin and basis of all vegetables.

An accumulated mass of manure should never be allowed to have the liquor run away from it, for its very essence, is potash, (a piece of wood can have its potash washed out by continual running).—All dung heaps therefore, should have an earth under them, of a different nature to the soil which they are intended for as a dressing; for example, if we desire to enrich a heavy clay soil, we must have sand or road scrapings and a little lime, if it can be procured, laid under each dung heap; and if we desire to enrich a sandy loam, we must lay chalk and marl, or chalk and clay, under our dung-heaps. For the husbandry of manures and their increase, let all animals be kept with a sand, or other earth, under their litter at all times, to soak up the moisture; a turf might be lined over the stable, cow-house, or pig-sty, and removed every week, and thus would a great accumulation of vegetable stimulus be obtained, and this indeed would be a husbandman-like process—a gathering of gold.

STABLE DUNGS, which ferment, should be buried in the ground, as early as possible after coming from the horses, for every gas, or steam, which passes from it fermenting is a loss of its nutritive substance; for all manures are but a concentrated mass of gases: air, and water, or their component parts, are the bases of all manures which have vegetable origins.

SUGAR SCUM—is a favourite manure for those lands where there is a want of chalky matter, particularly on the sands, previously to a crop of turnips; but this scum is principally composed of lime; and a better article can be obtained from pounded chalk that has soaked up the juices from a dung-hill:

SOAP ASHES—are composed of lime, (converted again into chalk), and soda: this is a good and lasting dressing on a dry sandy soil.

ROUGH POTASH—from saltpetre works, is the best of all dressings; it is the vegetable itself concentrated in a state ready to enter at once into the fibres of young roots of plants, when aided by water.

LIME—when thrown over land, is quickly converted again into chalk, by imbibing from the air that acid which had been driven off by fire; hence chalk is as good if put on the land in the winter, because the frost acting on the water in it, expands and crumbles the article to pieces.

“**SALT**—is a soda in union with an acid, and acts on land in the same manner as many other manures, by holding moisture for the service of vegetation; but the article of common salt does not enter so much into the composition of land vegetables, as the salt of potash, that is, saltpetre, or vegetable alkali, as it is called.

CHEAP EFFICACIOUS MANURE.—Raise a platform of earth on the headland of a field, eight inches high, and of any width and length, according to the quantity wanted. On the first stratum of earth lay a thin stratum of lime, from the kiln; dissolve or slake this with salt brine from the rose of a watering pot; add immediately another layer eight inches thick of earth, then lime and brine as before, carrying it to any convenient height. In a week it should be turned over, carefully broken, and mixed, so that the mass may be thoroughly incorporated. This compost has been used in Ireland—has doubled the crops of potatoes and cabbages, and is superior to stable dung.

GYPSTUM—is a dressing used with a variety of effects on different lands, and for different purposes; it is a lime in union with sulphur, being a refuse from plaster makers. Those crops which are cut green, take up gypsum, which constitutes a part of their substance, such as sainfoin, clover, lucern, peas, tares, and such like crops. To these, this mineral dressing will be good, but it is injurious on a chalky land, and when animal and vegetable manures are easily obtained, it is not worth using; for they yield a sufficiency of gypsum to the soil. Sir H. Davy considered that an acre of tares took up several pounds of gypsum.

BONE DUST—is now a very favourite dressing for turnips, and indeed many other crops; it is principally composed of lime and phosphorous, which readily enter into the composition of grain, and all grasses. A portion of lime and phosphorous is also found in all milk, and goes to form the bones of young animals which suck; the staler the milk, the less phosphate of lime is there in it. This bone dressing for land, is a very expensive article, and should be cautiously used. Coal ashes, especially if laid under dung-heaps, are an excellent dressing for clays, by opening and enriching the soil, and like soot, impart a carbon or charcoal to the soil, of which all clays are deficient.

In all these manures we find lime an active principle, except in the salt dressings. Lime imbibes carbon, which is the woody principle, and also holds moisture for the service of vegetation. If we cannot procure large quantities of these manures, we must entice air and water to the roots of plants, by every means in our power; and this may be done with the greatest facility, by repeated movings of the surface, a hoeing being equal to a shower of rain.

There is another source of vegetable vigour, to be obtained without decayed vegetable, or mineral dressings. Land having had a trenching, when it can be done, and having had it lain up in ridges for the air, the sun, and the frost, to impregnate it with those gases which the soil requires, then may we proceed to sow seeds, let the soil be ever so single a mineral. If a bare sand, a dense clay, a shallow chalk, some seed may be found which is particularly adapted to the soil. Buckwheat, rye, tares, lucern, rape, white clover, trefoil, lotus; some one or other of these will grow readily in sandy land which has been so trenched without manures, and when grown they may be buried in a soil as manure for a spring crop. Potatoes, carrots, mangel-wurzel, and turnips, may be thus obtained, as well as spring corn crops, peas, and beans. All the cabbage tribe, red clover, beans, are congenial to the clays, and sainfoin is congenial to the chalks and loose soils.”

COTTAGE FARMER.

ON THE TREATMENT OF LANTANA SOLLI AND LANTANA MUTABILIS, AS SUMMER BORDER PLANTS. BY F.H.S.—I wish to draw the attention of the lovers of Flora to those lovely plants *Lantana Sellowi* and *Lantana Mutabilis*. I have seen them cultivated in hothouses and in most counties of England, but with miserable success: such being the case, has stimulated me to send you my method of their culture, which you will find to be very different from what you have seen practised

As early as possible in September you may take off a quantity of cuttings and insert them in sand and peat, under a bell glass: give them a little bottom, and they will be perfectly rooted by the first week in October, when they must be potted singly in small pots, using a mixture of equal parts, of leaf soil, peats and loams. As soon as the plants have attained six inches in length, pinch off the leading shoots in order to keep them dwarf; let them be kept in a cool greenhouse until the early part of April, when a bed must be prepared for their reception. I have found the following preparation to answer well:—

Whatever bed I choose upon, the whole of the soil is taken out of the depth of eighteen inches, and filled with equal parts of well decayed leaves, peat, and loam; “the latter being of a forcible texture.” After being well mixed together, and allowed to settle for a few days, the plants are turned out alternately over the bed at two feet apart. The plants are trained prostrate over the bed, similar to the habit of *Verbena twediana*. Nothing can exceed in splendour a bed of these when in one mass of bloom. I had a bed treated in this manner last year, which was the admiration of all who saw it, and which was one mass of bloom from June to November. I find it necessary every season to prepare a stock of young plants for turning out the next spring, which are treated as already stated. I have found several other valuable exotics do equally as well as those above named, when treated in a similar manner, the particulars of which I intend sending you at an early opportunity.”—GARDNER’S GAZETTE.

SEEDS OF DELPHINIUM BEING POISONOUS.—The seeds of *Delphinium staphisagaria* yield an alcaloid, called *Delphinia*, which exists in it in the state of a malate of *Delphinia*, and which is possessed of great virulence. It probably exists in the other species of the genus, not only in the seeds, but probably also in the leaves.

It is remarkable that insects do not prey upon leaves of any species of *Delphinium*, which may possibly be owing to the fine instinct with which they are endowed, indicating to them the presence of a principle which would be to them detrimental. The consequence of insects abstaining from these plants is, that the leaves are not disfigured by their ravages, but remain whole till they wither and fall off. This renders them desirable objects of cultivation; but they should be placed out of the reach of children, as the poisonous properties they possess, might cause fatal accidents. BOTANIST.

REFERENCE TO PLATE.

1. *Fuchsia fulgens*. This most splendid species has been introduced into this country by Mr. Lee, Nurseryman, Hamersmith, near London, and is unquestionably far the handsomest kind in the country. We could not give the foliage in its proper size, each full grown leaf is about five inches long and four broad, of a fine green above and purple beneath, having a noble appearance, and in this respect alone is an object of attraction. The flowers are produced at the ends of the shoots, we saw clusters of from eight to ten flowers, but we have been informed, that as many as from fifty to sixty have been grown in a cluster. It is a most desirable plant, and would be an ornament to every greenhouse, conservatory, or flower border. The plant is of

vigorous growth, and growing rapidly would soon make a most magnificent object.

2. *Tecoma jasminoides*. (Synonym *Bignonia jasminoides*.) This most beautiful flowering plant has bloomed in the collection of Messrs. Chandler, Vauxhall, London, where we saw it this Summer. It is a highly ornamental plant, for the conservatory or greenhouse, where grown as a climber or trained to cover a space, it would produce a beautiful effect. The plant is of quick growth when established, and in every account merits a place in every conservatory or greenhouse.

FLORICULTURAL CALENDAR FOR DECEMBER.

PLANT STOVE. Roses, Honeysuckles, Jasmines, Persian Lilacs, Azaleas, &c. required to bloom from January, should be brought in early in the present month, the plants should be placed at first in the coolest part of the house, never allow them to want water. Pots or boxes containing bulbous rooted flowering plants as Hyacinths, Narcissuses, Persian Irises, Crocuses, &c., should occasionally be introduced so as to have a succession of bloom. All stove plants will require occasionally syringing over the tops in order to wash off any accumulated dust from the foliage. Cactus plants that have been kept out of doors or in the greenhouse, should occasionally be brought into the stove for flowering.

GREENHOUSE. As much fire as will barely keep out frost will be necessary and for the purpose of drying up damp arising from foggy nights, or from watering; all possible air should be admitted in the day time, but mind to keep the plants from damage of frost. Chrysanthemus will require a very free supply of air, and a good supply of water; by the end of the month many will be going out of bloom, such should be cut down and, if any kind be scarce, the stalks may be cut in short lengths and be struck in heat, always cut the lower end of the cutting close under the joint. If greenhouse plants require watering, or syringing, over the tops, let it be done on the morning of a clear day when air can be admitted, and towards evening a gentle fire heat should be given.

FLOWER GARDEN.—Be careful to protect beds of what are technically called Florists Flowers, should severe weather occur. Calceolarias that were cut down and repotted last month will require attention, not to water too much or they will damp off, keep them in a cool and airy part of the greenhouse or pithouse. Auriculas and Polyanthuses will require plenty of air in fine weather, and but little water (see page 25); the like attention will be required to Carnations, Pinks, &c., kept in pots. Dahlia roots should be looked over, to see if anything are moulding or likely to damage, let the roots be dry if they are laid in heaps. Newly planted shrubs should be secured, so that they are not loosened by the wind. The pots of Carnations and Picotees should be placed in a situation where they may have free air, and be raised above the ground; if they are under a glass case, it will be much better than if exposed to the wet and severity of the winter, or many will, in all probability, be destroyed. Where it is desirable to leave patches of border flowers undisturbed, reduce them to a desirable size by cutting them round with a sharp spade. When it is desirable to have a vigorous specimen, it is requisite to leave a portion thus undisturbed. Ten week stocks, and mignonette, in pots for blooming early next spring to adorn a room or greenhouse, must not be overwatered, and be kept free from frost. A cool frame, well secured by soil or ashes at the sides, and plenty of mats or reed covers at the night will answer well. Tender Evergreens newly planted, would be benefitted by a little mulch of any kind being laid over their roots. During hard frosts if additional soil be required for flower beds, upon grass lawns, advantage should be taken to have it conveyed at that time, so that the turf be not injured by wheeling.

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