

*The Cactus and  
Succulent Journal*

*of Great Britain*

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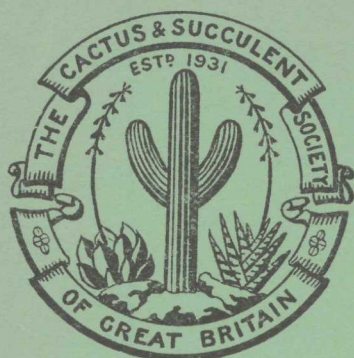
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# THE CACTUS AND SUCCULENT JOURNAL OF GREAT BRITAIN

Vol. 31

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## OBITUARY

### Mrs. Vera Higgins, V.M.H.

MANY of us heard with sorrow of the death recently of Mrs. Vera Higgins which will leave a big gap in the ranks of cactus enthusiasts.

When Mr. Shurly and I visited Mr. and Mrs. Higgins at Croydon in 1930 during the preliminaries of founding our Society they were not very optimistic of the outcome but were ready to help if the project went forward. It is a matter of history now that it did go forward and stimulated surprisingly great interest. Mrs. Higgins became the Society's first Editress and remained so until the outbreak of the Second World War when the Society was suspended. She set the format of the Journal which attained a high standard under her editorship. She also proved a good colleague in many ways when Mr. Shurly took over the editorship when the Society was revived after the War.

She was fluent in languages and translated a lot of material from the German. She did a great deal of translating for Curt Backeberg and Franz Buxbaum. Her own books such as "Cactus Growing for Beginners" by her and Mr. Marrable, "Cactus for Decoration" and "Succulents in Cultivation" have no doubt done a lot in popularising our hobby as her interpretations were eminently readable.

I remember many years ago attending a Show at the R.H.S. and being enthralled by an exhibition of her *Crassula* paintings for which she was honoured. If I remember correctly a very beautiful *Chrysanthemum* was named after her about that time.

Her most important original work was undoubtedly the "Notes on the Genus *Crassula*" in the Journal of South African Botany for 1958-59.

Orchids were another of her interests as well as Alpines. In the early days orchids vied with Cactus for her enthusiasm. Stamp collecting was one of Mr. Higgins hobbies as it was also of Mr. Shurly's and there were animated discussions on the too few occasions when they were able to meet. She suffered the loss of her life-partner soon after I did mine. However deep the grief life goes on and eventually brings a measure of healing in carrying out duties already contracted.

For some years her Christmas cards were original paintings of Succulents and much prized by those privileged to receive them.

Mrs. Vera Higgins was a talented woman who used her gifts well. She was a good hostess, a good colleague. Who could ask for more in one person? In her passing goes a great lady.

The President.

## Editorial

IT IS with regret that we learn that our Secretary, Mr. D. V. Brewerton, feels he can no longer fulfil these duties. He has done so very conscientiously and helpfully since he took over suddenly on the death of Keith Walden and we are sorry he does not feel he can continue. However, Mr. Clare of St. Albans has stepped into the breach and we hope will take over after the Annual General Meeting. In addition, Mrs. A. Whicher has come forward in answer to an impassioned plea from our overworked Treasurer, Mr. Newman, and has taken on the duties of Membership Secretary. Please note that in future all subscriptions should be sent to Mrs. Whicher, whose address appears on the inside front cover, and cheques should be made payable to the Society and not to individuals. Mrs. Whicher also now has the supplies of badges etc. and requests should therefore be sent direct to her.

I am sorry some readers do not approve of our light-hearted columnist Sally Cornioides. I realise that many of our readers are dedicated cactus fiends (!) and botanists, but we have to remember that we also have a number of members who have only small collections which they grow because they like our plants but are not scientifically minded, and I try hard

to strike a balance in the contents of the Journal to give all members something of interest. Other readers have written regretting the disappearance of "Beginners' Corner". I hope this is only temporary, due to certain difficulties, and I am trying to arrange for its re-introduction. The "Connoisseur's Corner" is *not* intended to replace it! Anyway, I am glad that something has produced comments. At least it shows the Journal is read! And if you do not write and tell the Editor when you are dissatisfied, he (or she) naturally assumes everything is going smoothly.

Incidentally, what about the "Queries Answered" column? I have had several offers from members who are prepared to try and answer your queries, but this time I have no new queries for them to answer! Surely some of you must have problems, the solution of which could prove helpful to us all, so do let me have some of them in time for the next issue. As this will go to press in the middle of March, let me have them in time to pass them on to the experts and get their comments by then. Now is the time to do it, before you get too involved in seed sowing and re-potting!

E.M.D.



# Cultural Notes

Cacti—by A. Boarder

THE busy time of the year is now approaching and members will be thinking of re-potting their plants. The sowing of seeds may also be taking place now unless one has the advantage of a heated propagator when seeds may have been sown a month ago. There is no need for me to repeat the instructions I have given in the past for seed raising, but one or two important points can be high-lighted. If no propagator is available do not sow until the weather is warmer as seeds may just rot if they do not get sufficient warmth. April may be the time for such sowing. The next fatal mistake by many is to cover small seeds with soil. This should never be done and only those fairly large seeds need cover—with their own depth of soil. Don't forget to cover the seed pans to conserve the moisture and shade from the light until some seedlings appear. Do not allow the direct rays of the sun to reach the seedlings for the first year.

Water the seed pans when sown and then they may not require any more until the seedlings are up. Then water with a fine spray, as seeds can be distributed by a strong one. If the seed compost had been properly prepared and the loam sterilised there should be no trouble with Damping-off disease, but a spraying with either Chinosol or Cheshunt compound should prevent this disease from killing off the seedlings. Lack of air and too damp an atmosphere can encourage the disease and so once seedlings are up more air must be supplied.

The next task is re-potting and this can be a major task where a large collection is concerned. The best time of the year for re-potting cacti is from late April to June. This is fine if one has nothing else to do at this time of the year. In my case I find it quite impossible to start this task until quite late in the year. In 1968, it was the beginning of November before I could find time to make a start. With upwards of a thousand plants to deal with the time taken is terrific. I thought once, that when I retired I would have plenty of time for all these jobs but although I have been retired nearly 23 years I still cannot catch up with all the necessary work. I suppose that with most hobbies the same conditions arise. One starts in a small way and then it all snowballs up to tremendous work and re-potting has to be put back until all other gardening jobs are finished. All my adult cacti were repotted in 1966, and I see by my note on the back of the labels that I started in June of that year and finished in late November. All the plants were put into plastic pots and so after two years it is possible for me to assess their value. It is very evident that the plants have grown better than they have done before and as most are fair sized plants, when one usually expects growth to be slowed down somewhat, it is very

gratifying to note the very healthy growth on the plants. I find that the half-pots are ideal, specially for the caespitose (Grouping) plants. Such plants as *Mammillaria bocasana*; *M. camptotricha*; *M. prolifera*; *M. elongata*; *M. plumosa* etc., which make large groups are much better in half-pots as they do not as a rule make deep roots. All the plants potted into these types have made very good roots and have reached the sides of their pots, in some cases have spread well beyond. Those plants such as *Dolichothele longimamma* and most of the *Coryphanthas* which have deep strong roots are better in the normal plastic pots.

I had stated before that I was unable to obtain any plastic half-pots over six inches in diameter, but I have now found some made by Sankeys which are seven inches across. These are fine for the larger caespitose plants but even these are not large enough for several of my plants. I have therefore made some large concrete pans for them, up to 12 inches wide. I have been using a number of these concrete pans for many years but as my cacti have grown so I have had to make larger pans.

It may be of interest to members to know how I make these pans, as they are very cheap to make and very little trouble once the mould is constructed. These pans are six-sided so that they can fit in well together like a honeycomb. This of course as long as the pans are all of the same size, a point which is not possible with my set up, as sizes have had to be increased. I will describe how I make two sizes and this will give members a good idea as to measurements. One can use plywood for the moulds. To make a pan which is about nine inches in diameter, use six pieces of plywood, each five-and-a-half inches by four inches. Mark down the centre of each piece and measure off at each side at base, to leave the base four inches wide. Now make a small chamfer on the inner sides so that when fitted together a better join is made. The outside edge of the base can now be chamfered to allow the base to stand firm when the mould is assembled. The six pieces can now be joined together with tape, treated with Bostik or similar adhesive. Use this on the outside. Once dry the mould can be painted with a bitumastic paint to preserve it.

For a pan twelve inches in diameter, one needs six pieces of wood seven inches, by four inches; the base is then shortened to five inches. If thicker wood is used it is harder to get a good join at the edges but it is easier to pin the pieces together. In such a case three pieces are firmly fixed together and then when the two halves are assembled they are held together temporarily by a strong wire hoop.

Once the mould is dry the making can commence. First lightly paint the mould with oil, old car engine oil



is very good for this. Place the mould on a sheet of paper on a piece of glass. Now make a mix of three parts of sharp sand and one of cement. Do not make it too loose but keep it on the firm side. The sand must be sharp and it is better to sieve it through a perforated zinc sieve first to remove small stones. Place a small round piece of wood in the centre of the base and place some concrete mix around it. This can be lightly pushed into position with the aid of a small smooth object such as the bottom of a jar or bottle. Now some of the mixture is spread carefully up the sides of the mould. If one works gradually round the mould it will be found that the mixture will remain in position. The mix must not be too wet or it will slide down but with care the whole of the inside can be coated to a depth of not more than a quarter of an inch. Once the top is reached, just smooth it round and then see if the bottom requires an extra smoothing. Leave the pan to dry which can be in a day or two according to the weather. If the mould was of stout wood with wire fixing, all that is required is to slip the loop of wire down and the mould will fall away in two pieces. If plywood was used it will be found that the mould can be removed intact by just running a table knife along the edges of concrete and a slight bending outward of the wood will allow the mould to be slipped off. Place the whole upside down first for this method. Once the pan is out of the mould it must be treated carefully for a few days. Do not try to pick it up by the sides whilst still green (unset).

It will be found advisable to measure the sand and cement carefully. To make one of the larger pans all that is required is two or three custard tins of sand to one of cement. Use a different tin for each component. A strong type is made with two and a half amounts of sand to one of cement. The round piece of wood used for the drainage hole can be removed after a few hours of construction, by twisting and removing it. The pans should be well washed to remove any free lime and they are ever-lasting.

When using plastic half-pots there is a different technique for crocking from that I have recommended for ordinary pots. The ordinary pots have several holes in the bottom, but none in the centre. I always make a central hole with a soldering iron, but if I find one when repotting which I have not treated, I can soon melt a good round hole by burning a match under the centre of the pot. With the usual hole I advise the use of one large crock, which can be chipped to shape with the aid of a pair of pincers. This large crock enables one to push a stick up from below to raise the whole plant with roots and soil, without trouble. With the plastic half-pots I still place the large crock, broken clay pot, but have to use plenty more to cover the other holes or slots. The whole base of the pan can be covered and then I find that some broken brick, or better still some granulated charcoal, can be placed in before the potting compost is added.

Once you remove the plant from its old pot the old soil can be removed by teasing it away with a thin stick. It is not easy to hold a large caespitose plant in the hand whilst doing this but with a little practice it can soon be mastered. I find an old tooth brush very useful for working the soil among the roots of the plant. Fill in the soil with a large spoon and firm very gently with the handle of an old table knife. Do not use a wooden stick for this purpose as spines could be broken by it. Once sufficient soil is in place, that is about half an inch from the top of the pot, then the small brush can be used to clean the top of the pot.

When dealing with a large collection it is better to start re-potting the largest plants first. The large pots can then be used for the smaller plants which have grown out of their pots. The advantage of plastic pots and pans is that it is possible to clean a used pot by rubbing the fingers around the inside. The clay pots require more cleaning and they also can hold pests such as root bug or their eggs. This is not as likely with plastic ones. Having had the experience of using plastic pots for the past two years I have no hesitation in recommending them to others and I do not intend to go back to clay pots for any of my plants.

A little Paradichlorobenzene is sprinkled over the crocks and I find this a preventive against root-bug. Mound planting is also recommended for the larger caespitose plants. This is accomplished by making sure that the soil near the outside of the pot is lower than that at the centre.

When considering commencing to water the main collection after the winter's rest it is not wise to give water to all the plants but to see that those which show active growth get some first. The weather can make a lot of difference as to when to make a start. During a mild spell the plants will begin to grow and then some water can be given. When a pot of soil has become very dry throughout the winter it is not easy to make sure that all the soil in the pot gets sufficient water to damp all of it. It is usually necessary to go over the watered plants twice to make certain that enough has been given.

Once all fear of severe frosts has passed the heating system can be attended to. Where an oil lamp has been used it will be an advantage to clean the lamp up and cover it to prevent dust getting to it. I still find that my Bryant "Monster", blue flame lamp is very efficient. As an instance, I had not started to use it at the beginning of November. On the fourth, there was a sharp frost and my four 80 foot cable heaters were only able to keep the temperatures at 37°F. The next night I had the paraffin lamp with pipes on, and although the night was as cold, the temperature did not fall below 50°F. Added to this when working in the greenhouse, repotting, I found the atmosphere much more comfortable with the lamp alight. Once I start the lamp I do not put it out all the winter, except for an occasional cleaning of the wick. My spare tanks can keep the lamp going



full on for four days and nights, the oil siphons in from the spare tanks. When adding such spares one must see that the top of these tanks does not come above the top of the lamp reservoir.

Make sure that plenty of fresh air is available for the

plants on all suitable occasions as cacti cannot thrive unless there is plenty of air in the greenhouse or frame. Plants kept in the living rooms must have a good spraying to remove any dust. This should be done on a bright day when the plants can be placed outside for the cleansing.

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## Cultural Notes

### *Other Succulents—Mrs. M. Stillwell*

IN February one begins to think of spring, and another season with our plants, but should not be deceived by a few days of sunshine, as in England some of the worst weather comes in February and March, and it is a great mistake to start general watering too soon, and so create a damp atmosphere in the greenhouse. There are certain plants that must be watered during the winter, but I would suggest watering them at different times, so as not to introduce too much water into the house in one go. Try and pick a nice sunny day, and water a section at a time, and make sure that no drips fall through the staging or from overhanging shelves on to plants below that are probably still resting. The soil on top of the pots during the winter often becomes rock hard, and instead of any drips just soaking away in the usual manner, they may lie on top of the pot, or even in the heart of a plant and cause it to rot. If your collection is not too vast, it pays to do the first watering of the season by immersion, and leaving them on the floor to drain afterwards, having previously stirred up the surface of the soil with a dibber or even a metal meat skewer, which I find often comes in handy for various jobs. It is also very important to check all plants for pests, before doing anything, as these often creep in during the winter, when we are not keeping such a watchful eye. Pick up each pot, and do not forget to have a good look underneath around the drainage hole, where you will find mealy bug often like to hide away. Have a good look at the woodwork under all shelves and staging as during the winter mealy bug often breed here. If you can find the time to remove the plants in sections, all woodwork could then be wiped over with a cloth wrung out in hot water to which has been added a fairly strong solution of Jeyes fluid. This will also get rid of dust and spiders webs, which are perhaps not harmful but make the place look untidy.

Many valuable succulent plants are lost during the winter partly through ignorance as to their cultivation, and partly because temperatures are allowed to drop too low. The nearer a plant grows to the equator the higher the temperature it will need in this country, and before spending a lot of money on some of these rare succulents that are now coming on the market, members should ask themselves if they have the right kind of conditions for growing them successfully. Many rare Stapeliads for instance need a winter temperature of

60° to ensure they will come through safely, and these temperatures in the winter cost quite a lot to maintain, especially if the outside temperature is below freezing. The answer is a very small house kept exclusively for these particular plants, or a section that can be shut off in the large house, as this kind of temperature would be far too high for the majority of our plants during the winter, when many are resting.

Many caudex succulents start to grow from September onwards and will of course need careful watering during the winter.

As soon as their leafy branches start to turn yellow, that is a sign that the growing period is coming to an end, and water should then be withheld. Many lose their leaves and top growth completely and revert to just a large often potato-like growth. Keep them quite dry when this happens until you see the new season's growth appearing again. They may be in the resting state for many months, in fact a beginner often thinks the plant has died, and in sheer desperation gives it a good soaking to try and encourage some new growth to appear. This of course is fatal. It is really just a matter of common sense as to when a plant should be watered, it all comes with experience, which usually takes a number of years, and cannot be learnt in five minutes. Do not get disheartened if you lose a plant, it happens to all of us, the only thing to do, is to try and replace it as quickly as you can, and try and correct the mistakes you made with the last one. In the spring we are often tempted with wonderful looking plant lists, which leave our purses considerably lighter. If these are imported plants, make sure that they are well rooted before being too generous with the water, and also tread gently with any grafted plants, which are often grown very fast and on the lush side solely for trade purposes. I always prefer to see a plant on its own roots, it is far more natural, although certain plants such as those cacti lacking chlorophyll will of course not grow on their own roots, so there is no alternative. The Japanese specialise in variegated plants and there are some pretty little Aloes, Gasterias, and Haworthias becoming available. These plants often produce a completely white offset, with no chlorophyll at all, it should be left on the parent plant, as if removed it will of course die.

Be ruthless when repotting starts and break up all old clumps which have remained dormant for years, and

grow on the fresh young growth, which is around the edges of the plant. The rest can be used as cuttings, or passed on to one's friends. Many young boys are highly delighted with a box of cuttings that would otherwise probably be thrown away. I was recently asked to give a talk at a large boys' school in Middlesex. They have their own Cactus society led by a very enthusiastic master, and a fine greenhouse full of plants which I was shown round with great pride. Everything was beautifully laid out and the pots were surrounded by natural looking rocks. The boys are allowed to run this society themselves, and if their enthusiasm lasts, who knows, they will probably do great things in the cactus and succulent world of the future, and I should like to see more schools adopt this idea, for I am quite sure that any members living in the area would only be too pleased to give them a hand.

I always think that March is the ideal month for sowing succulent seed. The fast growing ones can be safely removed from the propagator as soon as all danger of frost has gone. It is now possible to buy plastic

covers to fit over the small plastic seed trays, making them into miniature greenhouses, these used in a propagator I think are ideal. It is probably an improvement on the plastic bag method, although personally I have found that very successful, as the seed being enclosed germinates very quickly and there is no danger of it drying out. It can be safely left without attention while on holiday, which is another great advantage, as how many of us have lost our seedlings that have been overwatered by well meaning neighbours.

Any Kalanchoes or other tall growing succulents that have lost their bottom leaves during the winter, should be cut down and the heads rerooted, they will soon regain their former beauty, and the base of the plant will probably produce plenty of offsets. Nothing looks worse than a leggy plant that has lost its bottom leaves. Echeverias that have gone up on a stem and pachyphytums can be treated in the same way.

Let us look forward to a lovely hot summer with plenty of flowers on our plants to make all our efforts worthwhile.

## Oddities

### *Strange goings-on in the greenhouse*

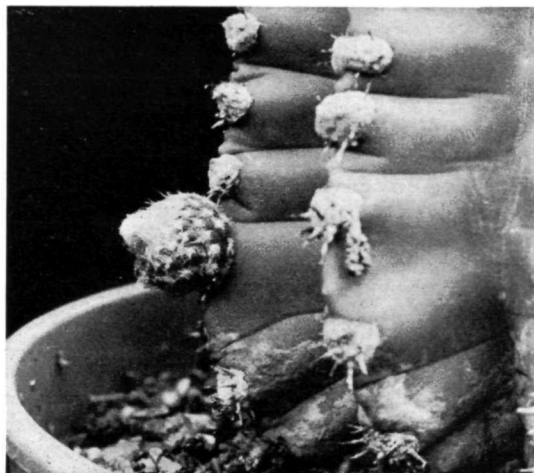
The aim of this series is to report unusual growth forms observed in members' collections. Members are invited to send contributions to the series, preferably including a photograph or line drawing. If any morphologists among our readers can provide an explanation of these phenomena, the Editor will be pleased to hear from them.

#### *No. 8 Odd growth on Echinopsis Eyriesii*

The photograph shows an odd growth which appeared low down on the side of a large old plant of *Echinopsis eyriesii*. At first this had the appearance of a flower bud, forming in the upper part of the areole, and having the characteristic hairy covering, but as it did not grow as rapidly as buds which had formed at the same time, a closer inspection was made. This revealed the scaly appearance, somewhat reminiscent of the tubercles of *Encephalocarpus*. During the past two years, this growth has slowly increased in size, until it is now about half an inch in diameter. Although other flower buds have formed and developed during this spring, this growth has not changed its appearance.

The growth appears to be somewhat intermediate in character, between purely vegetative and floral. Possibly it is some form of monstrose growth, possibly it is no more than an aborted bud, though the fact that it has remained on the plant, and grown for a period of two years suggests that the latter is not the case. I am tempted to remove it from the plant, graft it, and create a new genus of cacti!

Bill Keen



*Oddity No. 8*

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*Erratum:* Page 85 of the November 1968 issue—last para. The plant described in the current issue of the *Journal of the Mexican Cactus Society* (*Cactaceas y Suculentas Mexicanas*) is *Echeveria minima* and not *M. errectacantha* as mentioned.



# 1968 In Retrospect

by Betty and Bill Maddams

THE shorter Oxford Dictionary provides two contrasting definitions of the word "hobby". The first is "a favourite occupation or topic, pursued for amusement" and the second is "an individual pursuit to which a person is unduly devoted". Most of us probably regard our cactus collecting as a hobby and it is evident that we fit somewhere into one or other of the categories mentioned above. Perhaps these definitions are too extreme and, as with many species of cacti, there is an almost imperceptible graduation from one to the other, with the great majority of us occupying a middle position. Be that as it may, and irrespective of whether we pursue our hobby for amusement or with undue devotion, we all ought to keep at least a rudimentary record of our yearly activities. Then, in retrospect, it should prove a source of pleasure and information, the latter to help us achieve greater things in the future, whether they be better growth and flowering of our plants or, perhaps, more success on the show bench.

The most widely practised method of keeping records at present is by photography, usually in colour. Certainly, this is desirable, but it should be supplemented by written records of major landmarks during the year. Given a little enthusiasm and self-discipline it is easy to cultivate the habit of noting flowering dates, and the lack of published information on fruiting indicates clearly the need for the tabulation of information in this direction. Those with particularly orderly minds and adequate time will probably keep a card index in which this information is noted, together with the date of acquisition of the plant in question, details of subsequent repottings and other salient historical features. If one has the inclination to work in this detail it is not a bad thing if it is remembered that the mere acquisition of data, to be stored like gold bars in a bank vault, serves no useful purpose. The merit lies in the realisation of its significance and the subsequent dissemination of the conclusions drawn.

We have not attempted to keep really detailed records; we are not suited for this task, either by temperament or availability of spare time. We make sundry notes of what is happening in our collection and from these we have reconstructed a picture of events in 1968. In what follows, the attempt is made to present something more than a mere catalogue or recital of facts. Indeed, we shall draw very tentative conclusions in several directions and be deliberately provocative, in an attempt to draw information from others for the improvement of knowledge. We also hope that we shall inspire one or two others to gain greater satisfaction from what is and will continue to be a hobby whatever nuance is placed upon the word.

When Haydn wrote his pleasant oratorio "The Seasons" he adopted the sequence Spring, Summer,

Autumn and Winter, because he was drawing a parallel with the progress of human life. We shall be more prosaic and adhere to the calendar year which correlates with our climatic year sufficiently well for present purposes. The months of January and February need not be ones when the greenhouse is visited solely for the purpose of maintaining the heating system. By a suitable choice it is possible to have a range of both cacti and other succulents which have interesting flowers at that time and, apart from what is to be seen, it is a fascinating and exciting pastime to watch for the appearance of buds on the early spring-flowering cacti.

It is often supposed that there are very few winter-flowering cacti and, in terms of what is to be found in the average collection, this is so. The fact is, that most cactophiles neglect the true epiphytic genera and thereby miss a fascinating group of plants, interesting and variable in form and forthcoming with their flowers during the winter. These plants need to be grown so that their stems can hang if they are to give of their best and, happily, we are able to meet the need by siting them in trays attached to one wall of our conservatory. As usual, quite a number of these had begun to flower in the late autumn prior to the year under review and 1968 came in with a flush of flower. Of course, the blooms are not so large and showy or colourful as those of the hybrid *Epiphyllums* but they appear in considerable numbers to compensate for this. Those which have done particularly well for us include *Rhipsalis pilocarpa*, which was giving a fine display on 1st January, *Rhipsalis warmingiana*, which produced its first trails of blossoms in February, and *Rhipsalis houletiana*, which either has flowers or buds almost the whole year through. This group of plants shows a wide range of stem form; some are akin to the familiar *Epiphyllum* hybrids but others have the typical "wicker work" form to be expected from the meaning of the generic name *Rhipsalis*. This genus is still the subject of much study and many specific names are dubious.



*Rebutia Albiflora*

The early months of the year were also rewarding for the flowers on our various forms of the "Christmas Cactus". This plant, now properly called *Schlumbergera buckleyi*, comes in a variety of forms whose flowering periods extend on either side of the festive season and if one keeps a watch on what is offered at local florists it is possible to build up an interesting collection of these plants. Some of them do not appear to reach the proportions of the ordinary "Christmas Cactus" and should not prove an embarrassment so far as space is concerned. We note that when a plant is carrying a large number of buds quite often some of these drop off but later new buds form on these tips to give a later bout of flowering. This is perhaps a convenient point to mention that little gem, *Zygocactus opuntoides*, whose stem segments really do resemble miniature *Opuntia* pads. Our small plant made good progress during the year and is most attractive. It seems a pity that there are really so few opportunities for displaying this group of species on the show bench.

The early weeks of the year brought ample evidence of things to come in the form of buds on various cacti. These included quite a number of *Mammillaria* species, *Notocactus haselbergii*, *Aporocactus flagelliformis* and a few *Rebutias*. The time at which these plants begin to show buds seems to vary from collection to collection and we suggest that it is influenced both by the available light and by the minimum temperature maintained, the former probably being the more important factor. One has no control over the weather and often very little so far as the siting of the greenhouse is concerned but at least it is possible to keep the roof clean and this is a point which is often overlooked. Even in the clean air of Banstead we find that an appreciable amount of grime collects in the space of a fortnight or so. Because of this we have regular sessions with a long-handled scrubber and a bucket of hot soapy water. The subject of minimum winter temperatures is one which has too many ramifications to discuss here; we shall merely suggest that in those years when the weather is predominantly mild it is not an expensive matter to experiment with a somewhat higher than average temperature. In fact, it seems probable that a good deal of information could be obtained now by a co-operative effort because, with the increasing interest in rather more tender succulents, minimum temperatures around 50°F. are more commonplace than a few years ago.

Leaving aside *Mammillaria picta* and *M. plumosa*, which are genuine winter-flowering species, our first *Mammillaria* came into flower on 2nd February 1968 and it was quite a small specimen of *M. sinistrohamata*. This is a distinctive species with stout cream hooked central spines, which do not all turn to the left as the name implies. The buds are very large, and shortly before they open they seem to dwarf the adjacent tubercles. *M. weingartiana* followed on 26th February and then other *Mammillaria* species in rapid succession,

including *MM. cowperae*, *egregia*, *lasiacantha*, *pilispina* and *magallanii*. We have come to expect flowers on these in late February or early March, on the basis of several years' experience, but the appearance of blooms on *M. sempervivi* on 5th March rather took us by surprise. This species, which is often found bearing the name *M. caput-medusae*, is not one of the glamorous *Mammillarias* but we find it to be very free with its flowers. To catalogue all the *Mammillaria* species which came into flower by the end of March would be tedious; it will suffice to note that there were 41 of them and therefore the genus can be relied upon to provide a fine start to the new season.

During the months of February and March various of the other succulents were also excelling themselves. In that Mrs. Stillwell frequently writes about winter-flowering genera and species we shall not dwell on this point widely but it is worth mentioning that we find various *Sedums*, *Crassulas* and *Echeverias* to be particularly good and there are always a few *Kalanchoes* giving a colourful display, our particular favourite being *K. pumila* with its downy, grey-green leaves and its clusters of clear pink flowers. The *Mesembryanthemums* must not be forgotten either; our small white, scented *Stomatium*, probably *S. niveum*, bloomed throughout the winter and has never stopped since for more than a week or so and the same can almost be said for *Tischleria peersii* whose large golden blooms continued through until September. Leaving aside the epiphytic cacti and the *Mammillarias*, the first cactus to flower was *Strombocactus disciformis*, on 24th March and *Encephalocarpus strobiliformis* followed on 8th April. As *Pelecyphora aselliformis*, *Aztekium ritteri* and *Epithelantha micromeris* were also obliging by the middle of May, this group of "desert species" as they are sometimes called were very attractive quite early in the season. There is a tendency to regard these plants, together with *Ariocarpus*, as difficult and to treat them as fossils. This is a mistake; assuming that one is dealing with imported plants one should wait until they are well established, as indicated by the appearance of new growth, and then water liberally during the summer months. We grow our *Ariocarpus* species in plastic pots in a no-soil mixture of peat and sand with added fertiliser and they thrive on it.

It is often assumed that there is no future in attempting to raise this group of plants from seed but this is an over-generalisation. Certainly, they are slow and some more so than others. One probably only raises *Ariocarpus* species this way as a curiosity (this has not stopped us from trying) but *Lophophora williamsii*, *Obregonia denegrii* and *Epithelantha micromeris* make presentable little plants in four or five years. We also find the *Turbinicarpus* species to be a reasonable proposition from seed; a four-year-old specimen of *T. schmidickianus* budded up in April but could not quite manage to sustain the effort and we anticipate that, with a year's additional growth behind it, we shall be rewarded in



1969. Another plant which we have raised from seed and flower regularly is *Thelocactus bicolor*. We had to wait seven years for the first bloom but this is not an inordinately long time and although the plant cannot match up for size to some of the imported specimens which are seen from time to time, it is a typical *Thelocactus* and we are as happy with it as we would be with a collected specimen.

The various *Rebutia* species came into flower in late March and April and, as always, were outstanding. Many of them need no introduction and this gives us the opportunity to concentrate on one or two which are not so widely known. The diminutive *R. albiflora* is a little gem and, as the name implies, its flowers are white. In fact, the colour seems to vary somewhat from specimen to specimen and often there is a tinge of pink to the blooms. Anyone requiring the more striking and flamboyant red and magenta tones should try *R. carminata* and *R. beryllioides* if they want a change from *R. minuscula*, *R. violaciflora* and the like. We seldom have a summer go by without losing one of our *Rebutias* and the form of demise is predictable in the great majority of cases; the plant just dries up. Are many *Rebutia* species intolerant of prolonged sunshine, (not that this was very much in evidence in 1968) or do they have a very limited lifespan?

The month of May, particularly the latter half, sees the peak of the flowering season for cacti and when one has a fairly large collection it is clearly not possible to do justice to many of the plants worthy of mention. The *Lobivias* really come into their own at this time and as the best of the 1968 summer occurred during this period our plants were indeed a sight. It is sometimes said that the *Lobivia* species are most uninteresting for 11 months of the year and we have one or two that do not catch the eye so far as body form is concerned. This is certainly not the case with our plant of *L. jajoiana* with its long, fierce hooked spines and when we have given it an outing to shows it has been much admired. We are also very fond of *L. aurea* which produced its vivid yellow flowers for us, in ones and twos, for much of the summer. The body of this plant is much akin to the average *Echinopsis* species and, perhaps, it tends to be overlooked for this reason. It is unfortunate that the ubiquitous *Echinopsis* is so tolerant; it suffers neglect and maltreatment because it will stand it. However, if it is repotted regularly and given something nutritious in its compost (a little well-rotted manure is not out of place) it will respond with a bumper display of blooms). Although space is at a premium with us we have managed to retain all our *Echinopsis* specimens and in 1968, as in previous years, they really earned their keep.

The number of readily available *Parodia* species has increased by leaps and bounds of recent years so that most of us must make a choice and not attempt to grow them all. With so many new names to be found



*Ariocarpus Retusus*

in the catalogues it can be all rather confusing, particularly when many are only available as seed. The better known species such as *P. nivosa* and *P. sanguiniflora* are very slow from seed and are best not attempted until one has some experience. Fortunately, many of the newer species grow more robustly in the early stages and this group have it in common that their seeds are black and are much larger than the dust-like seed of *P. microsperma* and its allies. Into this category come *P. comosa*, *comarapana*, *pencilata*, *rubistaminea* and *uhligiana* and it is clear that a good proportion of these *Parodias* with black seeds have distinct affinities to the *Notocactus ottonis* complex. This group of *Parodias* have a somewhat irritating habit, that of making a small but detectable constriction around the body at the point where growth ceases each winter and this is a disadvantage so far as showing is concerned. Nevertheless, *Parodia* species in general are ideal plants for a group because they are in flower at the time of most summer cactus shows and they do not occupy too much space. We were able to use several of them in our entry in class 22 at the Society's Show in the R.H.S. Hall on 18th and 19th June and they proved very effective. In view of the favourable impression such groups of plants create with the average visitor to the Shows, it is a pity that the entries are so few in number. Many members with a few hundred plants should be able to mount a pleasing group; as we know from our experience, the only real trouble is transporting them to and from Westminster.

Another plant that is useful for our June group is *Bergeranthus scapiger*; this attractive *Mesembryanthemum* with its gay yellow flowers is early in flowering both in age—ours flowered first at just over a year old—and in time of year, before the real *Mesembryanthemum* "season". However, a few others flowered earlier than usual this year, maybe owing to the warmer than normal temperatures in May. *Conophytum flavum* was one of these; with its pale green body and bright yellow flowers it is very distinctive. This year the heads were quite small, so different to previous years

when the heads have been large and unsymmetrical. We find this happens with other Conophytums and some Lithops from time to time; have other people noticed this?

What we have also noticed is that Conophytums obviously do not require so much light to flower as do Lithops. Our larger Lithops and Conophytums are on a shelf close to the glass and they all flower very well but the younger and smaller plants have to be accommodated on the floor (we have glass to the ground). Here, the Conophytums flower just as well and not much later than their close relatives on the shelf, but we have not yet managed to flower a Lithops under the staging although we have had some bigger four-year-old plants there this year which flowered when they had a position on the staging last year.

Another flowering problem in the past has been our *Caralluma frerei*; generally the leaves and then the flower buds are so long developing that it is too far into autumn for the flowers to open properly. This year we had flowers on one plant in the middle of July merely by giving the plant a little extra heat in winter, and it has continued to flower well into the autumn. The plant was placed, in fact, in what we term our "warm enclosure"—a stiff polythene tent over part of the staging with thermostatted cable heating inside. We find this ideal for more tender species particularly Mammillarias that come from Central America.

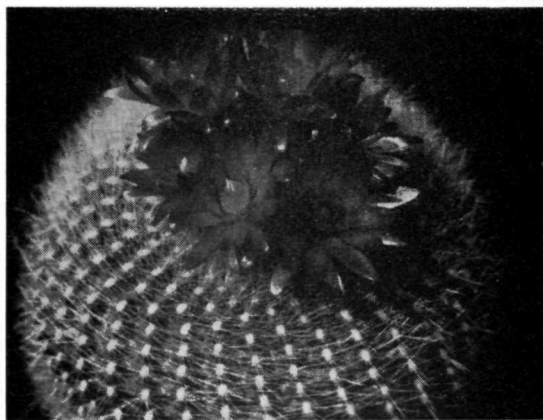
We seem to have had a good year for the Asclepiads altogether. We have had a *Hoya bella* for several years but the buds have always aborted until this July. When the buds were seen, the plant was placed indoors on a south facing window-ledge; this change of air obviously suited it as the delicate little florets opened and lasted for some time and we had a second flower in November. Another success was *Ceropegia sandersonii* which, after a year of hardly any noticeable movement, suddenly curled its way right up the drain pipe in the conservatory. It produced one fascinating, large "balloon" flower on route but, alas, in such an inaccessible position that it could not be photographed.

Many people admired our *Kalanchoe nyckae* in the group at the autumn show at Westminster and a strange and interesting plant it is. It was sent to us from America a few years ago as a small cutting and soon grew to a fine plant, and, what was most intriguing was that the sixth and seventh pairs of leaves on the stem were carunculate at the centre. We cut it down and re-rooted the top this year, and the same thing has happened again. We are now awaiting with interest the growth of the various offshoots that we have given away—will they too be carunculate on the sixth and seventh pairs of leaves? Lucky recipients please let us know.

With thoughts of the autumn show, we are really in the "Mesembryanthemum season" and looking back on our flowering record we can soon see when the rare

sunny spells occurred. The 9th to 14th September was obviously one of these; about 20 plants opened their flowers on those few days, mainly Lithops and Conophytums but two Ophthalmophyllums as well. It is surprising that this genus is not grown more; these delightful little plants grow quite easily from seed and will produce quite large flowers when still single-headed. The *Faucarias* flowered well, including some two-year-old seedlings, and they were earlier than usual; however, the white-flowered Lithops seemed much later than usual. Though they generally do flower after the yellow ones, in our experience it is unusual to see *L. marmorata* and *L. Bella* in flower when *L. optica rubra* opens its buds. Perhaps stranger still was sighting buds on our *Pleiospilos nelii* at the end of October. This plant has been awkward in recent years as the buds have appeared in spring but never opened. However, this time their arrival coincided with another rare sunny spell and we were able to admire the rather distinctive salmon-coloured flowers. We will not mind so much if there are no buds or flowers at the usual time in February. *Cerochlamys pachyphylla* is another Mesembryanthemum which flowers easily from seed and these flowers come along well into November. The purplish pink petals are very bright and seem to grow larger the longer the flower has been open, and in the dull, dark weather at the end of the year they lasted a long time.

Although the late summer to autumn is the time when many of the other succulents, particularly the stemless Mesembryanthemaceae, really come into their own the cacti are by no means eclipsed. So far as flowers are concerned there are three types of plants; those whose principal flowering occurs at this time, ones which continue flowering after their main flush earlier in the season and a group which have a second well-defined blooming season in the autumn. The most obvious example of the first type is a group of Mammillarias of which *kewensis*, *rhodantha* and *tetracantha* are typical. The flowers are rather uniform in colour and not



*Notocactus Haselbergii*



particularly large but they appear freely. There are other autumn-flowering *Mammillarias* such as *MM. camptotricha*, *decipiens*, *rettigiana* and *schiediana* with cream flowers and they provide an interesting contrast.

The period from mid-September to mid-October is the time when one hopes for flowers on the *Ariocarpus* species. We have always been successful with *A. kotschubeyanus* but only occasionally with the others. In view of the poor summer and consequent lack of sunshine we had no great expectations when September arrived and it was therefore a particular pleasure to find that *A. retusus* was in bud towards the end of the month. It had one flower open on the occasion of the October meeting in the R.H.S. Hall and earned a first prize in the Table Show. However, it really reached its peak the following weekend and gained the award for the best plant in the show at the Croydon N.C.S.S. Autumn Competition. This naturally provokes the question—do *Ariocarpus* species really need long spells of sunshine to induce bud formation as is so often stated in print? The way in which specimens of many other genera continued to flower well into the autumn also suggests that the comparative absence of sunshine was no deterrent. The plants in question included species of *Astrophytum*, *Echinopsis*, *Gymnocalycium*, *Lobivia*, and *Rebutia*; *Hamatocactus setispinus*, as always, continued on its productive way until well into the autumn.

The poor summer has given us evidence which confirms our earlier belief that quite a number of cacti are short-day plants so far as flowering is concerned. In other words, they need a spell during which the intensity and duration of light is at a certain minimum level to induce bud formation. This is undoubtedly true of the Christmas Cactus and its allies, and it is

therefore understandable that our plants of this group should have come into flower earlier than usual. The same can be said of *Mammillaria picta* and, we feel, of *M. plumosa*. This latter flowered for us in the 1967/8 winter, commencing around Christmas and continuing until mid-February. This year it got under way early in November and is really excelling itself. Of course, it may simply be that the plant is one year older and correspondingly more mature but we incline to the belief that the level of daylight is a contributory factor.

It is very probable that the autumn flowering cycle of a number of *Mammillaria* species, such as *MM. hahniana*, *karwinskiana*, *saetigera*, *sempervivi*, *solisioides* and *woodsii* is also a short-day process. In this case, unlike that of *M. plumosa*, there must be two opposing factors at work; a short-day period is required to induce bud formation but sunshine is then needed to mature them. Because this latter has not been forthcoming of recent weeks, we have not done so well as usual with this group of plants; the buds are to be seen but are simply not developing. Perhaps the most surprising example of a second flowering cycle, and a suitable one to end an article which is deliberately a little out of the ordinary, is our plant of *Notocactus haselbergii*; this produced one of its lovely flowers towards the end of November. Many members will know from personal experience that its blooms are long-lasting but we fear that it is too much to expect it to be still with us on Christmas Day. Nevertheless, it serves to focus our attention on two points; that there is always something interesting to be seen in our greenhouse and conservatory from which lessons may be learned, and that although we may be at the close of one season we are already on the threshold of the next.

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## Additional Notes to Succulent Plants in West Tropical Africa

(L. E. Newton, Journal C. & S.S. of G.B. Vol. 30 No. 2.)

Based on an impromptu talk by Mr. Newton at a Meeting of the Essex Branch, 6th July 1968.

by D. V. Brewerton

TRAVELLING within Ghana and into the neighbouring territories, quite a number of succulent plants may be encountered, far more in fact than the speaker had expected to find. Many of these plants are extremely rare in collections and in some cases have yet to be described. There are three main reasons for this state of affairs:-

1. Difficulty of access.
2. Difficulty of collection.
3. Difficulty of cultivation.

Taking these three items into account, it is not surprising that so few of the succulent plants of West Tropical Africa find their way into our collections.

Items 1 and 2 can be dealt with together as the factors bearing on them are very similar. There are few if any, succulent plants in the tropical rain forest, except perhaps the occasional epiphyte. These forests are not dense impenetrable jungle, but have a continuous leaf canopy which makes dull conditions at ground level for plant life and is certainly not suitable for the growth of succulent plants. Further north, the forest thins out to give way to the savanna (grasslands) and to country with rocky outcrops, where most of the succulent plants are to be found. However, to reach these areas involves long and arduous journey, which can be undertaken only

during the dry season when the roads, little more than rough tracks, are hard, bumpy and very dusty. During the rainy season it is quite impossible to travel far as these roads for the most part do not exist at all, as they often follow or cross rivers which are torrents for half the year and dried up for the other half. Having reached the area, a collector must trek hopefully in search of succulent plants, which will not be in growth during the dry season and consequently difficult to find, and of course the seed of such plants will not be available. The collector must then select small plants or cuttings of plants, to carry back, often over many miles of hard country, to the transport vehicle. To add to the difficulties of the collector, many of the plants are connected with local religious rites and are planted on family graves. *Euphorbia poissoni*, illustrated on page 28, has been used for this purpose. These plants may be easier of access as they are often near to, or in, a village, but it can be a difficult and delicate task to obtain permission to take a cutting from a plant that is guarding the grave of the headman's father! Again, many of the plants are used in ceremonial festivals or as fetish, and are consequently scarce. Obtaining plants of this type is difficult and not without danger in some instances. Botanists that do visit these areas are usually more concerned with collecting only sufficient plant material for the preparation of herbarium specimens and rarely bring back surplus plants for propagation and eventual distribution to other growers. This is not surprising when one considers the difficulties of reaching any particular locality—difficulties which also include the man-made hazards of the passport, the visa and frontier guards.

Item 3, Difficulty of Cultivation, must now be considered. The plants which originate in West Tropical Africa usually require higher than average temperatures when grown in this country, as the temperature in their native habitat is fairly constant throughout the year, rarely dropping below 60°F., and the humidity is very high during the rainy season. Consequently they will take plenty of water when in growth, and with a high winter temperature will grow for most of the year. This need for a constantly high temperature leads to many of the plants, laboriously brought back to this country, succumbing to the miseries incurred by the long English winter and few of us can afford the luxury of a greenhouse heated to 65°F. or more throughout this period. A small section of a greenhouse can be partitioned off and kept warmer, but this often leads to the etiolation of plants due to the low light intensity.

Problems of growth are not, however, confined to the plants introduced to this country. Plants taken to Ghana by the speaker have in general settled very well in their new environment. Epiphytes grow completely in the open and flower well. Species of *Pachypodium* seem to thrive in the humid atmosphere; they grow well and present no problems at all. Not so, however, with the South American cacti taken into Ghana. These do not

grow very well at all and are extremely shy of flowering, which is probably due to the fact that they are not subjected to a cold, dry period such as is usual in the high mountainous regions of their country of origin. Similarly, it is noticed that *Mesembryanthemums* are not very happy in the climate of Ghana and do not grow and flower as they do in England. This is almost certainly due to the near constant night-day pattern of the region, which being only just north of the equator gives approximately 12 hours of daylight and 12 hours of darkness throughout the year. It is well known that many plants (non-succulents) require longer or shorter days to induce flowering and it is probable that the mesembryanthemums are among those needing this changing pattern of day length.

The problems of obtaining plants, and of their successful cultivation are not confined to growers in this country, and these few words on the subject are not intended to solve any of these problems, but it is hoped that they may help to explain why many of the plants indigenous to West Tropical Africa are so little known in cultivation.

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## Connoisseur's Corner

THERE are now available several thousand species and varieties of cacti and the other succulents, far too many for all but the wealthiest and most enthusiastic of us to assemble in one collection. The great majority of us must therefore make a selection and although the personal factor in the matter is clearly paramount we learn by what we see and read. Some of our choices are almost obvious—plants which have beauty of form or flower, are not demanding culturally and are readily available. However, there are many others which although not so widely known are equally deserving; perhaps they are not fashionable for one reason or another, or they may be recent introductions. This series will bring to the attention of readers some such plants, not necessarily rarities or guaranteed winners on the show bench, but ones which are worthy of a place in any collection.

### 1. *Echinocereus Subinermis*

The *Echinocereus* species divide into three types or groups: prostrate or procumbent plants of untidy habit but, at best, very rewarding with their magnificent flowers; the pectinate types valued for spine colour, formation and flower alike, and a small group of globular or short cylindric species. The best-known of these latter is *E. knippelianus*, a slow-growing species but not so difficult of cultivation as has been stated by some writers. Of recent years *E. pulchellus* has also come to the fore and this certainly has much to commend it. However, once it is more widely known *E. subinermis* will probably gain the popular vote.



Plants of this species are globular in youth but become moderately cylindrical at maturity and also offset. The body is deep green or blue-green, reaching 8-10 cm. in diameter and there are six to eight well-defined ribs. The aeroles are small and the spines are short and weak but, none the less, the body has elegance, symmetry and appeal.

However, its greatest merit lies in the flowers which are of a size typical for the genus, some 3-4 inches in diameter, but are of a quite unexpected colour, a clear and brilliant yellow. The first hint of this rewarding display is seen in the form of small, woolly tufts in April but as the development of the buds is rather slow the blooms do not appear until late May or June.

This species is easily raised from seed and presents no cultural difficulties. Flowers may be expected at four or five years of age but if the buds fail to mature when they appear for the first time this bodes no ill consequences. Once the plant has begun to flower regularly it will produce several blooms each year and, like *E. pulchellus*, it is decidedly more predictable in this respect than those of the procumbent and pectinate types.



*Echinocereus Subinermis*

## Your Queries Answered

### Notocacti

With reference to the query in the last issue on Identification of Notocacti (Page 80—Mr. Trise) we have now received the following further comments from Mr. J. D. Donald, who is well known as a student of Notocacti and he and Mr. Halstead have collaborated on this genus.

The muricatus problem was a very puzzling one until the recent rediscovery by Leopold Horst of the true "Otto" muricatus. *Muricatus* is essentially South Brazilian in location, whereas the *tabularis-apricus* complex centres on the Rio Plata coast of Uruguay—quite a distance apart and so unlikely to form part of the same species population. The chief separating character of *muricatus* from any other Notocactus is its very short tubed and comparatively small flower rarely more than 20 mm. long and 30 mm. wide at most fully open. The buds also appear particularly squat and orange yellow in colour. The plant body is multi-ribbed 15-30 or more but they are comparatively narrow and somewhat obtuse, in fact somewhat like the *ottonis* form *uruguayensis*. The spines are relatively short, white or pale yellow not very numerous and certainly do not conceal the bright green body.

A proposal by Mhr. Dick van Vliet to name the old cultivated apricus-like form called *muricatus*, *N. bommeljei* has NOT been validly published. In any case it has not been established as a genuine species.

A number of collected plants from Brazil and Uruguay sold by a certain continental firm as *N. muricatus* are not the true species but nevertheless are quite new plants—one form has barely 30 ribs and a small flower on quite small plants and beautiful reddish

brown spines, and another form with fewer broad ribs ca. 12-15, has almost black spines and a large yellow flower. The true *muricatus* HU 19 can be obtained from W. Uebelmann in Wohlen, Switzerland.

There is little doubt that the *apricus-tabularis-concinnum* complex from Uruguay needs very careful consideration and its quite impossible to make meaningful decisions on the plants in cultivation at present. As Ken Halstead says they are almost certainly now all hybrids of the original species. Still there is some good news off the ground—the plants have been rediscovered in their old habitats by Albert Buining and Leopold Horst so that proper examination of the genuine species will now be possible.

The separation of *rutilans* from *mueller-melchersii* is quite easily done by the characteristic flower colour described by Ken Halstead, pale yellow with more or less pink or red tips—some forms are much pinker than others, for *rutilans* and pure yellow for *mueller-melchersii*.

However to describe *mueller-melchersii* as having shorter spines than *rutilans* must be wrong even in cultivation. In *rutilans* the radials are about 5 mm. long and the centrals barely more than 10 mm. usually less, whereas in *mueller-melchersii* the radials are between 5-10 mm. long and the centrals (flattened) can be 20 mm. or more in length. I suspect that Ken has the form "*mueller-moelleri*" which is much finer spined and could be thought to be shorter spined than *rutilans*.

*N. albisetus* HU 48 is not a variety of *haselbergii* officially but of *graessneri*. I believe it has small yellow flowers (*graessneri* has greenish and *haselbergii* orange-scarlet flowers).

# Epiphyllum Hybrids and their Hybridizers

by F. Braun

EPIPHYLLUMS and their hybrids are to the majority of cacti enthusiasts, poor Cinderellas, relegated to dark corners of the greenhouse except when the plants bear their beautiful blooms. The very word hybrid is a name looked upon with distaste by some collectors of our plants and in fact Epiphyllums are very poorly served by our journals. This article is intended to redress the balance.

The first record of hybridizing Epiphyllums was in 1830 in England when Jenkinson and Smith mentioned numerous crossings. They were quickly followed in 1932 when the gardener of Lord Liverpool and Pressley also carried out some hybridizing with true species.

The Germans then started hybridizing independently and further English crossings were made shortly afterwards by Sellow, by the gardener of Walter Boyd and by the two brothers called Baumann.

At this time there was considerable interest in these originations because in 1846, Forester and the well-known Chelsea firm of Veitch raised many hybrids using the best of the French varieties that had been raised after 1845 by Charles Simon a cactus grower and Lorenzo Courant his client.

In 1890 Johannes Nicolai started hybridizing in Germany but died in 1901, before he had the chance to see the result of his many crossings. He raised nearly 300 varieties and although his brother Woldemar carried on with the work, nearly all the plants were lost during the First World War.

In 1894 George Borneman started a large horticultural business at Blankenberg and by crossing Nicolai's hybrids with the best English varieties he united the English, German and French strains.

Curt Knebel, the greatest German hybridizer, was born on the 16th June, 1871 and died in 1952 aged 81 years. In 1894, after some distinguished gardening appointments, he started his own nursery at Erlau in Saxony and by acquiring a small number of Nicolai's plants and subsequently some of Borneman's and W. O. Rothers originations, he had, by the First World War, a very good collection of his own hybrids. Virtually the whole of his collection was lost as a result of the war and he painstakingly started again, evolving over 400 hybrids. During the Second World War, he again lost nearly all his plants but many of his hybrids are still available.

Knebel's name will long be remembered through his lovely hybrids notably Professor Ebert, Stern von Erlau, Augusta von Szombathy, Friedrich Werner Buel, Adolph Hitler (now renamed Sherman E. Beahm) and many others. He also managed to raise several notable F.1 and F.2 hybrids thus extending the flowering period of these plants to virtually the whole year.

Knebel's family are also remembered in his hybrids with the varieties Frau Selma Knebel, his wife; Oswald Knebel Jnr., his son; Andenken an Bahnmeister (In memory of the Stationmaster) Knebel, his father; Frau Martha Siepke, his daughter and Frau Emilie Knebel, his mother and many others.

He also, in his later years, distributed seeds to American hybridizers which were subsequently introduced by R. W. Poindexter and Mrs. Clarion Steele. Some of these are Bagdad, Dolores, Imp, Indoxol, Nellie, orchid Supreme, Paradise and Wonderland.

So far as America was concerned, the hybrids were not well known at all and only a few dealers listed plants, notably A. Blanc & Co. of Philadelphia in 1891; in 1896 by Mrs. Theodosia Burr Sheherd of Ventura California and by Mr. E. O. Orpet of Santa Barbara, California, subsequently a founder-member of the American Epiphyllum Society.

Between 1892 and the late 20's Franz de Laet of Contich, Village lez Anvers, Belgium, raised a number of hybrids and listed over 100 varieties in his catalogues. Joseph de Laet and Madame William de Laet are two well known examples.

When he died, the business was continued by his daughter and son-in-law but was gradually dispersed until finally the remaining collection was acquired by various Dutch and Belgian growers and collectors. In recent years, a Mr. Legrelle of La Louviere, who used to be de-Laets' foreman gardener has been located and found to have in his possession a collection of de Laet's original hybrids. Unfortunately the names have been mislaid over the years and as de Laet listed his plants under colour groupings without individual descriptions, a somewhat forbidding task lies to anyone attempting to name the varieties discovered.

In 1905 an event occurred which gradually resulted in the Americans realising the potentialities of the plants growing on their own doorstep. Mr. H. M. Wegener of Los Angeles went in this year to Germany for his honeymoon. Whilst there, he visited Saxony and spotted some hybrids in a peasant woman's cottage. He acquired cuttings and brought them back to America, but had little success with them until he moved to California, where the plants thrived rapidly. The plants were subsequently named by Wegener and are such well known varieties as Goliath, Hermosissimus, Flor de Sol, Paul de Longpre also known as Yellow Stripe and others. Dr. Rose of Britton and Rose fame, a personal friend of Wegener's sent him 20 plants collected from the wilds to experiment with.

Some time after this, Wegener was visited by the late Dr. Arthur Houghton of San Fernando, California (Author of the Cactus Book published by Macmillan in 1930) and on seeing the wonderful plants he became

enthusiastic and subsequently formed a good collection. During the visit he conversed with Wegener in German and on seeing a vivid red-flowered plant asked if it was named. On learning that it was not, and as French names were fashionable at the time, he named the plant *Vive Rouge*.

Wegener imported varieties from Knebel and de Laet and in 10 years raised many new varieties. In later life he travelled extensively to Mexico and Europe and died in Germany in 1958.

Mrs. Clarion Steele of Los Angeles was also a prominent hybridizer in the 1930's and at first started with seeds imported from Europe. She raised many well known varieties some of which are *Shasta*; *Welcome*, very highly scented; *Polar Bear*; *Ensemble*; *Carnation*; *Sunburst*; *Topsy Turvy* and *Flamingo*. In 1934 her catalogue listed more varieties than any other dealer and she continued to increase her collection over the years until her stock was purchased by the Beahm Gardens, who continue to list many of her originations.

During this period other Americans became aware of the developments in the hybrids namely R. W. Kado, a Japanese nurseryman of Wilshire Rockcraft and Cactus Gardens who secured plants from Wegener and Dr. Houghton. Some of his hybrids are *Yellow Violet*; *California Beauty*; *Miss Santa Monica* and *Countess Estelle Doheny*.

Another Japanese grower prominent with these plants was Mr. C. Ito of Phyllocactus Farm, Leucadia. Both Kado and Ito were forced out of business when World War II commenced, when they were placed in Japanese camps out of California for the duration. They never returned to California when the War ended.

D. W. Coolidge of Coolidge Rare Plant Gardens, 889 North Alterdena Drive, Pasadena, was another important hybridizer, although this formed only a small part of his business which was a very high class establishment specialising in raising Orchids, Camellias and other choice shrubs. On his death, the business was carried on by his daughter and son-in-law Mr. and Mrs. Mulvihill. On her death in 1955 the site was acquired by a Church and the entire stock sold on the site to persons fortunate to be present and with knowledge of the sale. Coolidge introduced his hybrids through commercial growers of these plants and some of the hybrids are *Dennis Kucera*, *Flamenco*, *Cabochon*, *Flaming Comet* and one of the best modern hybrids *Pegasus*.

In 1936 Mrs. Therasa M. Monmonier of the Ventura Epiphyllum gardens started hybridizing. Some of her originations are *Bambi* and *Purple Heart*. She had a very fine collection of plants but due to prolonged illness, her plants were neglected and she sold the residue of her collection to Mr. and Mrs. John B. Cox of 90 McNeill Street, Encinitas, California 92204. I understand that Mr. and Mrs. Cox are now getting some fine results and given time some of Mrs. Monmonier's originations may yet be re-introduced.

Another prominent hybridizer was the late Dr. R. W. Poindexter of Compton, California. He became an enthusiast after seeing the collections of Wegener and Houghton. Prior to his death on the 16th March, 1943, he sold his nursery and moved to Carlsbad, California, taking with him his choicest plants and seedlings. His hybrids, with certain exceptions, are mainly giant-size flowers such as *Marina Special*, one of the best whites; *Peachy*, a deep pink; *Dolores* and *Indoxal*, dark red varieties raised from seeds supplied by Knebel; *Nellie*, another Knebel seedling; *Thundercloud* and one of the best purples *Blackamore*.

Mr. Leslie C. Parker of Lessar Nursery, Highway 101, Encinitas, California 92204, specialises in Poindexter's varieties, for those interested in impressing their neighbours.

Other enthusiasts were the late Mrs. Georgina Russell of Bell, who will be remembered due to her naming an un-named plant in her garden *Pride of Bell*. The late C. P. Sherfy of Long Beach, California; the late Richard Diener, who carried out numerous experiments on the hybrids and who is mentioned in the *Epiphyllum Handbook*; Capt. W. W. Weston, also deceased, the former secretary of the American Epiphyllum Society and commemorated by Knebel in the hybrid named after him; Mrs. Bethel Darling who died in 1954, a Mr. Callender who raised *Rosetta* and *Callenders Pfau* (not to be confused with *Belgian Pfau*), the late Mrs. L. K. Williams (Peggy Williams) of 1314 Puterbaugh, San Diego 3, California. She was a wonderful enthusiast and had many beautiful plants. On her death, no one was allowed to tend to the plants whilst her estate was probated with the result that many of her plants died. Her records however have been preserved and it is hoped that these may be published in the not too distant future.

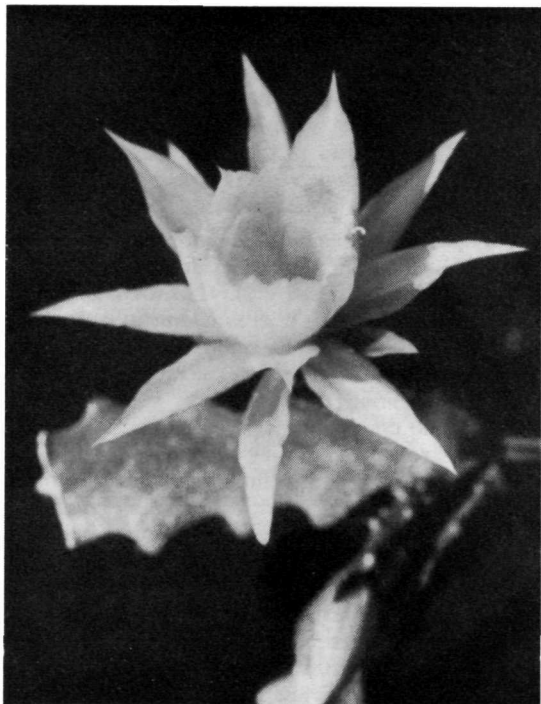
Chauncey Stoddard, who has also died, raised the variety *Chauncey* and many crosses of *Aporocactus* which have been introduced to the trade by Beahm Gardens. He managed to grow his plants in rock hard adobe soil but I understand he knew how to water this type of soil and presumably did so with success. Other growers were Mr. Edlefson of Edlefsons Nursery and R. W. Kelly.

The two growers who are probably the most well known to Epiphyllum collectors are Mr. and Mrs. Peter Vinkemulder better known as the *Cactus Petes*, who for 34 years raised many fine varieties in Los Angeles and whose business, on their retirement, is being continued by their son *Cactus Pete Jr.* at 4949, Valley Boulevard, Los Angeles, California 90032. The other growers are of course the Beahm Gardens of 2686, East Paloma Street, Pasadena, California 91107. Mrs. Beahm, who was blind for over 20 years and confined to her bed for the last 10 years of her life, edited the *Journal of the Epiphyllum Society* for 18 years until her death in 1962. She will always be remembered by the Epiphyll-



lum species *gertrudianus*, a lovely plant with deeply indented branches and midway in appearance between *darrahii* and *anguliger*. The business is being carried on by Mr. Beahm and his family and they list many of the hybrids mentioned in this article as of course do the Cactus Petes.

The most prolific hybridizers of the last decade were undoubtedly Paul Fort and Garland O'Barr. They raised 984 hybrids and many un-named pans of seedlings, including the best yellow *Epiphyllum* so far introduced called *Reward*. To those unacquainted with the modern hybrids, the new varieties come as a considerable surprise, as in many cases the colourings are unique and the form far superior to many of the old hybrids. Many of the flowers have ruffled petals and well defined bi and tri-coloured blooms. Their white variety *Dolly Madison* is particularly outstanding and remains open for nearly a week. The nursery did not retail its plants but released them to commercial growers of *Epiphyllums*. They have disposed of their entire stock to private growers of these plants and now do not have a single *epiphyllum* at their new home in Laguna, California. Persons acquiring the plants were the late Clark Malcho, Ed Stephens late of the Blue Bird Nursery, Sherman E. Beahm, Dr. H. S. Irwin, the present editor of the *American Journal* and who also holds their records, W. J. Hathaway of 5340 Brittain Street, Long Beach, California 90808, Mr. and Mrs. T. D. Harmon of 3601 West 102nd Street, Inglewood, California 90303, and finally Holland.



*Epiphyllum "Arcadia"*

Other prolific hybridizers of recent years were Ed Stephens late of the Blue Bird Nursery and Leo M. Daly who raised over 500 varieties. Mr. Daly had a stroke a few years ago and Nelson Ross of 753 Oakwood Street, Orange, California 92667 bought Mr. Daly's collection. When Ed. Stephens had to sell his nursery, because the land was wanted for development by W. R. Effinger, a building contractor who knew nothing about *Epiphyllums*, Nelson Ross became the manager of the new nursery and apart from a small part of the collection being acquired by R. W. J. Stanley of 2730 E. Broadway, Long Beach, California, I understand that the bulk of Stephens collection is intact.

Some of the other hybridizers are Mr. and Mrs. T. D. Harmon, Dr. Irwin, Clarence Mendelson, Frank Stern, Louis Vasseur, Ralph C. Shuey and True Sipe who have jointly raised numerous hybrids, Howard L. Jones, Floyd Nahigan of the Village Gardens, 109 E. Lyell Street, Los Altos, California, E. J. Robertson, Mr. Drake, Martha Maxwell who took over the secretaryship of the American Society after Capt. Weston, Mr. Howard, F. C. Pozoni of Glendora, C. L. Wright, E. C. Dittman, Ed Hummel of Inglewood, R. A. Fields who raised that lovely variety "Pride of San Gabriel", Mr. Dennis who raised "Canadian Ruffles" and finally Dr. Troxell.

Commercial growers are Harry Johnson's Cactus Gardens, 16613, South Garfield Avenue, Paramount, California. The Lessar Nursery, previously mentioned. Ace Nursery (Mrs. Catherine McCollum of 2393 Lincoln Avenue, Alhambra, California. Terry Gardens (Mrs. Helene Terry) 2597, Crest Drive, Carlsbad, California and of course Beahms and Cactus Petes. The late Mr. Ash of 1215 North Nopal Street, Santa Barbara, California also grew plants commercially and on his death, his widow, Mrs. Leona Ash endeavoured to continue the business. She was however unable to do so and another source of supply had ceased.

In England immediately following the last war, it was virtually impossible to obtain the new varieties due to the Treasury restrictions on sending dollars out of the country. However the situation improved when J. T. Barber of Chelford, Cheshire listed virtually the whole of Beahms catalogue and was followed shortly afterwards by Worfield Gardens of Bridgnorth, Shropshire, upon Sir Oliver and Lady Leese returning from America with some of the newer varieties.

During this time, Mr. F. R. McQuown, the well known Carnation and Pink expert, started hybridizing with some of his plants and introduced numerous plants prefixed with the name "London". These were subsequently introduced to the trade by Worfield Gardens and Auger *Epiphyllums*.

Harry Auger of Auger *Epiphyllums*, The flat at Wacousta, The Bishops Avenue, Hampstead, London, N. was the first commercial grower since the war

to stage an *Epiphyllum* exhibit at the Chelsea flower show. This attracted considerable attention in the gardening press and on the easing of the Treasury restrictions he quickly built up a very large collection of the newer hybrids from America. He has raised several new varieties which are usually prefixed "Eastern".

At the same time, another commercial grower of these plants, Mr. Clive Innes of Holly Gate Nurseries, Ashington, Sussex was also increasing his collection of plants including some of the unnamed *de Laet* varieties.

In Belgium, Gregoire Hoeckx of Manebruggestraat 257, Deurne, Antwerp has a large collection of plants including some of the unnamed *de Laet* varieties.

German growers are somewhat difficult to locate due to the two zones, but Walther Haage of Erfurt is concentrating on producing dwarf, free flowering varieties, having been interested in this work since 1925. For 30 years Haage worked closely with Knebel and has introduced *Montezuma* and that beautiful clear red variety called *Rotkacppschen* (Red Riding Hood). Mr. Innes is in contact with Mr. Haage and it is hoped that some of Haage's newer introductions will become available in the future.

In Australia the firm of Dawson and Gill of 263 Napier Street, White Hills, Bendigo, Victoria have a very full list including one of their own introductions which might prove too violent for the greenhouse as it is described as white with a black eye.

In conclusion, I must express my gratitude to Scott Haselton of *Epiphyllum Handbook* fame and the *Epiphyllum Society of America* without whom this



*Epiphyllum "Maharajah"*

article could not have been written. Much midnight oil was burned and much literature pored over to collate this article. It was for me an enjoyable task and one which I feel will be of some value to future researchers to enable this record to be amended in due course.

My personal thanks are also due to Mr. C. E. L. Gilbert of Romford, who first set me on the road; to Teddy Young, our late hardworking Treasurer, who never objected when I entered his greenhouse with a knife and who is now enjoying a well earned retirement amongst his *Epi's* in Sussex; to Ken Grounds for supplying true species and finally to Mr. Auger for his generous help in filling the large gaps in my collection following the bad winter of 1962-3.

Last but not least I must express thanks to Mr. H. W. Dobson, well known to our American friends, for the valuable help he has given me over the past decade.

## Succulent Snippets

by Sally Cornioides

THREE cheers for the Editor, twice over! Her article in the November 1968 issue is very welcome and I trust that the remainder of it will appear at an early date. It seems to be a common supposition that an Editor only writes if he or she does not have available sufficient material to fill a particular issue when, in the extreme case, the unfortunate occupant of the Editorial chair should be prepared to do the lot. I believe it was the late Mrs. Higgins who was responsible for envisaging this last-named dreadful state of affairs, one which I am sure our present Editor shudders to contemplate.

I believe that an Editor should write whenever the contribution is likely to prove of value and there are few topics on which Miss Drage is better qualified to comment, or for that matter, where some advice is needed. In general the quality of the illustrations in various cactus Journals varies from mediocre to pretty appalling, and this Journal is no exception. From my experience I suspect that there are two sources of trouble,

namely poor photographs and loss of detail in preparing the blocks used for the illustrations although the original photograph is of adequate quality. Miss Drage's guide to photography without tears should help to eliminate the first of these faults; so far as the second is concerned, this must be the subject of negotiation between the Editor and the printers.

Those who think I am making a mountain out of a molehill have only to consult two recent publications. For sheer virtuosity the illustrations in "*Stadtische Sukkulanten Sammlung Zurich: Katalog der in Kultur stehenden Arten*" (Catalogue of the plants in the State Succulent Collection at Zurich) take some beating. It is difficult to single any of them for particular mention but my favourites include *Testudinaria elephantipes* and *Normanbokea pseudopectinata*. Incidentally, with all due respect to Dr. Norman Boke, whoever wants to use this generic name in preference to our old friend, *Pelecophora*? At the other end of the scale, qualifying

for my putty medal, must come the illustrations in the N.C.S.S. booklet on Echeverias; they really are too bad for words and rightly earn the strictures of a reviewer in the September/October issue of the American Cactus Journal. It is particularly surprising to read in the acknowledgements that the photographs were taken by "Garden News" photographers; the backgrounds in many have the stamp of a beginner. Talking of "Garden News", they have not perhaps put their foot in it but rather made a "leap" in the wrong direction in their book reviews in a December issue: "Starting with Cacti by ARTHUR BOUNDER"!

Perhaps this was not quite so bad as a sentence in the latest "Epiphytes": "I now grow my Epiphyllums in plastic".—Well, we are always glad to hear of experiments with new composts!

The same author constantly refers to her "epis"—what a horrible word! I find "Mamms." rather a wince-making word, too, particularly when used in quite learned articles and yet "Mesems." seems just about all right. Maybe this is because I find difficulty in spelling *Mesembryanthemum*!

Quite a number of *Mesembryanthemum* growers are finding strange occurrences amongst their plants this season. They think they are unique until they talk to fellow enthusiasts and find the same oddities have happened to them. Perhaps the cases of single-headed *Lithops* becoming three-headed the following year is not so rare but when the flowers crack the heads across and sometimes themselves in their attempts to come through, the resultant plant looks a sorry specimen. Other plants have produced flowers on one or two heads and then there has been a time-lag of a month or even more before the other heads have flowered. Still others have produced new heads where flower buds were expected. The strange weather in the second half of 1968 can, no doubt, take some of the blame.

*Chase Bugs Flavor Food*—a short article under this title in Chemical and Engineering News 26th August, 1968 told of a new patent taken out for a material that can be used simultaneously to ignite a fire, flavour food cooked on it and repel insects.

Just imagine the possibilities for the cactophile. One could use this wonderful material to heat the greenhouse, go down and cook a tasty lunch over it and know all the time that the mealies and greenfly were all being frightened away—that's what I call a package deal.

Those at the Westminster meeting in November had a good "package deal", too. We had much regretted the passing of Mr. Groundsell who should have given the talk, but were greatly rewarded when Dr. Hardy took his place. His fine illustrated talk was beautifully balanced between showing panoramic views of Arizona and California, cacti in habitat and plants in National Parks and Botanic Gardens in those States. Seeing fine transparencies of these colourful places and plants gave a wonderful warm glow to the chilly autumn evening.

I must not be too parochial though, as there are

members in all parts of the country and many of them are busy with activities, too. It was good to read of some of the doings of the Northern Counties Branch in the November Journal; I have managed to see a few of their newsletters and, without doubt, they are a lively lot up there. What about some of the budding authors having a go at writing some letters or articles for this Journal? How about you others outside the London Area; what are you doing or what would you like to do?

From an *Evening Standard* book review page—"Haldane a Cuddly Cactus". I can think of a few cuddly cactophiles, but a cuddly cactus, no. Even the beautiful *Espostoas* and *Oreocerei* have that lurking spine hiding amongst the wool—or perhaps that was what the review was implying?

That's it for another issue and whether you consider yourself cuddly or not let's have a comment or clipping from YOU.

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## Correspondence

To the Editor:

Errors in journals, because they remain forever fossilised in print, are perpetual reproaches to their originators. One's only recourse is to publish a retraction in the hope that it will be read and noted, though, as happens with the daily newspapers, the original error tends to be remembered better than the subsequent correction!

I would like to correct two errors and comment on a possibly misleading statement, all of which concern the genus *Gymnocalycium* and which have appeared in fairly recent issues of the Journal.

Firstly, and appropriately, I must correct a statement I made in an article entitled "*The Genus Gymnocalycium*" (*Journal*, 29, 1, p. 14, February 1967). In referring to *Gymnocalycium leptanthum* I perpetuated a mistake made by several other, far more eminent, authors. In distinguishing *G. leptanthum* from *G. platense*, it is *G. platense* which has the unusually long flower tube. The full story of the muddle over the identities of *G. leptanthum* and *G. platense* was unravelled recently by Walter Haage in the journal "*Kakteen und andere Sukkulente*" and a translation of this article together with a photograph of an authentic *G. platense* appeared in the September 1968 issue of the *National Cactus and Succulent Journal*.

My second correction concerns a photograph captioned "*Gymnocalycium kunzeanum*" which appeared on page nine of the February 1968 issue of the *Cactus and Succulent Journal of Great Britain*. The plant depicted appears to me to be very like *G. gibbosum*. The name "*G. kunzeanum*" is not known to me at all and is not to be found in any authoritative literature on the genus. I imagine that it has come from a misreading of the name "*G. kurtzianum*", although the plant shown is not this species.



In the same (February 1968) issue, in the report of the Gymnocalycium Study Meeting, there are references to the name *G. curvispinum*. Both Mr. Donald and myself were nonplussed by this name. From some research of the literature I find that, whilst invalid, it has existed in the past, being a *nomen nudum* of A. V. Frič. Backeberg considered Frič's *G. curvispinum* to be identical with *G. nigriareolatum*.

E. W. Putnam,  
Coulsdon, Surrey.

To the Editor:

I would like to comment, as a member of the Show Committee, on the selection of letters in the November Journal on the subject of Show Schedules.

To begin with, I would point out that the members of the Show Committee are all very experienced people in drawing up Show Schedules, and in assessing, in general, the plants which are likely to be available—an assessment based on the combined knowledge of the collections of members who support the Shows. In addition most of the Show Committee are experienced judges of plants and have many years of experience in growing the plants.

Mr. Jeffries remark—"It is only possible to compare like with like" is certainly not true when judging the merits of cacti and other succulent plants. Each plant is assessed individually for Condition, Rarity and Difficulty, and it is therefore possible to judge plants quite satisfactorily whether they be similar or completely different in type and appearance. It seems to me that this should attract the "unusual and inspiring plants" that Mr. Jeffries wishes to see.

The "restriction" of novice classes to five inch pots, may eliminate a few well grown common plants, but by the same token it also eliminates the *badly* grown common plants, which, with all due respect to the growers, do not bring credit to the Show or to the Society. Mammillarias seem to be a sore spot with Mr. Jeffries. Class five is intended to attract the smaller growing species of this genus. There are many newer Mammillarias becoming available that will not outgrow a four and a half inch pot, such as *M. saboae*, *M. shurliana* etc. In addition there are many of the rarer Mammillarias which will take 10 to 15 years to fill a pot of this size. This class is certainly not intended for beginners with fast growing, immature Mammillarias in small pots! The class for a single Specimen Mammillaria is with us for the life of the Society, as a Cup was donated for this class.

To Mr. Southern I would point out that holding the Society Show on a Saturday is out of the question, as the RHS Hall is not open for Flower Shows on that day. To Mr. Maddams I would explain that both Schedules were sent out in May because no firm assurance could be obtained that the August Journal would be delivered soon enough to allow the Schedules for the September Show to be distributed in time.

The members of the Show Committee appreciate the interest shown in the Schedules. Each year, every class is considered carefully and discussed with a view to improving the Schedule wherever possible. Personally, I have yet to see the perfect Schedule, but can assure members that this is the aim of every Show Committee and I would add that there is always room for new or extra members on these Committees—help is always welcome.

David V. Brewerton,  
Upminster, Essex.

To the Editor:

The Show Committee have considered the points in letters which relate to the Shows. It is very apparent, however, that some writers are speaking as specialists, whereas the majority of members and exhibitors have more general collections including both cacti and other succulents. I have visited a number of such collections during the year and another fact I can guarantee is that in each of them there have been several Mammillarias in good show condition, so it is certainly worth including special classes for this genus as has already been mentioned in several letters.

The pot sizes were introduced to the Novice classes to enable those who had recently started collections to be able to show their plants without them being dwarfed by, for example, large Aloes and Haworthias. They will have the chance later on to show the bigger plants; moreover, a small, well-grown plant is far more worthy of exhibition than some of the large overgrown plants that have appeared in the Novice classes before this restriction was imposed.

However, the 1969 Schedules have some changes from those of 1968 and those members raising the complaints may well find something to their liking this time.

Mrs. B. Maddams,  
Banstead, Surrey.

To the Editor:

I must take issue with Mr. Jeffries over the unmitigated nonsense he has written about Class five (for six Mammillaria species in four and a quarter inch pots) at the June 1968 Show. What constitutes show worthiness is a very debatable point but what is beyond argument is that the genus includes a goodly number of little gems that are as desirable and deserving as the fine specimens of *MM. bombycina*, *hahniana*, *plumosa* and the like which we see in the open class. However, by the very nature of things these diminutive species, even at maturity, simply cannot compete against the giants and this is not just a personal opinion but the verdict of several experienced judges with whom I have discussed the matter. Are we then to banish from the Show benches that group which includes such choice species as *MM. dawsonii*, *egregia*, *goldii*, *herrerae*, *humboldtii*, *lasiacantha*, *lenta*, *magallanii*, *napina*, *pottsii*, *saboae*, *solisioides* and *theresae*?

Likewise, anyone who has grown a representative range of Mammillaria species knows that some of them

present considerable cultural difficulties; indeed, it is not unrealistic to say that there is no certain way for succeeding with some of them. By and large, the members of the group which includes *MM. alamensis*, *carretii*, *densispina*, *fasciculata*, *fraileana*, *guelzowiana*, *longiflora*, *microcarpa*, *pennispinosa*, *tetrancistra*, *wilcoxii*, *wrightii* and *zephyranthoides*, are also comparatively small and anyone who has grown a specimen which balances a four and a quarter inch pot deserves to have it on the show bench.

Thus, the Show Committee were perfectly justified in inserting Class five and the number of entries (13) must have pleased them. It is true that some of the plants which were to be seen were immature specimens of larger growing species; there is no justification for including plants of *MM. hahniana*, *marksiana*, *neomystax*, *wiesingeri* and *winteriae*. However, sensible judging and experience over a period of years will doubtless eliminate this short-coming.

W. F. Maddams,  
Banstead, Surrey.

To the Editor:

Perhaps I may be permitted to offer some comments on the *Mammillaria* species which Mr. Bastow mentions in his letter in the November 1968 issue. My qualifications for doing so are that I have devoted a good deal of time to the study of the genus *Mammillaria* and that I have been fortunate enough to obtain some of the plants about which Mr. Bastow writes, from the same source.

To deal first with *M. solisioides*; this is not a rare species and not even particularly uncommon. Both seed and plants have been available latterly and, in all probability, there are two or three hundred specimens in this country. For those who are not acquainted with this plant it is one of the smaller growing *Mammillarias* and it is not unlike *Solisia pectinata* in appearance. It was described by Backeberg in 1951, and, as with many of the 80 or so *Mammillaria* species which post-date the publication of Craig's "The *Mammillaria* Handbook" (and the most recent edition of Borg's "Cacti"), the original description was not in English. In addition to its attractive appearance this species ought to be in every collection on account of its lovely yellow flowers. It is prone to make buds in the autumn but often these do not come to maturity because of inadequate light and the usual flowering period is April/May.

Mr. Bastow does have something decidedly more uncommon in *M. magnifica*. This species was described about two years ago by Senor Buchenau in *Cactaceas y Suculentas Mexicanas* and, as yet, it is seldom found in cultivation. In all probability the number of specimens in Great Britain has not yet reached double figures. *M. magnifica* belongs to a group of columnar species with hooked central spines, the best-known member of which is *M. heeriana* (*hamata*). It is an impressive plant, as the name implies, largely because of the central spines which are yellow in colour, much like

those of the yellow-spined form of *M. cowperae*. It will be much in demand once it is more widely known.

The interesting history of *M. erectacantha* provides another example of little known *Mammillaria* species, apparently lost to cultivation, reappearing many years after they were first described. "The *Mammillaria* Handbook" lists about 100 such plants and there have been suggestions from time to time that these should be discarded as useless names cluttering up the literature. However, several of them have come to light again in the post-war years; *MM. eschanzieri* (with which *M. monancistracantha* is almost certainly synonymous), *glareosa*, *grusonii*, *hamata*, *leucocentra*, *microthele* and *roseocentra* are all good examples. Now we have the reappearance of *M. erectacantha*, first described by Foerster in 1847. His description, although by no means complete, is sufficient to show that the plants now coming from Mexico tally with those he wrote about 120 years ago. My specimen has now become established and was making growth before it went into its winter's rest; I must reserve final judgement until I have studied it more carefully and, in particular, until it has flowered but I am inclined to regard it as a good species. It is not one of those plants which catch the eye particularly and, assuming it becomes freely available in due course, it will probably be of interest mainly to *Mammillaria* enthusiasts.

Finally, a word or two about *M. vetula*. This has not been at all common in cultivation until recently but it is now to be found in many more collections and it is not particularly difficult to obtain. This is not surprising because it is caespitose in habit and is easily propagated from cuttings. It does not seem to flower so prolifically as most *Mammillaria* species; anyone obtaining flowers should note down the details because there's some doubt as to the correctness of what is recorded in the literature.

W. F. Maddams,  
Banstead, Surrey.

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## News from Branches

### North Surrey Branch

The Branch continues to flourish, with increasing membership and a number of keen juniors. We have continued our practice of putting on a display of cacti and succulents at one of the local Flower Shows, in fact for the first time we staged a display at two shows, one in June and one in September in different parts of the region. Great interest is usually shown by the general public, as we naturally try to make sure that we have a number of plants in flower, which catch the eye of the passer-by. Many people express surprise and the stewards on the stand are kept busy answering questions. We are sometimes allowed to sell plants which gives members an opportunity of disposing of surplus seedlings etc. and as the branch takes a small percentage of the proceeds Branch Funds also benefit. The Society booklet is also usually very popular, and we have hopes of a still

further increased membership as a result of these shows.

The Branch has also again supplied Judges for the Cactus and Succulent Classes at several of the local shows.

---

### Bucks. and Berks.

THE Bucks. and Berks. Branch held their Annual Dinner on Tuesday 10th December at the "Queen of Hearts" Restaurant, Eton, Bucks., at 7.30 until 11.15 p.m. Replicas were presented to the previous year's cup winners and holders of the Table Show Shields. The dinner was followed by a very enjoyable Social Evening, full of fun and games and the usual Christmas Spirit. The Secretary, Mrs. Muriel Stillwell was presented with a gift voucher on behalf of the members, in appreciation of work done during the year. In replying Mrs. Stillwell thanked all the Committee and members for their loyalty to the Branch.

---

### Northern Counties

THE Northern Counties Branch Second Annual Show was a great success this year passing by far the expectations of the organising committee.

Held in the Social Service Centre, Whitley Bay, just off the seafront the show drew a total entry of 1,607 plants and of these 1,448 were in pots and the other 159 in planted containers for effect. A total of 500 entries had been set as a target and the amazing figure of 666 which were staged brought a last minute panic for spare staging cards.

The judges Mr. W. May of Sacriston and Mr. B. Tunnard of Gosforth had a hard task to sort the winners out but after a great deal of hard work the job was finished and the trophy winners were:

The London Cup: E. L. Jennison.

The Secretary's Trophy: G. W. Jackson.

The Chairman's Trophy: Mrs. B. Hopkins.

The Treasurer's Plaque for Bowl Gardens: G. W. Jackson.

The Ellis Memorial Bowl for Epiphytes: Mrs. A. Carruthers.

The Harry Gordon Cup: E. Bruce.

Almost 400 members of the public visited the show and from the comments overheard thoroughly enjoyed it and considered it excellent value for the shilling charged.

Financially the show was also a tremendous success and after all had been balanced up a total of £22 19 4d. was left for Branch Funds.

---

### Small Ads.

Where are your wants and surpluses ? ? ?

## Book Reviews

**Breitung, A. J.** The Agaves, 107 pp. 260 text figs. The Cactus and Succulent Journal 1968 Yearbook. Price \$4.35 from Abbey Garden Press, Box 167, Reseda, California 91335, U.S.A.

NOT surprisingly, the genus *Agave* has never enjoyed popular appeal in a country where window-sills and small greenhouses house the majority of collections. However, the smaller species are well worth growing (see the May 1966 issue of this Journal). For those wishing to know more about the genus, the American Society has now reprinted the series of articles which first appeared in the American Cactus and Succulent Journal from 1959 to 1964.

The book consists of descriptions and illustrations of *Agave* species, arranged in a modified version of Berger's system. Only the subgenera *Littaea* and *Agave* are included; the *Manfredas* are omitted. The author deals with approximately 110 taxa, representing about a third of those given in Jacobsen's Handbook, though some of the names listed by Jacobsen appear here in synonymy. Several new descriptions and name changes were included in the original articles and these are erroneously reprinted without adding citation of the original publication. One new taxon, *Agave victoriae-reginae* forma *ornata*, was not validly published because no type was indicated, and this has not been rectified in the reprint.

The grower wishing to identify a plant will be disappointed to find that there are no keys in this work, and even the characters of the sub-generic groups are not given. However, the author had photographed every species, variety and form described in the book, and so this is a most useful reference work.

L.E.N.

### The Journal of the Mammillaria Society Volume VIII, No. 5, October 1968

THIS was the 50th issue of the above journal and as such represented something of a landmark. Robert Gräsner's most impressive photograph of *Mammillaria centricirra* adorns the lower half of the front cover and a short article within by the same gentleman describes the wool tufts and red blooms of this species in the winter. This is translated and reprinted from the July 1968 issue of "Kakteen und andere Sukkulente".

The main article by Robert Foster and Charles Glass and entitled "Four is what we wanted. . . ." describes a breathtaking expedition into the S.E. portion of the state of Texas and the N.E. quarter of the country of Mexico. Right from the outset the authors themselves state that the article is not meant to be a long, dry treatise on *Dolichochele* but a "fast moving, plant finding, *tequilla drinking*, photo taking, note writing, hill climbing, heck of a good trip". The article itself consists of six full pages and lives up



to the authors' description. The four plants originally sought were all found and *n-u-m-e-r-o-u-s* others *en passant*.

The finding of *Mammillaria glassii* proves one of the highlights of the expedition as was the discovery of a plant of *Mammillaria magallanii* var. *hamatispina* which had eluded collectors for many years.

The Editor's wife contributes the 19th instalment of her series "Among our Mammillarias" (a Cactophile's Diary). Readers have come to look forward to the next instalment with real zeal and we learn from a later issue that this series attracts the most fan mail.

Dr. Hunt contributes the ninth part of his "Review of Mammillaria Names in Current Usage" and L. E. Newton writes on "The Experimental Approach to Mammillaria Taxonomy".

There are some interesting Notes from New Zealand by Mrs. E. Graydon and other small articles on such subjects as "Stamen Irritability" and "A Note on *Mammillaria erectacantha*" as well as the usual correspondence, notes and, of course, the always interesting and stimulating Editorial.

All in all this is a splendid number and one that the Editor can be proud of. It is well balanced, there being something for everyone, well produced and, considering this is a specialist society magazine, it augers well for the future that the Editor states that material has not been difficult to find and the cost not an embarrassment.

PISCES.

**Rebutia including Aylostera and Sulcorebutia**  
**C. Marsden and H. S. Jackson, Macmillan 42/-**  
*A review by J. D. Donald, Member of the I.O.S.—*

This expensive little book can only find favour with the uncritical and the easily satisfied. For Rebutiophiles it must be one of the greatest disappointments in the whole history of books on the cactaceae. It contains descriptions of only those species belonging to Rebutia and Aylostera, together with Sulcorebutia, in the narrowest sense, leaving out the very large number of 'species' belonging to *Mediolobivia*, *Digitorebutia* and *Cylindrorebutia*, which surely under any system of classification cannot be divorced really from Rebutia and Aylostera under a general heading 'Rebutia'? In fact the three 'genera' omitted are more entitled to be so included than Sulcorebutia, which every leading authority now (1968) acknowledge not to be very close in relationship with Rebutia, *sensu lato*. The closest relatives of Sulcorebutia appear to be *Weingartia* and the 'cinnabarina' group of *Lobivia*.

One of the chief criticisms of the book is that the authors seem to have followed preferentially only one authority for the bulk of the descriptive material presented, and to have paid little heed to or at least have not mentioned any of the taxonomic work on Rebutia published since 1955. Had they looked a little more widely about themselves, many of the errors that occur, particularly concerning identification, authority,

systematics and morphology could have been avoided. The authors have seemingly little to offer on their own account in this respect and leave many descriptions incomplete, in fact as incomplete as when they were published originally, in many cases as much as thirty years ago! This is inexcusable as most of the plants, mentioned in the text, have been freely available over the last ten years.

The descriptions have been standardised to some extent and arranged alphabetically irrespective of genus. They suffer as being very literal translations of the original diagnosis or other source material, which in themselves were frequently too brief and restrictive or narrow in concept, making positive identification of many plants extremely difficult. A popular book should make an attempt to remove such difficulties by pointing out how the plants in cultivation are known to, or can be expected to, vary from the original description, however, in this book the reader has no such guidance. The inclusion of a simple key would have been more than helpful.

The chapters on cultivation and propagation appear unnecessarily complicated. As the authors state *Rebutias* are probably amongst the easiest cacti to cultivate—why, then, confuse the issue by giving very detailed instructions on special composts to be used according to the length and number of spines!

An authoritative text in English on *Rebutia* has been clearly needed for some time, but it is extremely doubtful if this book has met that need.

\* \* \* \* \*

ESSEX Succulent Review—With the December issue the Essex Succulent Review completes its fifth volume. This is a very ambitious and successful journal to be published at Branch level, containing in addition to reports of meetings and other semi-parochial matters useful articles on various aspects of Cactus and Succulent culture. The Branch is to be congratulated on this go-ahead publication and we wish them success in their sixth year.

---

**DON'T FORGET THE NORTHERN COUNTIES SHOW** will be held on May 31st and June 1st in the Social Service Centre, Park Road, Whitley Bay.

All letters and requests for schedules to the Branch Secretary, Eric L. Jennison, Alric, 7 Sandfield Road, Tynemouth, Northumberland.

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### Important

Please note that in future all subscriptions and letters *re* membership should be sent to Mrs. A. Whicher, 10 Chanctonbury Close, Redhill, Surrey.

## Secretary's Notes

As a result of my appeal in the August, 1968, Journal, for contributions, an extra three Journals of each issue this year will be going to Czechoslovakia, making a total of six. The response was somewhat disappointing and not sufficient to allow for any Journals to be sent to other countries behind the Iron Curtain.

The task of distributing this Journal has been in the hands of Mr. E. R. Brewerton for the past two years. Earlier this year Mr. Brewerton spent some time in hospital, undergoing an operation. This, combined with lack of storage space at home has brought about a situation where Mr. Brewerton feels he can no longer continue with this duty. This was announced at the December meeting of the Society and an immediate offer to take over come from a comparatively newcomer to the Society, Mr. H. Miller of 7 Lincoln Road, Hanworth, Middlesex. May I express the thanks of all members to both Mr. Brewerton and Mr. Miller.

This is the last time that I will be writing these Notes, because when the next issue of this Journal is made in May, I will not be the Secretary of the Society. My decision not to accept nomination for 1969 was made in the best interests of the Society and I trust that my many friends will accept this statement at its face value. I am not, however, resigning from the Society, and will remain as active within the Essex Branch as I have been for the past 17 years.

We have been most fortunate in that Mr. A. F. Clare of 26 Albert Street, St. Albans, Herts., has agreed to assume the office of Hon. Secretary and it is the wish and hope of all the Council that the members will endorse his position at the Annual General Meeting later this month. I very much hope that these Notes will continue under the pen of our new Secretary.

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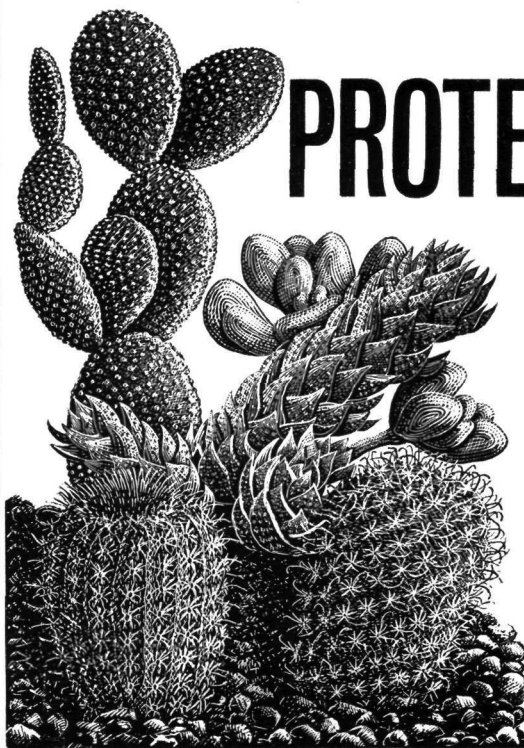
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# THE CACTUS AND SUCCULENT JOURNAL OF GREAT BRITAIN

Vol. 31

May 1969

No. 2

## OBITUARY

### Mr E. W. Young

IT IS with deep and sincere regret that the death of Mr. E. W. Young on Saturday 29th March, 1969 must be recorded. Mr. Young, known as Ted to so many friends and members, was Treasurer of the Society from 1952 until relieved of the office last year. At the Annual General Meeting of the Society in February 1967 he was elected a Vice-President of the Society in recognition of his long and devoted service. He was a founder member of the Essex Branch and was the popular and hard working Chairman of that Branch until 1964 when he retired from business and soon after moved home to Sussex, where he spent the remaining years of his life among his plants.

Ted was deservedly popular and well liked wherever he went. His enthusiasm for the hobby, his friendliness and willingness to help were well known. His physical handicap, brought about by poliomyelitis in 1950, seemed never to stop or prevent his active participation in Society affairs, and was indeed the prime reason for his initial interest in collecting succulent plants.

His work for the Society cannot be measured by the usual yardstick, as he undertook numerous tasks outside the accepted office of Treasurer, and his large personal correspondence with members and with prospective members must have fostered much interest in the Society and undoubtedly helped to keep the steady flow of new members into our ranks. Few people can have done more than Ted to propagate the aims and interests of the Society.

The sympathy of the whole Society is extended to Mrs. Young and the members of her family in their sad loss.

D.V.B.

### Senor F. G. Buchenau

THE passing of Francisco G. Buchenau on 10th March has caused sorrow in a much wider circle of cactophiles than his immediate associates in La Sociedad Mexicana de Cactologia, although this organisation will miss him particularly, because he was one of its staunchest and most active members. His two visits to England in 1965 and 1967 endeared him to many enthusiasts in London and the Home Counties because of his pleasant and likeable personality, and his extensive knowledge of Mexican cacti particularly Mammillarias, in habitat. He also visited Germany on several occasions for family reasons and was well known to German cactophiles. Those of us who saw his colour transparencies will not forget the vivid way in which they covered the very varied terrain of Mexico and the extraordinary positions in which some of the plants grow. It speaks volumes for

his enthusiasm and tenacity that he was able to travel and collect in inhospitable regions at a time of life when many are looking for relaxation.

Senor Buchenau led an active business life, being a much-respected figure in the poultry farming fraternity in Mexico. At the time of his sudden demise he was negotiating the sale of his business and was looking forward to more leisure time to devote to collecting trips and to writing up his ideas on a number of groups of Mammillaria species showing particular variability, such as the *M. elegans* complex. It is a tragedy that he was denied the opportunity to do both but those of us who were fortunate enough to have known him are consoled by the thought that we did have some personal contact, brief though it was.

W.F.M.

## Editorial

FIRST of all I must apologise for the slightly late appearance of the Journal this time. This is due to the fault of nobody but the ill-wind which blew a germ of *Epidemic Parotitis* (otherwise known as Mumps) in the direction of the Editor's desk, thereby laying her low and putting her completely out of action just at the time when she should have been dealing with proofs and page layout of this issue!

Some of you may remember articles which appeared in the Journal some years ago from Richard Russell in the U.S. and I am happy to say that he is now starting a series from San Diego of which the first appears in this issue. He also sent the article reprinted from the San Diego Union about Paul Hutchison's venture, so it looks as though we may be kept informed about American matters through this contact.

I must further apologise for an error which crept into the February number of the Journal. Will you all please note that Mrs. Whicher's address is 10 Chanctonbury CHASE, Redhill, and not Chanctonbury Close as given in the February issue.

The Society is taking a new step this year, in that it is putting on a sole show at Chelsea in May and all members visiting Chelsea should make a point of coming to see it, and bringing all their friends along. Also I am sure Mr. Clare will be glad of any offers of help as regards stewarding during the period of the Show.

By the way, mind you read the article on page 41.

E.M.D.



## Cultural Notes

*Cacti—by A. Boarder*

BY THE time that you get this journal we shall be well into the growing season and no doubt will have plenty of flowers and your plants will be making good growth. Now is a good time to take any cuttings which may be required as these always root quicker when there is some sunshine and the days are longer. It is quite simple to take cuttings from many of the cacti which are grouping or caespitose as they are called. It is when more plants are wanted of the kinds which do not often make off-sets that difficulties may arise. Such plants as *Astrophytum* do not normally make any off-sets and so one must grow new plants from seed. Fortunately these are not difficult to raise from seed, with the exception of *A. asterias*. This one always provides more of a challenge, why this should be so I do not know as the others will usually be up from seed in a couple of days providing the temperature of the propagating frame is about 70°F.

Some of the *Mammillarias* are also single or simple as they are termed and these must also be raised from seed. Of course it is possible to propagate these if seed cannot be obtained by beheading them. This is an operation which should only be performed with care and only when two plants of the same species are in the collection. When cutting through a plant one must be very careful to keep well away from the growing centre. This dip in the top of the plant often goes down deeper than is outwardly apparent, as spines can hide the actual point of growth. If a plant is beheaded make sure that the cut is made well below this point or the top will not make new roots but die. The lower part of the plant should soon send out off-sets which can be removed for rooting as fresh plants. Do not take these off-sets away too soon but allow them to get a fair size so that they may contain enough sap and nourishment to encourage fresh roots.

Also at this time of the year it is possible for the owner of a large collection of mature plants to look over them well to try to assess their rate of growth. Many plants which may have been raised from seed have a very small base to them. As the plant grows larger this lower stem appears to get smaller than ever and it is my opinion that many such plants grow at a reduced rate. This is especially so with some of the simple *Mammillarias* and one can find plants which are three or four inches across which are only half an inch near the soil level. Such plants can be rejuvenated by cutting through near the base but only where the base can be at least an inch across. When the base is dried for a few days to form a skin, it can be placed on some sharp sand and peat for rooting. Equal parts of these will give a good medium for rooting and as the mixture is so loose it is possible to lift the plant up occasionally to see if roots are being formed. Once a good system is evident the plant can be potted up in your usual compost. I have found that any plant which has been so treated will send out

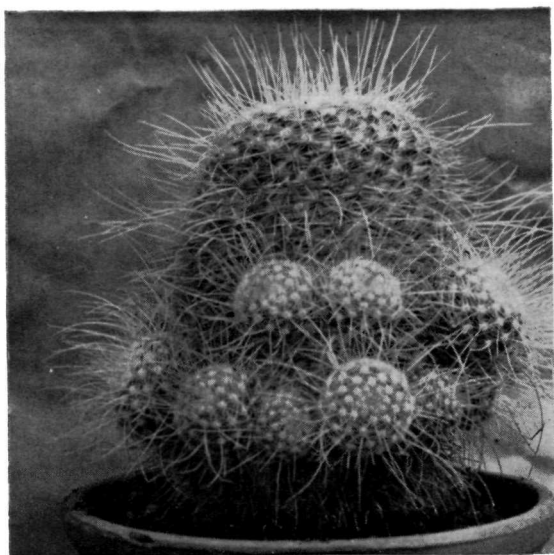
several roots from the widened base and then make rapid growth.

It is possible that the root part may be able to send out fresh off-shoots which in turn can make new plants. When dealing with *Mammillarias* it will be found that the plant which has been re-rooted will flower better than before as more fresh growth will be made and it is only the new growth which will flower well with the Genus *Mammillaria*. Watch the fresh seedlings to make sure that no pests are present. The larvae of the sciara fly still appear to give growers trouble. The tiny flies can be seen running around over the pans and treatment with such powders as D.D.T. and Malathion dust can keep them in check although I have seen these flies running about over the powder but probably they would soon die. The only other course of treatment is to water with a solution of Pestex. This is an insecticide which is taken in by the plant so that the sap is impregnated with it. It is then assumed that any larvae of the flies will be killed if they suck the sap from a seedling. It is difficult to assess the amount of such an insecticide for such young plants but a milder solution than that recommended by the makers appears to do the plants no harm but whether it will actually kill any fly larvae inside the plant is rather problematical.

The raising of cacti from seed gives great pleasure to many growers. Each year I advertise some mixed cactus seed for sale in a few gardening periodicals and although I do not do this for profit I find it very rewarding and I do have the satisfaction of knowing that I am interesting many more people to the hobby. One does not always hear of the success or failure which the applicants obtain but this year many who have had seed from me in the past have written to tell of their success. One such said that he had 200 nice plants from my seed, many of which had flowered and he thanked me very much for introducing him to such a fine hobby.

This sending out of seeds has also meant that people have joined our Society through getting interested in these plants. If only every member of our Society would endeavour to get just one new member the advantages to every member would be very substantial. May I therefore appeal to all readers to try to do just this.

I have had a letter from a member in Ohio recently asking about the blue flame lamp I have sometimes described in my notes. He has tried to get his ordinary white-flamed lamp to burn with a blue flame. This is not possible as the latter must have a round wick with a spreader in the centre which throws the air over the wick as it burns and so gives a blue flame. No blue-flame lamps appear to be available in the U.S.A. but these can be obtained from:—P. J. Bryant, Forest Road, Fishponds, Bristol. He has been making lamps for many



*Mammillaria geminispina*

years and only sells direct from his factory, they are not available at shops and he sends to all parts of the world. I have had some of his lamps for at least 40 years and have been well pleased with their performance. The present "Monster" blue flame lamp which heats water pipes is excellent and keeps the temperature of my 20 x 9 foot greenhouse at between 45° and 50°F., all night.

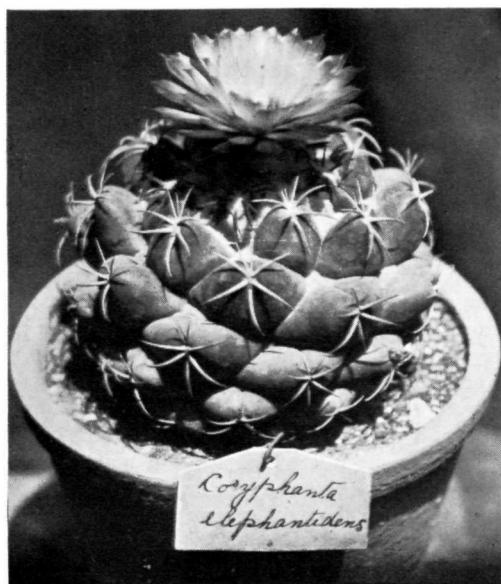
I still find that the plastic pots are very good and the half pots excellent for caespitose plants. I have had one apparent failure however and my experience may help others. I potted a large *Echinocactus grusonii* into a 12 inch plastic pot. After some time the plant did not appear to be growing as well as I expected and so I turned it out of the pot. I found that there was only one small drainage hole in the base and this was quite insufficient for a pot about the size of a bucket. I then made seven more holes of about an inch in diameter in the base, crocked the pot well and repotted the plant. Time will tell if this will improve matters. I do not know how I came to use the pot with such a small drainage hole, but as it was in the centre I expect that I omitted to make fresh holes. Practically all the plastic pots I have used have had no centre hole and so I have had to make one. These smaller pots have plenty of holes in the base as a rule but no central hole and I like to make one so that it is much easier to push the plant from the pot when repotting.

The only grouse I have with the larger half pots is that one has to be very careful how they are handled if a large plant is in it. If one tries to lift the pot by holding one edge it can crack and so two hands should be used with large pots. There is no doubt in my mind that

these plastic pots cut down the watering as the soil remains damp for about twice as long as it would in a clay pot. The old clay pots can be broken up to be used as crocks, although I prefer broken brick and or broken charcoal for the base drainage.

Try to pollinate most of the flowers as you will then stand a very good chance of getting seed pods to form later on. The seed pods on many of the Mammillarias are very colourful and can stay plump and red on some of them for over a year. The common *M. prolifera* and *M. multiceps* are especially good plants for holding their pods. I had my first plant of these two species in 1905, and still have them or their progeny. I also have two varieties of the latter and also plants named *M. stellaris* and *M. castenoides*, which are rather similar to the *M. multiceps*, but whether they are valid names I do not know, but they are handsome plants when covered with fruits. It may be interesting to some growers to know that the two first mentioned names, cost me three pence each, potted up, from a florist in a London suburb.

When one compares some of the prices of imported plants today, one realises how times have changed. It is not only the cost of plants but also the cost of heating which has soared so much. In my early days coke cost a shilling per cwt., whereas it now can cost nearly one pound. Paraffin was also much cheaper. I now pay 12/6 for five gallons and I burn two gallons in three days. For those wishing to try the "Monster" blue flame lamp I have written about, this is the rate of burning of paraffin of this type, roughly one gallon for 36 hours. Added to this I use quite a lot of electricity, mostly in my frame which is heated by three 80ft., cables. Heated is hardly the word as the thermostat is set at 40°F., but even at



*Coryphantha elephantidens*

this the electricity was on most days and nights during February, and also for many other nights of the winter. At a reasonable estimate I think that I use 30 shillings worth of electricity and paraffin every week for about six months of the year.

For those growers who are out of the beginner's stage I recommend that they try growing some of the *Coryphanthas*. Although these are not difficult to grow they are rather slow and I find that some of them are very difficult to flower. It is very probable that they require plenty of sunshine to encourage flowers to form and as some of our summers do not give us much of this, it certainly does provide a challenge to growers to obtain a good show of flowers on plants of this Genus. I find that some of them flower every year once they reach a flowering size. It would be rather optimistic to expect to flower any *Coryphanthas* within at least four years from seed sowing. Some could take even twice as long as this. Certain types such as *C. andraea*; *C. bumanma*; *C. bonantii* and *C. difficilis* can flower with little trouble but some of the others are more shy. I have been growing two caespitose types, for many years and have yet to get a single flower. The two difficult ones with me are:—*C. runyonii* and *C. macromeris*. I have never even seen a bud forming on these and I would be very interested to hear of any grower who has flowered either of them.

Most of the *Coryphanthas* have yellow flowers but *C. elephantidens* has a pink one. Most of the stamens of these flowers respond to a touch and curl inwards when even a slight touch is applied. It can be that this is nature's way of transferring the pollen on to the stigma for fertilising the seeds.

The *Mammillarias* are so attractive not only with their varied coloured spines but also with their numerous red seed pods. Some of the simple (single headed) ones are particularly attractive but when they get to

about five inches across many of them divide at the growing point and become double headed. This in itself is a very good point although it might rather spoil the general appearance of the plant. The benefit arises in the fact that the plant can now carry two lots of flower rings instead of one and so the amount of flowers on a plant can be doubled. Some species always make extra heads once they get a fair size. Such species as *M. parkinsonii* will always make two heads which in time divide again to four. I find that this also happens with some of the *M. rhodantha* plants. I have one which is 12 inches high and made two heads some years ago. Now one of these has doubled and the larger single head is four and a half inches wide and the other two nearly as wide. I have another of the same species which is nine inches high and has four heads each four inches across. A *M. elongata* is 13 inches wide and a *M. plumosa* is nine inches wide and five inches high with at least 100 small heads.

A *M. canelensis* raised from seed is now five inches across and is about eight years old. A *M. neopotosina* has one head four inches across with two more at four inches. I find that quite a few of the normally single types of *Mammillaria* do make an extra head or so once they get to over four inches across. Some of those like *M. geminisipina* can make groups two feet across in their native habitat and so one would require a very large greenhouse to accommodate a large collection. My own *Mammillarias*, now occupy a 36 foot run of three foot wide staging. In addition there are many new young ones on a shelf which will join the main collection when a little larger. Of the 600 *Mammillarias* in the collection at least 99 per cent have been raised from seed by me.

Remember to give all the fresh air possible and if going away during the summer, leave some windows open day and night. The more air available the less likely will be the incidence of scorch.

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## Cultivation Notes

### *Other Succulents—Mrs. M. Stillwell*

AS I am writing these notes, the first sunny days of spring seem to have arrived, and one is once more fired with enthusiasm. Looking around the greenhouse there seems so much to be done at this time of the year. After their long winter rest, many of the plants look very dull, but it is amazing how quickly they brighten up after their first watering. I am always careful to water only a small section at a time, so as not to cause too much condensation, as we are still getting frosts at night, and will therefore need to keep the heat on for some little time yet, even during the day, as once the sun starts to go down the house would take a long time to warm up from scratch, especially if at all damp through watering. It takes a long time but I always examine each plant individually and water it if necessary, and remove any

old dead leaves around the base, and generally clean it up. This operation takes several weeks, and it is not until after this that I start repotting, with the exception of those done in the autumn, or other times during the year when it becomes necessary.

I was very pleased to see my *Crassula "morgan's beauty"* full of buds, it had been kept quite dry during the winter and was looking slightly wrinkled, but one good watering and it looked beautiful once again. It has now reached a five inch pot and is grown in full sun to bring out the pure white texture of the leaves. Both my plants of *Pleiospilos nelii* were also showing large buds by the beginning of March (they first appear in January). It is safer not to water them until the flowers are almost open, and then only for a very short period, after which



they must be rested with the other *Pleiospilos*. Another pretty little member of the mesembryanthemum family is *Braunsia maximillanus* also one that flowers early in the year and the bright cerise colour flowers make a fine show, together with *Calamophyllum cylindricum* which never fails to flower well in spite of being kept quite dry all through the winter. The flowers on the latter have pedicels or stalks to the flowers two to five cms. long; it is also quite free-flowering and very suitable for beginners, if they have a greenhouse. I find *Cheiridopsis caroli-schmidtii* always produces its bright yellow flowers very freely early in the spring. It is a mat-forming plant with the usual whitish grey bodies covered with tiny transparent dots. Many *Cheiridopsis* are very shy when it comes to flowering, but I have always found this one quite prolific.

By March many of the *Gibbaeums* have been out and are now over; others such as the *G. heathii* types are still to come. They start to split open about the end of April or beginning of May, again depending on the weather. It is a good thing to get them repotted about April to May, without too much root disturbance if possible. It might be an advantage to give them their first watering before repotting so that the soil will bind together a little instead of leaving the roots just like sand when removed from the pots. As I have said before, they are all on a shelf about midway between the floor and the eaves of the greenhouse on the south side, where they seem to do very well.

It is a great temptation in a small greenhouse, to keep on erecting the odd shelves to accommodate all the extra plants one seems to obtain, but do have a look round and make sure you are not shading those other plants that badly need the sun. Make sure that only the shade loving plants, such as *Aloes* and *Haworthias* etc. have the shady positions. On the whole it is the sun-loving plants that should be grown up on the shelves. They will probably require a little more water than the others also. Stand them in trays covered in coarse sand or shingle, if you can, to prevent excess water dripping on the plants beneath. Check underneath the shelves from time to time for pests who often nest in the wood. I would suggest that every few weeks all the plants that can take it are given a good watering with a systemic insecticide. This kills all pests that extract the sap from the plants by biting and sucking. Do read the instructions carefully, as certain plants, such as *Crassulas* and *Kalanchoes*, cannot take these preparations, although I have watered the soil carefully well away from the actual plant and found it came to no harm, but I only do this as a last resort if the plant is badly affected with mealy bugs. Coarse aquarium gravel on the top of the pots stops any water and soil splashing up on to the plant and generally gives a neater appearance. I find many of the plastic labels these days seem to want renewing after about 12 months, as they get very brittle and break up. It is very easy to lose the name of a plant when this

happens, although one feels certain of its name at the time. If you have a small collection and plenty of time, there are several hand printing machines on the market today that do a more permanent job and the initial outlay would soon repay you.

I have also noticed that many plastic pots on the market today, particularly the cheaper ones, also have a very short life. The effect of the sun seems to make them dry and brittle and even a plant that needs repotting can split a pot from top to bottom with the force of its roots. I will not deny that in many cases plastic pots are ideal for plant growth, particularly with Cacti, but many of the mimicry succulents grow a little too fast for my liking and so lose their characteristics. I have put a lot of my succulents back into clay pots where they retain their true colourings, instead of that greenish lush look. Seedlings, of course, grow rapidly in plastic pans and it is just a matter of knowing how long to keep them growing in this way before deciding to slow up the growth and develop the plants' true character. It is, of course, a matter for the individual to decide whether to have slow-growing colourful plants or large specimens bursting with health and vigour. Remember in a show it is not always the biggest that are the best. "Quality before Quantity" often pays dividends.

A choice little plant that is well-worth having, is *Lapidaria margaretae*. It has at previous times been classed under *Dinteranthus* and *Argyrodema*. The pinkish white bodies give it an individual appearance and the yellow flowers add to its beauty. I find it shrivels quite a lot during the winter when, for safety's sake, I keep it quite dry until about the end of March, when after a good watering it quickly recovers. It is slow-growing when it reaches adult size, and likes a coarse soil with the addition of limestone grit and, of course, plenty of strong sunlight, when available.

I will not dwell on seed-sowing and cultivation, as most people have their own favourite method, but I always feel that about the middle of March is the ideal time for succulents on the whole, as by the time they are ready to remove from the propagator, we should be having some good summer weather.

When you receive your show schedules, start to prepare your plants now, so that when the Show date draws near, all you have to concentrate on is packing. The latter is perhaps of even greater importance and properly constructed carrying boxes and cases repay a thousand times and your plants will then always travel safely, whether in your own hands, or those of a kind member who offers transport. Pack each plant carefully with newspaper to prevent it touching its neighbour and always make a plan of the boxes, so that each plant returns to the same place for the return journey. I have done all this in years gone by and found that previous preparation helped to stop frayed tempers on the day of the Show. So—good luck and may we see plenty of new competitors this year.

## Notes from San Diego

Richard Russell

I WILL start this series from the great South-west of the United States in a rather "cannibalistic" vein. Today, for Christmas, my wife gave me a little bottle of preserved "fruit", which bore the remarkable label of "Nopalitos Tiernos," subtitled Diced Cactus. (see illustration).

The cactus preserves turned out to be finely diced green rather sticky chunks of something which I believe could be diced *Opuntia* or *Nopalea*. They tasted quite spicy, were probably soaked in acetic acid, and I cannot say that I was fond of them. However, I thought any sort of new "use" for cactus would be of interest to friends in Britain, and I have never seen diced Cactus offered before. Let the buyer beware!

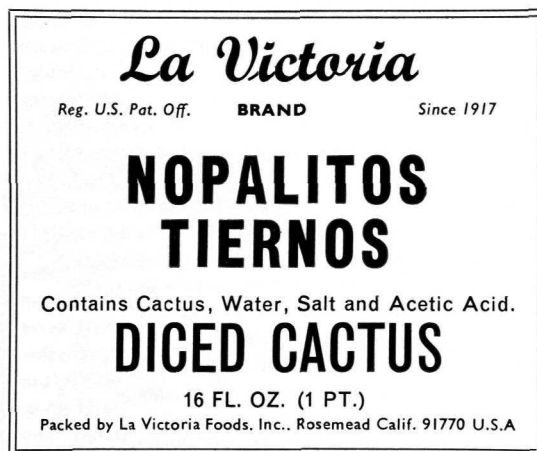
It is winter in San Diego, and most of my collection of Cacti is dormant. I now live in La Jolla, which is ten miles from San Diego. La Jolla is about a quarter mile from the Pacific Ocean, and our winter climate runs about 60 to 70 degrees every day and about 40 to 50 degrees at night. My collection of Cacti consists of about 1,000 varieties, three quarters of which are planted in plastic pots, the rest (the larger specimens) planted directly in the ground.

Having moved to the sea area from the inland zone about a year ago, I have been most interested to find out how my Cacti would fare. The results have been excellent. Out of the thousand plants, I have lost two from rot, and the rest have been outstandingly healthy.

Cacti which are grown outdoors the year round seem to develop a hardiness which far surpasses greenhouse plants. For instance, a week ago we had a rare night frost here (this seldom happens in San Diego), and I did not see a speck of damage on any plant, even such tender species as my *Melocacti*, I do not believe the tender varieties can take a full day of sub-zero temperature, but almost *all* my plants seem to be able to stand a few hours of real frost without any ill effect. Even the *Epiphyllums*, many of which grow throughout the winter, have no trouble with frost, and I was naturally very pleased.

The only blooms in my collection at present are on *Neoporteria nigrihorrida* and *Mamillaria schiedeana*. The latter plant has the longest blooming period of any Cactus I have ever seen. My plant started producing its tiny cream flowers in early October, and not a day has passed since when at least one flower has not appeared. Large buds are forming on my *M. denudata*, and I imagine this plant will bloom shortly.

Oh yes, I forgot my *M. hahniana* in the front have been blooming steadily since early November. I have three large specimens of *M. hahniana*, each six inches across. These are fairly common in local commercial nurseries here and are sold very cheaply. A large five inch plant may cost \$2.00.



(A reproduction of the wording on the label, but not an exact copy of the design)

Speaking of *Mammillarias*, I have a number of varieties which I am reasonably convinced are new and unnamed. The most interesting was given to me by Willi Wagner of Mexico. It looks quite a bit like *M. pluvisosa*, except that the feathered nipples are arranged much more geometrically and the plant possesses a carrot-type root. The plant has not flowered yet, but I would guess there would be great interest in this *Mammillaria* if it were commercially available. The plant is a single head, about two inches across, covered with very pretty white feathery "spines."

Another tiny *Mammillaria* which is a mystery to me was given me by Bob Taylor of San Diego, an avid collector. It looks quite a bit like *M. multiceps* except that it has hooked centrals. I have not had this plant long enough to see flowers either, but will report further when I know more.

I would like to report one interesting cultural note. Grown outdoors in pots, most Cacti will not take full sun. Last summer I had to cover my entire outdoor potted collection with screens to protect them from the hot, California sun. However, most Cacti planted directly in the ground are more able to take full sun. I would guess that the larger root systems and more stable moisture of ground-planted Cacti make them more able to accept the full sun. I have found that clay pots are out here in California, too much heat dries them out in a few hours.

As for watering, I simply hose down my collection every other day during late spring and summer, and from November on I cut out water completely. I will probably start some watering again towards the end of March.

I will cut this article short until I hear from your Editor, as I am not sure that she wants more San Diego articles, nor am I sure of the proper length, assuming articles are wanted. In closing let me send my regards to all my friends in England.

# Charles Lemaire (1800-1871) and the Genus *Schlumbergera*

by W. L. Tjaden

MR. Leighton-Boyce's interesting article in the November 1968 Journal has reminded me of the role played by Lemaire in the history of the Crab and Christmas Cacti. The tale of the creation by Lemaire of the genus *Schlumbergera* is given below. Fuller accounts of the history of the Christmas Cactus are in Gardener's Chronicle for 24 October, 31 October and 7 November 1964, or in National Cactus and Succulent Society Journal for September and December 1966.

Lemaire's part in this story confirms Mr. Leighton-Boyce's implied comment that in later life at least Lemaire was unable to admit that others could be correct on simple evidence. In short, he was prickly not only on interpretation but on fact, and indifferent to the niceties of the research needed before the publication of new species. His abilities and his energy were indeed considerable. He was not only Professor of Botany at Ghent, a life-long enthusiastic student of cacti, a fluent user of Latin, but he edited and contributed copiously to colour-plate horticultural botanical journals, which are now very costly on account of the plates. The demands of journalistic time-tables for "copy" could well clash with the need for delay imposed by scientific objectivity on the botanist, and this may be the underlying explanation of the tale below. It is not, however, merely as a comment on one man's activity that the story has some interest. It throws a little light on the development of consistency in the naming of plants, and also on the need for an historical attitude to past events.

A. H. Haworth (1768-1833) created the genus *Epiphyllum*, based on the large flowered *Epiphyllum phyllanthus*, in 1812. In 1819, without waiting to see the flower, he included the recently introduced Brazilian Crab cactus, as *Epiphyllum truncatum*. He was not, apparently, the first to apply the epithet "*truncatum*". *Cactus truncatus* appears in "HORTUS GANDAVENSIS," an inventory of plants at Ghent published by the head gardener there, J. H. Mussche, in Oct. 1817. It was as *Cactus truncatus* that the Crab cactus was first pictured and described in a number of well-known botanical colour-plate periodicals in the 1820's, although one English botanist, R. Sweet, called it *Cereus truncatus* in 1826. It soon became a popular winter flowering plant for the greenhouse. As more and more species of cacti of widely differing appearance were being introduced, the current was strongly set against the retention of Linnaeus' one and only genus of *Cactus*, and Haworth's name, *Epiphyllum truncatum*, usurped the place of *Cactus truncatus* in horticultural literature by the mid 1830's. The priority rule for names, first clearly enunciated by A. P. de Candolle (1778-1841) in 1813, which

should have necessitated a different word from *Epiphyllum* for the Crab cactus, was not at once accepted. Nor was the coverage of Haworth's (1812) *Epiphyllum* agreed, whereas its application to the Crab cactus seemed precise. It could be argued that Haworth himself had restricted *Epiphyllum* to the Crab cactus in 1819, and that this decision superseded his earlier one. If not his view, this was the effect of the decision by Professor J. H. F. Link (1767-1851) in 1831 to create the genus *Phyllocactus* for the "winged Cereii," the large flowered epiphyllums then also becoming popular. Link was another distinguished cactophile in a long span of cactus-loving holders of a Chair of Botany in Berlin.

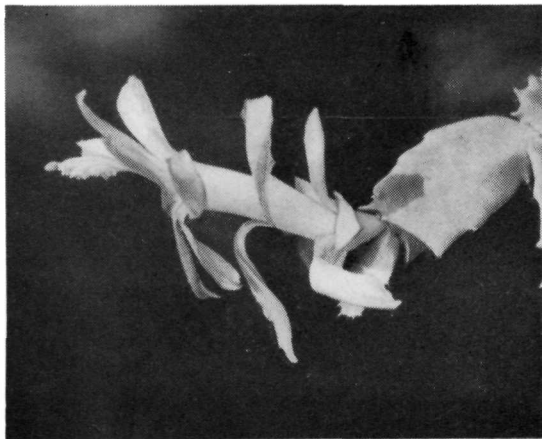
It was not long before *Phyllocactus* for the large-flowered epiphyllums and *Epiphyllum* for the Crab cactus and its numerous colour-varieties, were in general use. Occasional reversions to all-embracing genera such as *Cereus*, had but a short-term influence. When G. Gardner, employed by the Duke of Bedford, discovered a new plant in the Organ Mountains of Brazil in 1837, and, following Sweet's classification, called it *Cereus russellianus*, Sir William Hooker at Kew correctly associated it with the closely related Crab cactus and named it *Epiphyllum russellianum*, in 1839. Within a few years the two species had been hybridised and two very similar Christmas cacti resulted, being sold in England as *Epiphyllum russellianum* *superbum* and *rubrum* respectively, but as *E. ruckerianum* *superbum* and *rubrum* on the Continent. The English name gave the seed parent, the Continental name the varietal name (*ruckerianum* or sometimes *ruckeri*) of the variety of the pollen parent, *Epiphyllum truncatum*. The Christmas cacti soon outshone all the Crab cacti but their origin was not well publicised. Indeed, we rely mainly for knowledge of their origin on one short-lived colour-plate gardening book published in 1852.



The rare *Schlumbergera russelliana* (originally *Epiphyllum russellianum*) the seed parent of the Christmas cacti

In April 1858 in *L'Illustration Horticole* of Ghent, a periodical of which he was editor and main contributor, and in May 1858 in the *Revue Horticole* of Paris, of which he was a part-editor, Lemaire published a new name, *Schlumbergera epiphylloides*. The name was in substitution for *Epiphyllum russellianum*, and the new genus honoured a wealthy amateur greenhouse plant enthusiast, F. Schlumberger, of Rouen, "amateur aussi instruit que zèle". At first sight it was discourteous of Lemaire to have dropped the epithet "*russellianum*", which Gardner and Hooker had given in 1839 in honour of the Duke of Bedford. However, it was not then universal practice to retain the specific epithet on a change of generic name, and beyond an argument which developed in the *Revue Horticole* of Paris in 1861, no more notice was taken of the new genus until Britton and Rose took it up in 1913. Schumann's brief reference in his monograph on cacti in 1898 to Lemaire's name was incidental. Certainly, F. Schlumberger had no claim to be associated with Gardner's discovery. Lemaire must have been aware of the incongruity of honouring his wealthy friend with the generic name, and the Duke of Bedford with the epithet, hence his decision to ignore the latter and to apply "*epiphylloides*", an epithet meaning "like an epiphyllum".

However, Lemaire had no notion of paying Schlumberger a bigger compliment by transferring *Epiphyllum truncatum* to the new genus. In the *Revue Horticole* (1858 p.253) he had stated that *Epiphyllum russellianum* could not belong to the genera *Cactus*, *Phyllocactus* or *Epiphyllum* because of the unique arrange-



A typical Crab cactus, *Schlumbergera truncata* (originally *Epiphyllum truncatum*, then *Zygocactus truncatus*). There are many colour forms, ranging from white to dark red. A dark red form was used as the pollen parent of the Christmas cacti.



A Christmas cactus, *Schlumbergera x buckleyi*, raised in Tooting, London in the 1840's at Rollisson's Nurseries by W. Buckley

ment of its stamens. In other words Lemaire had no thought of rejecting *Phyllocactus* in favour of *Epiphyllum* in the sense first intended by Haworth, in 1812. He admitted later that the new genus was based solely on Gardner's description and the Plate 3717 accompanying it in the *Botanical Magazine* for 1839 and that he had not seen an actual flower. He implied too that it was he who had discovered the distinguishing characteristic of *Epiphyllum russellianum*, the arrangement of the stamens in two groups, one based on a small ring around the pistil, the other group affixed to the walls of the perianth tube. This, he said, was a character unheard of until now in the Cactus family. ("inoui jusqu'ici dans la famille"). Gardner, however, had first mentioned this in the original description.

Lemaire must have long forgotten his quick, easy compliment to Schlumberger when a very observant cactus amateur, a Dr. Lacanal of St. Lizier, Ariège, challenged him in *Revue Horticole* in 1861. This Doctor of Medicine had taken the trouble to dissect blooms of *Epiphyllum russellianum*, *E. truncatum* and of the recently acquired Christmas cactus, and he found that they all had the same dual placement of stamens. Lemaire evaded the issue, saying that it was of importance to him as a botanist, and for the cactus monograph he was writing, to address a few words to Monsieur Lacanal. He emphasised the experience he had gained from a lifelong study of cacti, and then gave an unintelligible statement of alleged differences between the placement of stamens in *E. truncatum* and *E. russellianum*. To this he added other well-known



but irrelevant differences between the species. Lacanal stuck to his point, disposing of all the differences between the species as justifying them but not the creation of a new genus. He accused Lemaire of using vague words to maintain his position. Lemaire then had to admit, as noted above, that he had not seen *E. russellianum* but had relied on *Botanical Magazine* 3717. After further, lengthy efforts to confuse the issue, Lemaire concluded that history would judge who was right. This summary cannot reveal the piquant flavour of this small duel in which Lemaire was badly worsted. I can but recommend readers to the original texts in *Revue Horticole* 1861. Lemaire had indeed in the same year provided another and closely related instance of a superficial approach, by publishing a new "species" of *Epiphyllum* in *L'Illustration Horticole* (1861, *Miscellanées* 5) and then in *Revue Horticole*. This was one of the Christmas cacti, which he called *Epiphyllum bridgesii* or *E. ruckerianum*, he did not know, he admitted, which name was right. He also said that he had first seen it at a local nursery which had received it from Holland! On the strength of the unverified epithet

"*Bridgesii*" he assumed it might have come from Bolivia because Thomas Bridges (1807-1865) collected only on the western side of the American continents!

The tale must stop here, although it continued with Schumann and later still Britton and Rose allowing themselves to be misled by Lemaire. None of these gentlemen read Dr. Lacanal in the *Revue Horticole*. Because Britton and Rose were rigid followers of the priority rule, and because their monograph on the Cactaceae inevitably had much influence especially in English-speaking Cactus circles, there was little chance of *Phyllocactus* being retained rather than *Epiphyllum* (Haworth, 1812 sense) or of *Epiphyllum* (Haworth 1819) being retained rather than *Schlumbergera*. So we are saddled with this awkward name, nor can we properly use the elegant word *Zygocactus* which was superfluous when Schumann applied it in 1890 to the Crab cactus. As far as gardeners are concerned the principal objective must be the use of a variety (cultivar) name for each distinctive *Schlumbergera*. It is safe to use a specific name only for *Schlumbergera russelliana*, and, as far as I know, this is not in commerce.

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## Photographing your Plants (II)

by Eileen M. Drage

IN MY first article on "Photographing your Plants" which appeared in the November 1968 issue of the Journal, I dealt primarily with the use of the simpler type of camera without the refinements of the more elaborate and expensive models. Of course, much of that article, such as the paragraphs on backgrounds, lighting etc. apply equally to the use of the more elaborate camera. I feel that in all probability those owning these more elaborate cameras will probably already have found out how to get the best results from them, but there may be others who wonder what these cameras are like and what advantages they have over the simpler ones for our particular type of subject.

Particularly for the grower aiming at colour transparencies, the Single Lens Reflex with interchangeable lenses is undoubtedly the best type of camera for the purpose, as reflex viewing allows us to see exactly what will appear in the picture, and the interchangeable lens gives an advantage mentioned in a later paragraph. The disadvantage is the cost! The cheapest is in the £50 range (with the exception of the little Exa at about £20—and a very good little camera for the price, but rather restricted as regards shutter speeds). Many of them come into a still higher price range. It is, however, sometimes possible to pick up a good second-hand one for somewhat less, but if you contemplate buying second-hand *do* go to a reputable dealer. Any of the well-known old established firms will give good value for money, and usually give a guarantee with second-hand equipment, whereas, if you go to the "little shop round

the corner", or the "chap down the road who wants to get rid of his present camera", you may do very well, but if you make a bad buy, you have little or no redress. Incidentally, if it is a case of changing your present camera for a more advanced type, the same firms will usually take it in part-exchange.

In these cameras with interchangeable lenses, the lens is, as you may assume, removable from the body of the camera and can be replaced with a lens of a different focal length. However, as far as we are concerned, the big advantage is that the lens being removable, it is possible to insert between the lens and the body either extension tubes or extension bellows and thus avoid the use of supplementary lenses, which as mentioned in the previous article, may have some effect on the quality of the resulting photograph.

### Extension Tubes and bellows

Extension tubes are a series of 4 to 5 metal tubes of varying lengths (costing some £4-£5) which screw together and can be inserted singly or in any combination *between* the camera body and the lens. This, by placing the lens further away from the film, alters the focal length of the lens (again, I don't propose going into the technicalities of how and why) thus enabling a much closer approach to the subject—the longer the extension the closer the possible approach. This means that with the complete set of tubes in position it is possible to focus the lens on a subject that is only an inch or so away from it. Bellows, consisting of

an extending cloth tube, like the bellows of a folding camera, have the same effect, the one advantage being that the lens when fixed on the front of the bellows can be moved gradually towards or further from the film plane, whereas with tubes the distance is restricted by the lengths of the individual tubes and it can be quite a fiddling business screwing and unscrewing the various tubes to find the exact combination required. Of course, with practice it becomes possible to gauge more or less accurately which combination you are likely to require. On the other hand, the tubes are considerably cheaper than the bellows and are also lighter and less bulky if you wish to carry them round for use away from home. After all you may find many other uses for them than photographing your own plants at home.

The remarks on accurate focussing of course apply just as much when using tubes or bellows as when using supplementary lenses, and in the case of a rangefinder camera, unless you are the lucky owner of a Leica, you will also have to cope with parallax trouble in the same way as the owner of a non-interchangeable lens camera. If you are using a measure to assist with focussing, when using tubes or bellows the measurement must be taken from the film plane and not from the front of the lens.

This is where the owner of the single-lens reflex camera scores as he is able to see exactly what he is getting in his picture. In addition he can of course focus directly on his screen and thus make sure that the part he wants sharp is in fact dead in focus. Most of the S.L.R.'s these days have eye-level viewfinders, but I personally find that when photographing small plants it is often easier to use a waist-level finder and I am fortunate in that my own camera (an Exakta Varex IIa) has interchangeable viewfinders (some Edixa models and also the more expensive Nikon and Minoltas also have this facility). However, it is not difficult to overcome the disadvantage of the eye-level finder if you can put your plant on a table sufficiently high to avoid your having to grovel on the ground to see in the finder! The main difficulty is if you want to photograph the top of the plant in particular. However, I merely mention this point in case anyone is thinking of buying a single-lens reflex, as it is worth bearing in mind.

#### Exposure

Here we come to a very important point which must be taken into account when using extension tubes or bellows and that is that the lens being considerably further from the film, the amount of light transmitted is reduced. Again, I am not going into technical details as to the why and wherefore—these can be found in many photographic books by those who are interested. My only aim is to assist you to get the right exposure and therefore this fact must be allowed for. A table is usually supplied with extension tubes and bellows when you buy them but I am including one here (Table 2) to help you.

**TABLE 2** These calculations are made for a 2 in. lens (i.e. 50 mm.) which is the standard lens for a 35mm. camera.

Length of extension expressed as a fraction of the length of 2 in. lens	Scale of Reproduction	Exposure Factor*
$\frac{1}{2}$ in.	1:4	1.6
1 in.	1:2	2.3
$1\frac{1}{2}$ in.	1:3.3	2.8
2 in.	1:1	4

I have not mentioned the basic exposure here, as I have rather assumed that if you have one of the more expensive cameras it is either an automatic one or else you already have a light meter and know how to use it. The one thing to remember here is that it is no use pointing the meter vaguely in the direction of the plant to take your reading. It will obviously be too much influenced by the surroundings and particularly the background. Take your meter right up to the plant, making sure that it is not itself casting a shadow on the plant. Always choose a reasonably small stop, preferably f.8 or f.11 at least, in order to get a greater depth of focus. As the plant is a stationary object the longer exposure will not be disadvantageous—another reason for a steady tripod. If, however, the plant has largish flowers liable to move in the breeze, you may have to sacrifice depth of field to speed as at these close quarters the slightest movement will create a distinct blur in the picture. If you can, choose a sheltered corner to set up your plant or it may be possible, and worth while, to put up a screen of some sort to protect the plant from the wind.

If you happen to have a  $2\frac{1}{4}$  square twin lens reflex camera, this is very good for black and white photography (It is equally good for colour but the high cost of the film in this size makes it rather prohibitive for the ordinary user). The only snag here is again the question of parallax mentioned in the previous article, but here it is fairly easily overcome if you have a tripod with centre column as after focussing etc. all you have to do is raise the camera by the exact distance between the viewing and taking lens and your plant will be just in the right place.

I do not propose dealing here with the big stand camera as I feel that most of our readers who may find these hints helpful will not have one of these which are used mainly by specialists who no doubt already know how to use them far better than I would!

(Continued overleaf)

\* Figure by which the exposure must be increased, i.e. with 2 in. extension exposure shown as 1/100 second by meter should be increased to 1/25 second.

## Connoisseur's Corner

### Aloe Bakeri

THERE are no doubt trends in the popularity of various genera of cacti and succulents with collectors. In other succulents for some time it was mesembryanthemums but now, for those who are not so keen on the caudiciforms the alternative is dwarf Aloes. The term "dwarf" in this respect is a somewhat comparative one in that this group of Aloes reach flowering size and maturity when less than nine inches in overall dimensions in contrast with some of their larger relatives which often will not flower until they are well over this size and reach fair proportions in maturity. The number of dwarf Aloe species generally available increases from year to year and, although *A. haworthioides* and *A. humilis* are considered the gems of this group, *A. bakeri* is more easily obtainable and can be a very rewarding plant to grow.

This plant is easily recognisable with its thin, tapering, dark green and cream mottled leaves with cream toothed margins which redden with age; the leaves are up to six inches long and clustered in dense rosettes. If situated in a sunny position during the summer months the plant as a whole tends to redden in an attractive way, but, of course, if you prefer your plant green, a little shade is required. The flower stems on a mature plant appear at frequent intervals throughout the year, often as the last flowers fade on one, another stem will be pushing its way through. The inflorescence will have from 12 to 15 campanulate flowers which are pale yellow, green tipped on first opening but become pinker, or even red with strong light, with age; during the winter months each inflorescence may well last four weeks or more and it makes a very cheerful sight.

Like the majority of Aloes, *A. bakeri* requires a minimum temperature of 40-45°F in the winter and can be watered lightly then and more frequently in summer. Propagation is easy by off-sets which can be grown, as the mature plant, in any well-drained compost. The native habitat of this species is Madagascar.

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(cont.)

I hope these notes together with those in the previous article will help some of you at any rate with photographing your plants, but if you want a more detailed exposition there is a very good little book entitled "Close-Ups and Copying in Colour" by Edward S. Bomback, published by the Fountain Press at 9s. 6d., which I can strongly recommend. A more advanced book which you could probably borrow from your local library is "How to Use Your Camera Close-Up" by O. R. Croy, published by the Focal Press at 37s. 6d.



# The Agave, an Emergency Food Plant

by Larry W. Mitich

North Dakota State University, Fargo, North Dakota. ONCE THE smaller agaves of the south-western United States and some of the larger species from farther south were utilized quite extensively for food and drink by the Indians. Agaves were used at any time of the year, but especially when the scapes or flower stalks were just emerging. A pry-shaped piece of wood was used to dig out the centres of the plants. The buds, short stalks, and a few of the leaf bases comprised these centres; the entire structure in the larger agave species being up to two feet in diameter.

The Indians placed the excised centres in circular pits about six to 20 feet in diameter and one to two feet deep and covered them with stones. Grass or weeds were placed over the stones and the entire mass was covered with soil. The agaves were roasted in this manner for one to three days. The product while having a pleasantly sweet taste contained unpalatable fibres that had to be spit out when chewed.

Once roasted, the agave centres often were pounded flat into thin sheets and dried in the sun. This made a convenient way to transport a future food supply long distances. Sometimes the roasted material was soaked in water and a drink prepared by fermenting the liquid.

The large southern species of agave were used to make an alcoholic beverage. A cavity was bored in the centre of the plant and the oozing sap was removed. This was fermented and often distilled, the resulting product being called mescal, pulque, or tequila.

The Mescalero Apaches owe their name to their use of the agave. Ruins of old roasting pits throughout New Mexico and Arizona indicate the former importance of agaves in the diet of Indians.

The agave is a potential emergency food because it can be used at any time of the year. The bud or centre of the plant can be pried out quite easily by anyone and roasted in the ashes of a campfire. The cooked plant then can be dried, if necessary, and carried as food on the journey to safety.

Removing the bud usually does not kill an agave as the plant may reproduce by offsets clustered around the parent. The presence of a flower stalk, of course, indicates that the parent plant producing it will die eventually anyway. However, the agave is best considered as an emergency food plant only.

The leaves of many species of agave yield a fibre that is utilized in making twine or rope, and in parts of Mexico some kinds are cultivated for that purpose. Agave seeds have been ground and utilized as food. Some species of agave contain laxative or irritants so neophytes should try this food product with reasonable care at first.

Apparently many species of agave can be used as an emergency food. *Agave utahensis* was the species used extensively by the Indians but *Agave kaibabensis* and *A. deserti*, reported in northern Arizona, also were utilized. Found from southern Utah and northern Arizona to California, *Agave utahensis* is particularly abundant in the vicinity of the Grand Canyon in Arizona.

*Agave utahensis* bears short vertical stems or rootstocks on which many basal leaves are crowded. The thick, evergreen leaves are about four to 12 inches long and  $\frac{3}{4}$  to two inches wide. The flower stalks arise from the centre of the rosette of leaves and are from 4 $\frac{1}{2}$  to 8 $\frac{1}{2}$  feet tall. The yellow flowers are borne in a narrow elongated cluster, in groups of two to six, each being about 1 $\frac{1}{2}$  to 2 inches long. The swollen ovary is borne below the floral segments and the fruit is a dry capsule about  $\frac{3}{4}$  to 1 $\frac{1}{4}$  inches long. *Agave utahensis* resembles certain species of yucca, especially *Yucca baccata*, but it is spiny instead of fibrous on the leaf margins, and the ovary is below the flower segments (inferior) instead of above (superior) as in yucca.

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## Forthcoming Meetings

- |         |                           |   |                  |
|---------|---------------------------|---|------------------|
| May 21  | Stapeliads                | — | C. W. Pritchett. |
| June 24 | Summer Show               |   |                  |
|         | Favourite Plants          | — | K. Grantham      |
| July 16 | Bring & Buy Plant Auction |   |                  |





**Agave utahensis**  
(Illustration by Dwight Breitbach)

## Growing and Resting Periods for some Genera in the Mesembryanthemaceae

The following list has been prepared by Mr. J. D. Harding based on a combination of his own and other growers' experience over the years. John Harding has for many years specialised in stemless Mesembryanthemums and he emphasises that growers should study their plants carefully and watch for signs that indicate the plants' requirements. It is obvious from the condition of his own collection that he has done this with considerable success and similar observations used in conjunction with the following list should enable a reasonable success to be made of growing these plants.

<i>Genus</i>	<i>Grow</i>	<i>Rest</i>
Aloinopsis	September to May	June to August
Aptenia	June to September	October to May
Argyroderma	September to January	February to August
Aridaria	June to September	October to May
Bergeranthus	April to October	November to March
Bijlia	September to May	June to August
Carruanthus	April to October	November to March
Cerochlamys	September to May	June to August
Cephalophyllum	June to September	October to May
Chasmatophyllum	June to September	October to May
Cheiridopsis	July to March	April to July
Conophyllum	September to February	March to August
Conophytum	August to February	March to July
Cylindrophyllum	March to October	November to February
Corpuscularia	All year, no rest; give just enough water to stop shrivelling.	
Delosperma	March to October	November to February
Didymaotus	June to October	November to May
Dinteranthus	August to January	February to July
Drosanthemum	May to October	November to April
Ebrachteola	June to October	November to May
Erepsia	March to October	November to February
Faucaria	July to February	March to June
Fenestraria	July to January	February to June
Frithia	March to November	December to March
Gibbaeum	October to May	June to September
Glottiphyllum	August to April	May to July
Hereroa	May to November	December to April
Herreanthus	August to March	April to August
Juttadinteria	June to October	November to May
Lapidaria	September to April	May to September
Lampranthus	May to November	December to April
Lithops	June to January	February to May
Malephora	June to January	February to May
Meyerophytum	September to February	March to September
Mitrophyllum	September to January	February to August
Monilaria	September to April	May to August
Muiria	July to September	October to June
Nananthus	September to May	June to August
Nelia	April to August	September to March
Neohenricia	April to December	January to March
Odontophorus	January to June	July to December
Ophthalmophyllum	August to December	March to July
Oscularia	February to October	November to January
Pleiospilos	July to March	April to June
Psammophora	August to February	March to July
Rabica	June to November	December to May

Rhombophyllum  
Rhinephyllum  
Ruschia  
Scheletium  
Schwantesia  
Stomatium  
Tischleria  
Titanopsis  
Trichodiadema  
Vanzijlia

June to October  
June to October  
May to September  
October to June  
July to April  
March to December  
April to September  
August to April  
July to March  
June to September

December to May  
November to May  
October to April  
July to September  
May to June  
January to February  
October to March  
May to August  
April to June  
October to May

## Raising Mesembryanthems from Seed (Mimicry)

by P. Bent

PRACTICALLY all, if not all Mesembryanthema can be easily grown from seed if the following notes are followed and more or less adhered to. We must firstly remember where and how these seeds grow in nature. Most succulent plants grow close to their parents and therefore grow up under their shade, and do not get burnt, or rarely so. In cultivation the young embryo plants soon indicate if they are given too much or too little light, either by burning (this shows as a bronze colour) or etiolation (stem becomes drawn and lacking in chlorophyll). The clever cultivator soon notices this and remedies it, better still he allows for this and prevents it occurring altogether. In general, shading is given to seedlings of various families; while this is correct for the majority, Mesembryanthema like, and grow better, if they are kept in full sun from the day of sowing onwards. In nature, seeds are washed from the capsule (these open only when wetted) and find themselves somewhat far from their parents, hence they grow without any shade at all! (or very little). In England our sunlight does not reach the intensity of that of South Africa so we adopt this method.

Second we MUST obey growing habits and times. Most succulents can be allowed to grow throughout summer and winter to get them large. This cannot under any circumstances be allowed with Mesembryanthema or they will soon vanish or become bloated and soft. As is known certain genera have different growing times, e.g. Conophytum, Lithops, Pleispilos and Gibbeaum spp. grow at different times. In fact species within the groups can be different and must be catered for. We must ascertain from the plants—and not from books when they grow and rest. This varies according to weather conditions in different parts of the country, temperature given, time of year of sowing, etc., so that NO hard and fast rule can be given.

*Growing medium:* This needs to be well drained and sandy but not too rich. I have found  $\frac{1}{2}$  coarse sand with  $\frac{1}{2}$  J.I. No. 1 to be ideal. Please avoid these No-Soil Composts; these may be all right for cabbages but not for Mesembryanthema.

*Container:* clay or plastic. If plastic, crock well for drainage.

*Sowing:* Sprinkle seed lightly—remember if too close, pricking out becomes very difficult indeed.

*Watering:* After sowing, water well with Potassium Oxyquinolene Sulphate (Chinosol) light yellow solution. This clears all spores and prevents damping off and moulds occurring.

*After attention:* Leave pan on staging without shading, but remember to keep moist. When the seeds show themselves they will be green and remain green. They should remain green.

*Random Plants Raised by this Method*

*Muiria hortenseae:* I had much pleasure in receiving some seed from habitat last year and in sowing it in this manner. I might add that germination was excellent and reached 99%. Despite first suspicions, these seeds proved



*Muiria hortensia*





*Juttadinteria deserticola*

to be true. Early appearance showed up as two flat discs about  $\frac{1}{8}$  in. across. These are fused into one but are in the seed leaves (cotyledons) being two. This early growth is common within the family, especially with *Gibbaeum* which is an old form of *Muiria*. After several months a new pair of leaves grows between these cotyledons and these resemble the plants. After this growth the seedlings must be kept dry whereas this growth absorbs itself into the best body. Only water again when the outer skins are paper-like. Plants of *Muiria* which are occasionally seen as imports are generally difficult to root. I have rooted one after about  $2\frac{1}{2}$  years and now it still looks poor. From seed, some good plants can be grown but great care must be given as these are difficult.

*Juttadinteria* Three species raised from seed. These are much easier than *Muiria* and grow well. *Juttadinteria* is not often seen in collections being still rather rare but they are easily grown. They like plenty of sunlight and should—like all *Mesembryanthem* be grown hard. Remember where they grow in nature.

*Pleiospilos*: several raised from seed, but remember these easily hybridise so be sure seed is true and not home produced from different species. Hybrids among *Mesembryanthema* are useless and should not be produced unless under strict control and labelled so: e.g. *P. nelii*  $\times$  *bolusii*. I do not recommend hybrids as there are plenty of good species without more and more freaks. Fasciation and Montrose excluded as these are natural so too are natural hybrids which are valid.

*Lithops* Lithops are very popular and can with care be raised easily. Their resting periods must be observed. *Lithops* can easily be over grown as can most of these plants so please remember to grow them hard; they will look more natural and survive well through winter and last for many years.

Potassium oxyquinoline sulphate = "Chinosol"

Use solution of  $\frac{1}{2}$  teaspoon to about 1 pint water. Can be recommended for use on Stapeliads and all other succulents.

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## The Summer Show 1969

ON June 24th/25th we hope, as last year, that there will be a worth-while display of Cacti and Succulents at Westminster and that all those within striking distance will endeavour to enter one or two classes at least. Most of the notes and hints I gave you last year are still applicable but there is one exception and also some new classes have been added.

The change is in the class for three *Rebutias* and/or *Lobivias*; the Committee with the Council have decided that this should include *Chilcorebutias* and *Sulcorebutias*. These both can still, however, be shown in the *Echinocactanae* class as well.

The two new classes which we hope will prove popular are those for Three *Gymnocalyciums* and Three *Echinocereus*. There is a very good selection of both these genera in cultivation now and we hope they will come into their own in these new classes.

After the several items of correspondence on the subject of the six *Mammillarias* it is perhaps unnecessary to say more than that we hope to see some of the choicer dwarf members of the genera which have been mentioned in letters and not immature, larger growing types. This also applies to the miniature *Opuntiae* Class where an attractive selection of *Tephrocacti*, to mention but one genera, could be shown.

In the classes for Succulents other than Cacti, as I suggested last year, when in doubt refer to Jacobsen's "Handbook of Succulent Plants" and you will find the genera in different families clearly listed. There are several changes from last year but they should be quite easy to understand. We hope that we shall see a good selection of *Liliaceae* other than *Aloes* or *Gasterias* and there is a chance for the smaller growers to show three plants in *Crassulaceae* as there are many attractive *Crassulas*, *Kalanchoes* and *Sedums* which appear in many collections for a start.

In closing I hope the Show will be well-supported and please help the Show Secretary by sending in your entry form as soon as you can.

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### Small Ads.

"STARTING with CACTI" (with colour), by Arthur Boarder, published by Collingridge at 25s. A complete guide from seed raising to flowering and exhibiting, the result of 62 years practical experience.

# Succulent Snippets

by Sally Cornioides

WELL, it is obvious that some have been reading this column, judging by the comments, snippets and criticism. The member who provided the latter may have only read the title as he considered it solely a gossip column and I sincerely hope it is more than that. I hope to provide up-to-date news and views in the cactus world and to set you thinking and talking on pungent topics. At any rate, if our critic wishes to turn the page others are welcome to read on.

One cutting that the Editor received from several sources but I already had in mind myself was the following "Last Word" from the *Evening Standard*:

"We brought back many interesting botanical specimens from our trip to Mexico. The most fascinating is a self-pollinating cactus literally covered with fierce prickles." From an article in the house magazine of a Chicago chemical company.

That's why it's self-pollinating!

Talking seriously, very little has yet been investigated in the pollination field. We hear of *Rebutias* or *Mammillarias* which produce fruit without the buds actually opening so these, obviously, must self-pollinate. On the other hand it has been proved on several occasions that some species of these same genera will not set seed unless there is pollen from another plant of the same species available. Others still seem loth to set seed at all even with hand-pollinating. I wonder if any members have made investigations in this field and whether they have reached any conclusions.

In the last issue there was a review by "Pisces," I can think of a number of instances when cactophiles have been interested in fish rearing as well and I even visited one greenhouse where convenient bridges spanned the fish-tanks below. The other noticeable alternative to fish is felines and these, too are found with their favourite sun-spots among the collections.

Stamp-collecting was mentioned in the Obituary to Mrs. V. Higgins and here again, is another alternative hobby of many cactophiles. In many cases this hobby is greatly increased by contacts with enthusiasts in other countries, where their selection of stamps is much better than ours. We cannot claim to a stamp with cactus on, but soon there will be a frank with cactus on; elsewhere in this issue there will be details of the latest enterprise of that very enterprising Northern Counties Branch and it is hoped that members will support it well.

To return to the south again, I suppose it was not surprising that my thoughts wandered to the subject of judging as I watched the successful competitors at the 1968 Shows collect their prizes at our recent Annual General Meeting. I reflected on the virtues and shortcomings of judges and judging systems and I was

interested to see that one opinion of mine was confirmed in print a few days later. Writing in the March issue of *The National Cactus and Succulent Journal*, E. W. Putnam observes that one judge's own personal assessment may not be absolutely identical with that of any other judge.

Of course, the phrase 'absolutely identical' can cover a multitude of sins and this is what matters in practice. For example, in the 10th January issue of *Garden News* Ron Ginns writes on judging under the eye-catching headline "It's the Novelties which Get the Showbench Glory". He goes on to make an extreme comparison, that between *Uebelmannia pectinifera* and *Echinopsis eyresii*, remarking that the former will score five points for rarity while the latter will get none and so the *Uebelmannia* will have a commanding lead when 15 points for cultivation are taken into account. He also boldly asserts that unless they are outstanding, the old favourites among cacti and other succulents stand little chance among the flood of novelties.

This prompts me to make two comments. Almost without exception the specimens of *Uebelmannia* I have seen have been in indifferent condition and, although they might earn five points for rarity, they trail badly when it comes to collecting an appreciable score for general condition. It is also significant that the entry which collected first prize for six Cacti at our June Show comprised: *Gymnocalycium kurtzianum*, *Mammillaria neopotisina*, *Echinocereus pentalophus*, *Notocactus ottonis*, *Notocactus scopia v. ruberrima* and *Ferocactus wislizenii*, which even to the inexperienced eye are all quite common species. They were in superb condition and it is evident that the judge, Mr. E. W. Putnam (mentioned above), the Honorary of the N.C.S.S. Shows Committee, had no hesitation in giving them first place.

Talking of *Uebelmannia* species, I admit to being in a state of confusion. I have encountered several specimens labelled *U. gummifera* during my travels and these are identical with the one shown on page 56 of the 1968 Volume of *Kakteen/Sukkulenten*. On the other hand, there is a superb photograph of a quite different plant (looking for all the world like a *Mammillaria*!) on the cover of the February 1969 issue of *Kakteen und andere Sukkulenten* and this also bears the name *U. gummifera*. Within this issue, on page 26, there is a photograph of the plant I know as *U. gummifera* but it has the caption *U. meninensis*. Incidentally, this plant is typical of many of those in cultivation in that it has clearly had quite a number of its spines knocked off and would be downpointed by an unbiased judge.

Carry on with your comments and complaints and you will be hearing from me again.

# Botanist Building Cactus Garden Near Escondido

*Reprinted from the San Diego Union 3-2-69*

*by Larry Freeman*

ESCONDIDO—A man who began plant collecting when he was 10 years old has a unique botanic garden in the making about five miles north of here.

A major portion of the California Botanic Garden will have a strong flavor of the Andes in South America and of South Africa.

Paul C. Hutchison, founder and director, during 20 years at the University of California Botanic Garden at Berkeley, supervised field work on several expeditions to the Andes, notably in Peru, where the terrain, from sea level to 20,000 feet creates a botanist's dream.

*Not ready for Public*

Hutchison acquired 17½ acres of land here in the summer of 1967, cleared it and set out the first of several thousand plants in October.

He cautions, however, that he is not ready for the public, that it will be four to five years before he reaches that point.

His plantings include Andean cacti and proteaceae from South Africa.

He has two organizations for his project. One is the California Botanic Garden of the International Plant Introduction Foundation, tax exempt on the basis of the scientific and educational functions proposed. The foundation operates the Botanic Garden.

His overall organization is Tropic World, Inc.

*Fascinating Life*

His products will include the rare and the new in plants, seed, cut flowers, dry materials, both wholesale and retail. He lists bulbs, cacti, camellias, cycads, ferns, foliage, orchids, palms, perlargoniums, proteaceae succulents, and tropicals.

Hutchison's life is as fascinating as some of his plants, one of which is a Neo Cardenasia, a cactus from Bolivia. He says it is the "largest one in captivity" extremely rare, and is so heavy it took six men to maneuver it into the ground after he brought it from his Berkeley collection.

Hutchison says that by the time he was in high school—he's a native of San Francisco—his collection of African succulents was known as one of the largest. His primary interest was in desert plants and cacti. He imported them from all over the world, especially Africa.

In 1951 Hutchison was chosen to go to the Andes mountains with a UC botanical team, to supervise field work in Chile and Peru for eight months. Another promotion brought him co-authorship with botanist Dr. Thomas Harper Goodspeed of a book on tobacco. Hutchison's next project was the study of Andean cacti.

Advanced into research he became curator of all exotic plants in the garden. He was told to make the collection world famous and to increase the function of the collection for science in teaching and research.

*Sixth Expedition*

In 1957 Hutchison went to Peru and Bolivia on the sixth expedition, studying cacti and other flora.

He began intensive research on Peruvian cacti upon his return. Further work included writing a monograph for the Field Museum, in 1959 he received a John Simon Guggenheim Fellowship to continue his work in United States and European museums. In 1964 he organized and directed the university's seventh expedition to the Andes, personally raising the money for the 14 month project.

Out of these expeditions came products distributed throughout the world. There were more than 40,000 pressed plants, 26,000 of which resulted from the last expedition. More than 10,000 living plants were collected and shipped back to this country.

Some 500 different seed collections were sent to 68 countries and 50,000 insects gathered in largely unexplored areas of the Amazon basin. This research has had an influence on many agricultural hybrids in this country—among them tomatoes, strawberries, corn peppers, avocados and peanuts, Hutchison says.

*Chooses Escondido*

Overburdened with research, Hutchison resigned at Berkeley in 1966, and began to look for a place to put his vast collection of plants. He took eight months, visited even Hawaii. By now he had evolved the idea of establishing a botanic garden, and finally he chose the Escondido area for its soil, climate, and convenience to a major highway.

Last March his corporation bought Pioneer Growers, a nursery in Vista, thus acquiring facilities enabling Hutchison to engage in all types of propagation and to introduce new plants to the trade.

A man of so much nervous energy that he paces the floor while telling of his life and plans, Hutchison says he has cleared 17 acres, cut rough roads, fenced half his acreage, constructed a greenhouse, automated eight acres with sprinklers, made the initial planting of four acres, and planted five acres of cut flower crops.

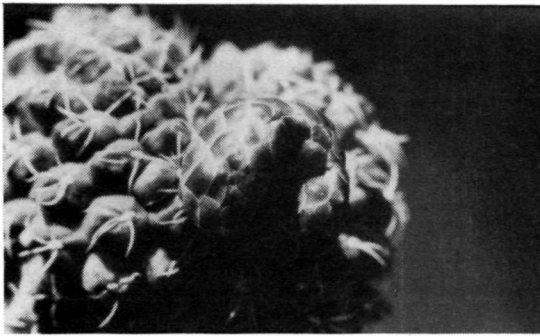
In addition he has prepared space for an additional nursery, probably retail, expanded the Vista nursery four times and its staff from one to 12, and although it was expected to lose money for three years it is now breaking even.



## Oddities

### *Strange goings-on in the greenhouse*

The aim of this series is to report unusual growth forms observed in members' collections. Members are invited to send contributions to the series, preferably including a photograph or line drawing. If any morphologists among our readers can provide an explanation of these phenomena, the Editor will be pleased to hear from them.



## The Cactus Makes British Postal History

THE philatelic minded members of the Northern Counties Branch could trace many British Colonial and Foreign postal items featuring both cacti and succulents but could not recall any occasion when they had appeared in British Postal History. They therefore decided to introduce our favourite plants in the only way open to them.

On June 1st, 1969 at the Northern Counties Show which is to be held in Whitley Bay a special post box will be sited. All letters posted in this box will be cancelled with a special one day only cancellation which will give details of the occasion and incorporate a cactus as the motif.

To celebrate the occasion a special commemorative cover is to be printed. It will feature as the main theme of the design the Society's Badge. In order to cover the cost of this venture the Northern Counties Branch will

No. 9 *An abnormal Flower on Gymnocalycium venturianum cristata* by C. C. Baxter.

It is not particularly unusual for cristate plants to flower; *Mammillaria wildii cristata* often does so. So far as I am aware such flowers always have the normal structure and sometimes set seed from which, seemingly, plants of conventional growth are obtained. Thus, the plant which is the subject of this note does appear to be an oddity and to be worthy of inclusion in this column.

It is a grafted specimen of *Gymnocalycium venturianum cristata*, owned by Mr. Alan Dyson of Bangor, Co. Down, N. Ireland; I have become involved in the matter in the role of photographer and reporter. The two photographs shown were taken in June 1967. At this time the plant had produced one abnormal flower bud which, for want of a better term, can be described as the shape of a horse-shoe. The photograph of the bloom shows clearly that it is, to all intents and purposes, cristate as judged by the disposition of the perianth segments and the stamens.

Later in 1967 16 additional buds appeared, five of which were of this same cristate type. Up to the time of writing, early July 1968, only one bud has appeared this year and this is not truly cristate. In fact, it consists of three buds on a single stem and one of these is significantly smaller than the other two, giving it a distorted and unsymmetrical shape. Consequently, one should term this an abnormal flower. It therefore appears that this plant is capable of producing both normal and cristate flowers in appreciable numbers and, occasionally, an abnormal flower which is somewhere between these extremes. Can any cactophile who has training in morphology or plant physiology offer an explanation?

at a charge of 2/- supply fully serviced commemorative covers.

This is a commemorative cover, stamped, addressed and posted in the special box at the show. To make the covers still more philatelically interesting, the covers will be serviced with Regional Definitive stamps not available over the counters of a normal post office.

The venture has the blessing of the Council of the Society and it is hoped that members will give this venture their support. The cancellation will be quite rare and should prove to be a good investment for the small outlay involved.

All requests for covers to be made to Eric L. Jennison 7 Sandfield Road, Marden Farm Estate, Tynemouth, Northumberland. Requests sent after May 30th should include the additional cost of return postage. A number of covers will be serviced as stock to cover requests from members overseas etc., whose requests arrive after June 1st which is a Sunday.

E. L. J.

Northern Counties Branch.

## Correspondence

To the Editor,

I have often thought that there ought to be a Society for the Prevention of Cruelty to *Ariocarpus*. If it is ever formed I shall have pleasure in proposing the immediate installation of Bill and Betty Maddams as Most Worthy and Exalted Fellows.

I do hope that readers will take their comments to heart (*Journal*, February 1969, p. 7) *Ariocarpus*, *Strombocactus*, *Encephalocarpus* and *Turbinicarpus* have for too long been bracketed with really tricky genera like *Utahia* and *Sclerocactus* by collectors. If an imported *Ariocarpus* is sound it is not difficult to establish. Once established it offers no real problems of cultivation except for its late-flowering habit, which can lead to disappointment. I am told *Aztekium* is just as easy, but have yet to confirm this as I have had great difficulty in establishing small, woody imported plants and have had little useful experience with the cultivation of established specimens.

In the past I have often been proudly shown *Ariocarpus* et al. in collections and have had to conceal my winces. These unfortunate plants have been kept in a state of desiccation for years and frequently are no better than herbarium specimens. Even growers with long experience often seem to believe that a speck of water falling on the plant body will lead to rotting and death.

My *Ariocarpus* collection is not large, but my plants do grow. They are not bloated or untypical, but they are sound and lively. I do not water them in winter, but when the warmer weather comes I treat them like everything else. On hot evenings in June, July and August they are drenched with a hose-pipe, and they love it. I once heard a cactophile say "*Ariocarpus* don't live in our collection they just take a long time to die". This remark is unfortunately true too often, but it need not be.

I would like to add a comment here. Grafting is a most useful technique for cactophiles, used properly, but I have yet to see a grafted *Ariocarpus* or *Aztekium* that was anything but an untypical and bloated monstrosity. These fascinating Mexican cacti deserve to be grown on their own roots.

I would not like anyone to think I am advocating the pumping-up of *Ariocarpi* by the liberal use of fertilisers. The natural growth rates of these plants are slow and attempts to boost them on fast with nitrogenous feeds leads to disaster. My recipe for success with them is a good gritty soil and ample water in the growing season. Growth can be so vigorous under these conditions that the great turnip-like roots will burst a clay pot, but there is no bloating of the tubercles and the natural grey colours are retained.

The Maddams' *Ariocarpus retusus* was indeed a mag-

nificent spectacle at the Croydon Branch N.C.S.S. Autumn Show last year and was a living proof of the soundness of their advice on the cultivation of these plants.

16th March 1969

E. W. Putnam  
Hooley, Coulsdon,  
Surrey, CR3 3RT

To the Editor

Your Editorial in Vol. 31, No. 1, made mention of some readers who did not approve of the new column by Sally Cornioides. I have no objection whatever to the column or its contents, in fact it exhibits evidence of diligent research and deep probing into many publications. I find it admirably readable and a positive asset to the *Journal*.

I do, however, have objections to the use of a "nom de plume". An old song used to run "Who is Sylvia? what is she?". I would be inclined to ask, "Who is Sally what is she?"

Why do writers use a "nom de plume"? Many years ago, female writers used masculine names because it was considered unladylike to write books etc. This surely cannot be the reason for Sally Cornioides! Is she (I assume Sally is a lady) ashamed of her writing ability or afraid of the repercussions from the contents of her writings? I think not. Perhaps the disguise is prompted by modesty? Surely this is somewhat out-of-date in our modern society.

What then is the reason for hiding behind a "nom de plume"? I can accept only two possible justifications. Firstly, that the column is written by the Editor herself, which I hope is not the case. Secondly, that it is written by someone who already contributes much to the *Journal* and prefers not to appear too frequently by name.

I feel that readers of the column may well begin to think too deeply about the identity of Sally and, getting no satisfactory solution, lose interest in the column itself, out of annoyance and frustration. This would be a pity. So let Sally come out in to the open and accept, the praise, or the brickbats, for her writings.

Personally I always prefer to use, at all times, the name given to me at birth.

Yours openly and unashamedly,  
David V. Brewerton,  
Upminster, Essex.

To the Editor,

In my Society job of despatching the *Journals* to *Journal* only subscribers I have received letters from many parts of the world.

I recently received a letter from the United States of America which included the following paragraph:

"Mrs. Stillwell and Mr. Boarder are performing a most valuable service to those of us whose only partici-

pation in the Society is through the Journal and I wish to express my gratitude to them for the material they contribute. It is no small matter to write such informative articles over a long period of time and those of us who benefit are most appreciative."

I am sure that all Members of the Society will wish to join our friend in America in thanking Mrs. Stillwell and Mr. Boarder for their articles which have become such an important part of the Journal.

Alan H. Roberts,  
Sutton, Surrey.

## Book Reviews

*Subik, R.* 1968. Cacti and Succulents, a concise guide in colour. London, Paul Hamlyn, 10/6d.; pp. 266, colour plates 96, text figs. 6.

This is a modest addition to the steady flow of books about cacti, both in size and price. In 96 pages of introduction, well translated from the Czech, Rudolf Subik touches on the historical aspects of cactus collecting and the subsequent development of the hobby in Europe, on the characteristics of the cactus flora of North and South America, and the broad outlines of cultivation.

There are 96 colour plates, well reproduced from paintings by J. Kaplicka, accompanied by short descriptions, notes on habitats and on cultivation. They range alphabetically from *Aporocactus* to *Zygocactus*, and for the "other succulents" from *Aloe* to *Stapelia*, almost all being shown in flower.

Here is a good opportunity for the beginner to reassure himself that his cacti will eventually produce beautiful flowers, and to have a reference book on hand for a small outlay. V H.

A Synonymy of the Genus *Gymnocalycium* 1845-1967. Compiled by E. W. Putnam for The S.P.I. Gymnocalycium Study Group. (The Succulent Plant Institute—5/- (5/6 by post).

Prefaced by a short history of the taxonomy of the Genus *Gymnocalycium* this is a comprehensive synonymy of the genus *sensu stricto* excluding *Neowerdemannia* and *Weingartia* though certain transfers from these to *Gymnocalycium* have been included. It is obvious that the author has studied his subject very deeply and the booklet will undoubtedly be of great value to students of the genus in which, as in many other genera, some confusion in nomenclature exists and should go far to clear up some of the difficulties. While the author points out that there are certain difficulties inherent in a typescript reproduction as against typeset, surely the fact that so much information can be obtained at such a low price makes this method well worth while.

Also received:

Epiphytes—Newsletter of the Epiphytic Plant Study Group. No. 4.

This completes the first year's issues of this booklet

and shows what can be done when a number of people interested in one group of plants get together. Anyone interested in Epiphytic Plants would do well to subscribe to this journal at the cost of 16/- per annum.

Essex Succulent Review—Published by the Essex Branch of The Cactus and Succulent Society of Great Britain.

## Secretary's Notes

The most important item in this issue's Secretary's Notes is of course the Annual General Meeting, which took place on the 26th February at the R.H.S. Hall.

This was preceded by the presentation of cups and trophies etc. for the year 1968. In addition the Ibbotson Cup was presented to the Society in memory of the late George Ibbotson, by his nephew. This cup will be awarded for the class Six Cacti, at the Society's June Show.

Mr. I. F. Newman regretfully tendered his resignation as Hon. Treasurer due to other commitments, and Mr. R. H. I. Read agreed to take on this position in his stead. Mr. Clare was officially elected Secretary in place of Mr. D. V. Brewerton.

Mrs. Watt intimated that ill health and domestic affairs required her withdrawal from the Council and there being also further vacancies due to the switch in officers the following were elected to fill the Council vacancies: Mr. H. Auger, Mrs. H. Hodgson, Mrs. B. Maddams and Mr. I. F. Newman. The two Auditors, Messrs. J. Taylor and A. Cole having expressed their desire to resign from the Auditorship, the appointment of new Auditors was deferred, but in the meantime Mr. Renshaw and Mrs. B. A. Baldry have agreed to act and their appointment will be confirmed in due course.

The draft revised rules, having been circulated, were then brought up for discussion, but owing to the lateness of the hour the meeting was adjourned and this matter will be fully discussed at the resumption of the meeting. (See notice below.)

The Society are planning to have a stand at Chelsea Show this year and though there will not be much time once this Journal is in your hands Mr. Clare will be glad of further offers of help.

### ANNUAL GENERAL MEETING

Following the adjournment of the Annual General Meeting on the 26th February, 1969, this meeting will be resumed at 6.30 p.m. on Wednesday, 16th July, 1969 at the R.H.S. Hall, Greycoat Street, S.W.1. when the Draft Revised Rules will be discussed, amended if necessary, and approved.



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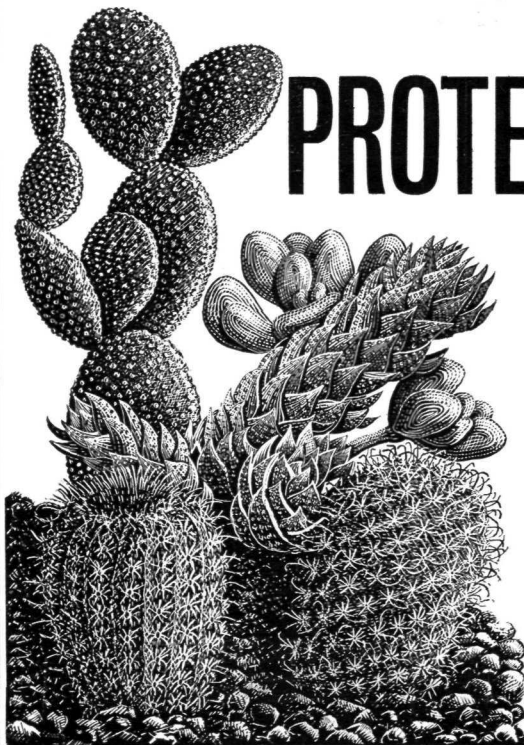
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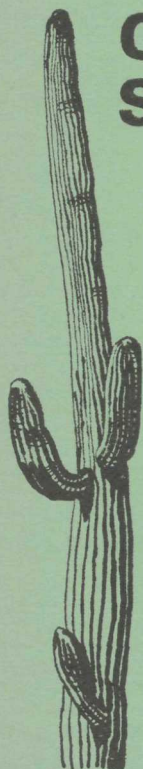
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# THE CACTUS AND SUCCULENT JOURNAL OF GREAT BRITAIN

Vol. 31

August 1969

No. 3

## Editorial

IT WAS WITH great regret that I learnt of the death recently of my opposite number in the National Society, Chris Pitcher, Editor of the National Journal, and I am sure his many friends in the G.B. Society will be very sorry to learn of this. Unfortunately the news reached me too late to enable me to publish a proper Obituary, but I hope to do this in the November issue.

On a happier note I am glad to learn from our Membership Secretary that we appear to be starting up a flourishing colony of Members in Hong Kong, largely due to the energetic work of Mr. Tjio Soendji who, incidentally, decorates his letters with most charming little drawings of his plants. Mr. Tjio Soendji has asked that his best regards should be conveyed to all Society members so I take this opportunity of passing on his message.

As mentioned in the May issue, the Society this year for the first time took a stand at Chelsea on an independent basis. The plants were supplied by various Branches

in the London area to whom thanks are due and particular thanks must be expressed to the North Surrey Branch for their very large contribution. The stand, which contained a good variety of cacti and other succulents, many in full flower, aroused considerable interest and the stewards were kept busy answering enquiries, many of which showed that a large number of people were seriously interested in succulent plants. Of course, we heard a number of uncomplimentary remarks from passers-by, such as "Ooh, aren't they horrid!" or "How I hate the things", but it is obvious that an increasing number of people are beginning to feel the attraction of these unusual plants, and we can only hope that a number of them will join the Society. Certainly, a brisk trade was done in the sale of the Society booklet. The Society's thanks are due to Mr. Clare who organised this operation, and who has written a few notes on it which appear on page 62.

E.M.D.

## Cultural Notes

*Cacti—by A. Boarder*

BY THE TIME these notes appear all cactus seedlings should have been pricked out. It is not possible to give any firm dates as to when this should be carried out as some kinds grow much faster than others. There are also a few particulars which have to be considered as to when this task should be done. Sometimes the seed pans get covered with mosses and it is then imperative that the seedlings are moved, maybe earlier than would have been necessary had the top of the soil remained in good condition. Some growers transplant when the seedlings are very tiny, but although this may succeed in some cases I think that it is better to wait until the cotyledon or food bag has been absorbed. It is then that good roots are formed whereas the first tiny roots are so delicate that they could be broken very easily when the seedling would die.

There are several types of plastic trays on the market at the present time and these are quite good for pricking out the seedlings into. I do not like wooden boxes for this purpose as they can hold diseases and pests and it is the usual happening that the sides warp away from the soil and then when water is given it runs away instead of soaking into the earth. I use boxes I have made with concrete which are everlasting and never warp at the sides. Once the seedlings have been transplanted it is a good plan to water with one of the solutions to prevent

the damping-off disease, such as Chinosol or Cheshunt compound. Not that I think that there is much fear of this trouble at this stage. It is when the seedlings are very small and tender that damping-off can occur. For most types of cacti the seedlings should be placed about an inch apart. They should be shaded from the direct sunlight for the rest of the year, as if they receive too much direct sunlight they can turn red or bronze and will then cease to grow. It may then be a long job to get them going again. Although it is not wise to allow the seed pans to dry out whilst germination is taking place, it does not matter so much once the seedlings are large enough to prick out. A fair watering when the picking out has been done will ensure that no more need be given for about a week, according to the weather. If the soil remains too wet for a long period after pricking out, the seedlings do not appear to send out fresh roots as quickly as if the soil had been a little on the dry side for a few days once the initial watering had been done.

If any shading had been used on the greenhouse glass this should not be removed until near the end of September. By then the sun may have lost most of its power and the extra light to be obtained by the clean glass will benefit the plants. If the shading was of the "Summer Cloud" type, it is probable that by this time of the year

it will have become somewhat faded and can be easily washed off with warm water and a sponge. There is no doubt in my mind that if one is available throughout the day to apply sunblinds, this is the better way to shade. It is a well-known fact that as soon as one puts on semi-permanent shading the weather changes and no more sun is available for days. Even if no shading has been used it is imperative that all glass either in greenhouses or frames should be well cleaned before the winter as it is essential for the health of our plants that they get as much light as possible, especially during the short days of winter.

Towards the end of this quarter, it is probable that many plants will no longer require watering. I normally carry on watering right through October, but a lot depends on the weather. Often it is quite warm on several days during this month and so I am sure that many of the cacti will benefit from an occasional watering. However, one needs to be a bit of a weather expert as it is no use giving a lot of water near the end of October if the weather forecast is for dull or wet weather. Most cacti in pots soon dry out and so they are likely to be able to use up any reasonable amount of water before the weather gets really cold.

There is no doubt in my mind that watering is the main problem with the successful growing of cacti. It does not seem to matter very much what kind of potting soil is used, the main problem is the watering. I have grown, and know of many other cases, where cacti have been grown in ordinary garden soil, in pure sand, in burnt clay, in soil-less composts and in fact you name it, they've had it. In many cases success has been achieved but only if the watering has been carried out correctly. After all, no cactus plant can take in nourishment unless it is in a liquid form. All the fertilisers in the world are of no use to a plant unless they have been dissolved and so are capable of being absorbed. I have seen some collections of cacti which look like a number of fossil plants and appear to have never had a proper watering in their lives. They look as if they are crying out for a good drink and their owners are of the opinion that they will grow and flower with none or very little water. So many people are convinced that these are desert plants and so give them little or no water. I have never seen the actual areas where most of the cacti grow but I have seen very many coloured photos and slides of such places. These are to my mind not deserts at all. The only real desert I know is the type I found when in Mesopotamia (Iraq), during the First World War.

I had to journey many miles from Bagdad to Khanikin, on the Persian border, and there experienced what a real desert was like. For miles and miles nothing but sand, no trees, shrubs or even a piece of grass were to be seen. Nothing grew away from the rivers Tigris and Euphrates. A certain amount of irrigation was carried out near these rivers when date palms and a

few vegetables were grown, but apart from those areas it was just burning hot sand where nothing grew. No scent from any flowers, but plenty of other smells which made the smell of some of the *Stapelias* of our collections smell like roses. I think the worst smell there was that of a dead camel, rotting and uneaten by the jackals and hyenas. At the time I made my journey there were thousands of refugees coming down the country from Kurdistan and North Persia with camels and donkeys carrying their old people and children. They had come so many miles across the desert that many people and animals died on the journey and the usual carrion eaters, such as birds and animals were sated with food and so much putrefied in the scorching sun.

It seems fairly obvious to me that cacti could not survive in such a desert as that, and appear to exist in prairie type country where there are at least some forms of trees, shrubs and coarse grasses. I feel certain that when I only had a few plants to look after they grew much better on the whole than mine do now, when I have so many. It is very difficult to give every plant among about a 1,000 sufficient water to keep it growing for most of the summer months. I am sure that very small pots can dry out within a few hours in a greenhouse which is very exposed to the sun. One small drop of water to fill the top of the pot is rarely sufficient and it is necessary to water again once the first watering has soaked in.

The removal of seed pods may be carried out at this time of the year. Most *Mammillarias* will have red pods which shrivel when the seeds are ripe. The *Dolichotheles* however have pods which remain green for a long period and it is not until the following year that these pods shrivel and turn pale brown. Some of the *Mam.* pods can be left on right through the winter and will make it much easier to remove the seeds once the casting has dried well. The only danger in leaving the seed pods all through the winter is that if the atmosphere is at all on the damp side some moulds can form on the pods and also at the base a very convenient spot will be found in which mealy bug can thrive.

A pest which may cause trouble in the seed frame is the ant. I have sometimes found a seed pan covered with fine soil which has been carried up from below by the ants and any seedlings have been completely covered. A good sprinkling with an ant powder usually drives them away. Most of these powders contain D.D.T. and few insects can tolerate this. Sometimes woodlice will congregate under pots and can eat tender seedlings or soft tissue plants. These can be trapped by placing the peel of half an orange or grape-fruit about on the staging. An inspection in the early mornings will usually find some of the pests. Another way of killing them is to sprinkle Paris green on bran, which has been slightly damped. I have not tried using pow-



dered Meta fuel for this purpose but this will kill slugs effectively, and so could also kill woodlice.

Now is a good time to repaint the greenhouse so that no leaks from the roof are likely during the winter. The worst spots for drips are where the glass meets the glazing bars. The changing temperatures of the glass through the summer can cause slight cracks to appear between the glass and the bars. Before actually painting it is necessary to seal these parts. An undercoat can be applied and then fresh linseed oil putty forced into the cracks. Another coat of undercoat can then be added before the top coat is laid on. I have used aluminium paint for the top coat for many years and find that it lasts better than anything else. The newer types of paint such as polyurethane could be very good for this purpose but up to now I have not used this kind and so cannot give any opinion, but think it worth a trial.

Any cacti grown in living rooms can be carefully inspected to see that the soil is in good condition. If not, the plants should be repotted so that they have a good chance of going through the winter in safety. Such plants do not usually get enough real light and fresh air to thrive well and so it is very important that every chance is given them to at least keep in good health until the spring. Most cacti in the house will benefit from a good spraying with clean rain water, but see that some protection is supplied over the soil to prevent the earth from getting too wet. Also do this on a bright day so that the plants soon dry out.

I hope to describe various methods of heating greenhouses and frames in the October journal.

---

## Cultural Notes

### *Other Succulents—Mrs. M. Stillwell*

AT THE TIME of writing, we are enjoying some glorious summer weather, and the plants are finding it ideal and are giving of their best.

Mr. Harding's guide to the growing and resting periods of the Mesembryanthemaceae should prove helpful, although of course, it can only be a rough guide, as the growth of these plants depends a lot upon the amount of sunshine and good weather we have, together with growing conditions and locality. It takes years of experience and many casualties before perfection can be obtained. Once one has studied the life cycle of each individual species in one's collection, it should be possible each year to watch for the different stages to take place, and by this to know when a plant requires water and when it is going to rest. The plants themselves will show quite clearly when all these phases take place, and it is not possible to work too closely to the book; you can only use these watering and resting charts as a guide whereby to observe your own plants, to assess if they have reached the indicated stage.

There is nothing more beautiful than a well grown collection of Mesembryanthemums with a good firm texture and plenty of colour. They are not plants for the impatient grower who likes his plants to grow at a fast rate, as most of the real gems remain small for many years and this is part of their charm.

I have once again flowered *Cheiridopsis candidissima* this year. This is only the second time in over 20 years. It has quite a large pale yellow flower that stays open for quite a long period.

I have just planted out two large pans with *Lithops*, placing the various similar species together so that the variations in the colours can be examined at close



*Conophytum notabile*

quarters. They are surrounded by matching stones and the whole thing looks very pleasing to the eye. I prefer to use clay pans to plastic as they look more natural for the purpose.

The *Conophytums* will look very dried up during the resting period, but this is quite natural, and they should show signs of growth about the end of July, with a few exceptions. *C. notabile* is usually in full flower at the beginning of July, just in time for the Branch show.

We have just had a Branch competition for Murals to be used as a backing for the show benches and have had some magnificent results from the members. Mr. H. Newland of Yiewsley has painted a most realistic desert scene complete with plants, and our Chairman, Mrs. C. Marshall of Slough, has absolutely excelled all expectations with a mural 18 feet long, showing

glorious blue skies, mountains and desert full of cacti and succulents, all in full flower. You can almost feel the spines they are so real. The whole effort took seven weeks to complete, and should be the talk of the show. It may give other branches ideas, but be careful that plants depicted come from the same localities. If you were able to come to the Windsor Show on July 11th and 12th, you will have seen what talented members we have.

The dwarf *Aloes* are proving very popular at the moment, as most of them flower while quite young. *Aloe humilis* can easily be mistaken for a *Haworthia* until it produces the pretty reddish flowers. *Aloe bakeri* has a pretty marked leaf and clusters very quickly. It is a native of Madagascar. If you have plenty of room or a large conservatory, some of the larger *Aloes* make really handsome plants. My large *Aloe mitriformis* blooms regularly every year with a handsome spike of red flowers. A very beautiful one that I have always been glad of is *A. concinna* from Zanzibar. It forms several rosettes on stems. The leaves are flecked with white markings. It can easily be broken up and restarted if its branching habit begins to take up too much room. They do need a certain amount of space between the pots, as the tips of the leaves bruise easily if allowed to touch one another. Give plenty of water during the summer and not too much strong sunshine; keep them looking fresh by removing any dead leaves as they appear at the base of the rosette. *Aloes* seem to keep fairly free of pests and also are grown from seed without much difficulty.

Last summer I lost the seed from my *Euphorbia obesa*, as it became ripe while I was away and not being covered with a piece of fine net, the pods duly burst and the seed was ejected to various parts of the greenhouse. Last week, I noticed a nice little *E. obesa* seedling growing quite happily in the centre of a pot of dwarf *Crassula*. I shall leave it there while it is doing well; let's hope the other seeds landed in pots and will eventually come up. Always cover your *Euphorbia* seedpods when getting nearly ripe if you wish to keep the seed. Use something such as a piece of fine net material, so that the plant can breathe and receive plenty of light. I would not recommend plastic bags as they hold too much condensation and would possibly delay the ripening of the seed.

Make the most of the summer months to do any necessary repairs to the greenhouse, such as interior repainting, for most of the plants will be quite happy standing outside for a few weeks while this operation takes place and often look all the better for a good down-pour of rain. Take the opportunity to examine each individual plant before taking it back inside, and make sure that no odd slug or snail has crept into a pot during the sojourn outside; also earwigs which can prove a great menace. Any plants not looking at their best can be left outside for the rest of the summer or even planted into the garden. This often gives them a new lease of life. I always hate to throw away a sickly plant and like

to give it a last chance to recover and outdoors away from the healthy plants seems the best thing.

Finally, if you have not yet been on holiday, do make sure when you go to leave all the windows open and plenty of fresh air in the greenhouse so that none of the plants get scorched and dried out too quickly. I always throw down one or two buckets of water just before leaving; it creates a steamy atmosphere to start off with, and I find it is better to leave the plants to their own devices rather than get a well-meaning friend to look after them.

---

## Another Show is on the way

IT IS HOPED that the September Show, being a week later than last year, will be better supported this time. The Show Committee have made some changes in the classes which should give a chance for some plants which are not so often seen on the show benches to be exhibited. The classes that are the same as in 1968 need not be explained further apart from a reminder that in the pot restricted size for Echinocactanae the plants the judges will look for are the dwarf growing species such as *Turbinicarpus* and the small *Copiapoa*s such as *C. humilis*.

Class one is a new one which it is hoped will attract both those who have previously exhibited six cacti and those who have just tried three and, remember again, good balance and varied genera help towards the prizes. In class two there is a chance to show some of the beautiful Coryphanthas, Thelocacti and even Ancistrocacti which members have in their collections and have not earned a special class in this show before, and in class seven there should be some good examples of the varying species of *Espostoa* and *Oreocereus*. It should not take too great an effort to transport one of these latter plants.

The changes in the Other Succulent classes are really self-explanatory; classes for *Aloes* and *Haworthias* are generally well-supported and we hope this one is no exception. Most collectors also have *Kalanchoes*, *Senecios*, *Echeverias* and *Dudleyas* worthy of showing and, if you do not care to carry large plants of this type about, there are a number of choice dwarf growing species.

A reminder again please to read your schedule carefully and check on the number of plants required and see they are right for the class (an *Adromischus* was seen in a *Mesembryanthemum* class at a recent National Show!). Finally, please do help the Show Secretary by sending your entry in as soon as possible—she has a good deal of work in the last week before the Show, and remember, entry fees *must* be enclosed with the forms.

B. Maddams,

For The Show Committee.

# The Succulent Plant Collection at Kew

by E. W. Macdonald

THIS COLLECTION was first mentioned in the records of the Gardens in 1768, when it consisted of "111 different species". The glasshouse containing it was a lean-to structure which occupied a site near the present Temperate Fern House (No. 3), and was heated by hot air flues. The nucleus of this collection originated principally from plants imported from the Cape of Good Hope by Mr. Bowie, after whom *Bowiea volubilis* was named.

Later, considerable increments in the collection necessitated a larger house, and a span roof glasshouse about 200 feet long and 30 feet wide was built to accommodate them. This was the first "No. 5 House". A wide central path ran the whole length, and occasionally, when it has been necessary to excavate holes for planting large specimens, remains of the original cast iron heating pipes have come to light!

This house served its purpose, presumably, but eventually, a new one was constructed in 1905 on the same site. The old central path was superseded by a peripheral path, separating the large centre from the side benches. This house was constructed with an iron framework with wood frame insets between the rafters, and with a "lantern" style roof.

This house eventually deteriorated, and it became necessary to construct the third "No. 5", also on the original site. This present structure, of aluminium alloy, was designed to allow the maximum use of available light, and was opened to the public in 1953.

The collection was further augmented in 1929, by Mrs. Sherman Hoyt of Pasadena, California, when she presented to Kew the large exhibit of cacti which she had shown at Chelsea. For housing this collection, she financed the erection of House No. 7A, which was completed in 1931, and which commemorates her gift by its title "The Sherman-Hoyt House". This house has a feature which was, until recently, unique—a wall painting depicting a scene from the Mohave Desert, painted by a Californian artist. The rockery, of Old Red Sandstone, constructed in front of the painting was so arranged to imitate the natural contours of the mountain ranges and foothills, that it blends in to make a homogeneous effect—that is, if the viewer can exclude from his vision the long panel-covered girder and the foot-rail along the front!

In 1935, a house for South African succulents was constructed parallel to No. 7A, and enumerated as No. 7B. This is devoted largely to the "mimicry plants"—such genera as *Lithops*, *Opithalmophyllum*, *Argyrodema*, *Conophytum*, etc. Only close observation will determine which are the plants and which are the stones surrounding them.



Sherman Hoyt House, Kew Gardens

Quite recently, it was considered that a separate house should be provided for the epiphytic cacti such as *Rhipsalis*, *Epiphyllum*, *Schlumbergera* and kindred genera, where slightly more humid conditions would be provided and House No. 7, adjoining the Sherman-Hoyt House was selected for this purpose.

Many of these plants are growing in baskets suspended on trellis supports, to emulate their natural position on trees in the forests of Brazil and Central America.

From the modest collection of 111, in 1768, the number of different species and varieties now growing at Kew exceeds 3,350. The families represented cover over 300 different genera, the largest being the Aloes (over 260 species) and the Conophytums, with over 200 species.

Plants at Kew are obtained from many sources, principally by exchange with other botanic gardens throughout the world, and others from private donors. The most important acquisitions are from "the field", i.e., collected in the wild by botanists. Much of this material is of "Type" rank, and therefore is of great value botanically, but not necessarily intrinsically.

During the summer months, many of the plants are utilised for outdoor display. The narrow borders alongside No. 5 House are planted with *Lampranthus* and similar genera, which make a colourful display if and when the sun shines! On the west side of No. 5 House, a rocky plain is utilised for bedding out succulents, and many of the plants derive benefit from this treatment by stronger growth and more vivid coloration of leaves and stems. At rear of this rocky plain is a narrow border devoted to *Opuntias*. Last autumn, as an experiment, it was decided to leave them outside all the winter and see if they survived. As a result, about three



out of every four survived the cold winds and drenching rains.

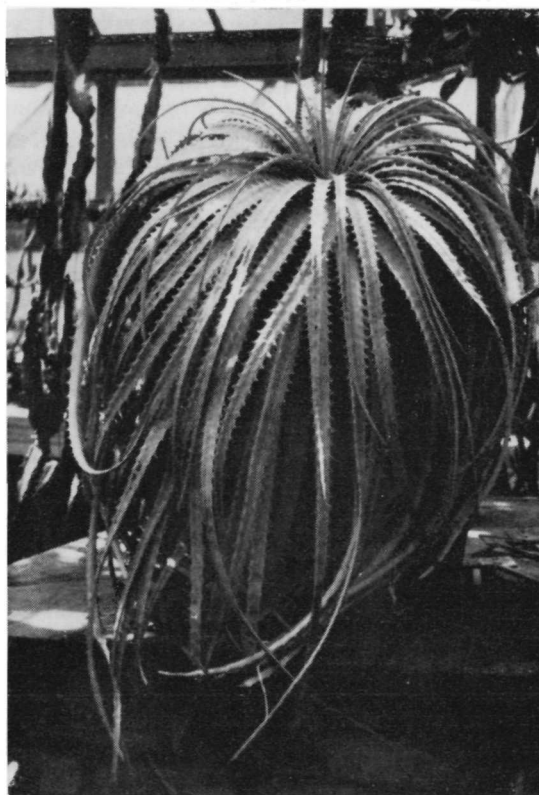
To members of the general public, succulent plants may be a source of mild interest or amusement, or unhappily they may satisfy a vandalistic urge, which takes such forms as damaging the growing centres of cacti; cutting them "to see if water spurts out" (sic) or even setting fire to the bristles of an "Old Man Cactus"!

To members of the cactus societies, on the other hand, the collection stimulates, as one might expect, a more intellectual reaction, and this, in itself, would justify its existence. But the fact must never be lost sight of that the primary purpose of any botanic collection is that of scientific study, and a great amount of research on these plants is in progress, particularly in the field of cytology, which will prove of great value to taxonomists, plant physiologists and others. Even this laudable purpose can be hampered by those people who regard it as a great joke to "swop" labels round, or to remove them—presumably "for kicks". The recent theft of an aloe which possessed double the normal number of chromosomes has hampered research because it was required for further observation and study.

Not only have the above-mentioned hazards to be contended with, but in addition, it has been found necessary in recent years to protect drug-producing



*Agaves in the Succulent House*



*Hechtia argentea*: this specimen is over 100 years old, having been exhibited in Paris in 1864

plants, such as *Lophophora williamsii*, from persons who find it necessary to seek psychedelic satisfaction to compensate for their own innate inadequacies!

The Kew Collection has proved its usefulness in the cause of economics, medicine and the arts. Agave leaves have been tested in sisal fibre production; aloe juice for medical research and euphorbia latex in the fight against cancer. In the world of art and design, the grotesque shapes of many of the plants have proved an inspiration to textile designers and art students in their pursuit of new forms.

Although the collection is the largest in the country, it is perhaps necessary to correct the erroneous impression that "Kew has every species known". This is certainly not so—in fact it is very doubtful whether any collection in the world could make this claim. Any collection is limited ultimately by the restrictions of space, time, labour and resources, as most amateur growers are only too well aware! The Kew Collection is also limited in this way too, and it should be emphasised in conclusion that the glasshouse space at Kew devoted to succulent plants, is, bearing in mind the vast number of other plants in cultivation in the Gardens, a very generous allocation.

# The Genus *Lithops*

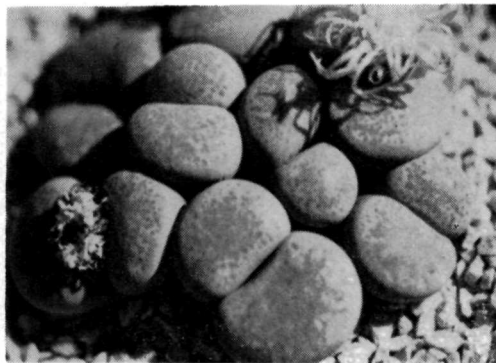
by Peter Bent

PRACTICALLY everyone who has the slightest interest in succulent plants knows what a *Lithops* is like. Many species are seen grown in collections and frequently under the wrong name. By this, I am not referring to the naming of De boer and Boom but by completely wrong naming. Most species are recognisable (within reason) and such mistakes should be avoided wherever possible. Photographs of some of these are included with this article but obviously they cannot do justice to them; only coloured transparencies are really acceptable and then only if some guide to size comparison is given. Some species are similar except for size, although these are generally varieties of the type.

A historical note may be interesting concerning the discovery of the first *Lithops*. Burchell gives an account in Schwantes from his book "Travels in the Interior of Southern Africa" and states how he picked up what he thought was a stranded shaped pebble to find that it was a plant! This happened on 14th September, 1811, at Zand Vley in the Prieska district south of the Orange River, an area well known for mesembrianthemums and other succulents. This same plant is known as *L. turbiniformis* and forms one of those easily distinguished species. Heads grow to a diameter of about 1 in. and are purplish-brown with much roughened top.

Before going too far, let us consider the two groups which are valid today: *Xantholithops*—yellow flowers, fissure not deep and *Leucolithops*—white flowers, fissure sometimes quite gaping.

Unlike *Conophytum*, which have flowers of various colours, the *Lithops* make up for lack of colour by body coloration which can be very variable, ranging from all green in *L. viridis*, through brown in *L. terricolor* to red in *L. optica* forma *rubra*, passing through most other intermediate colours. It should also be pointed out that

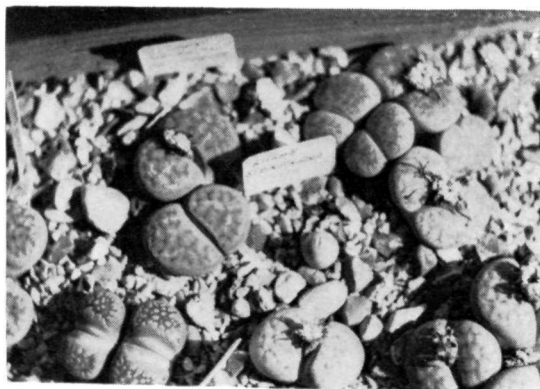


*Lithops localis*

the size of clumps and whether in fact they do clump depends on species. For example, a plant of *L. olivacea* can have a great many heads while that of *L. fulviceps* may get two. The size and number of heads then, having reached the normal, remains unchanged, new heads only being formed when others die. The phenomenon is also known in other mesembrianthemum species, particularly in the *Argyroderma* and *Dinteranthus*.

I think a comment or two must be made concerning cultivation. Within recent years (with the advent of plastic) large bloated specimens have appeared on the show bench, and it seems a great pity that they should be grown like this; they are completely out of character and must be considered likely to rot. In some cases these have been given a 1st or 2nd award above a really well grown tight clump—this is a great pity and often leads to false ideas among the less experienced collectors who may see them.

This leads directly on to what containers are best and what soil to use. Clay is without a doubt the best (I know many readers will write in, but I have seen both types in use and have drawn my own opinions, for what they may be worth) and may be either pots or bowls. I've tried both methods, firstly starting with single pots and then removing them into pans. One obvious factor here is watering, but I have found most species grow at about the same time (with the exception of *L. optica* and forma *rubra*, which grow much later into the year). Those of you who may have been at some shows may have seen my own plants on the A.S.P.S. stands. The soil used must be very open and a good mixture would be half J.I. No. 2., and coarse sand. Note: on account of contractile roots the bodies may get pulled down, but this is natural and if there is plenty of grit around their necks they will come to no harm.



*Mixed Lithops*

In nature that is normal and it affords protection against birds and animals and also by being below ground, protection from the burning sun.

As regards watering, they need water during the summer months, only after the old body has been reduced to a dry skin. The resting time occurs after flowering—or if the plant has not flowered—around about September. During this time, no water must be given as the roots are non-functional during this period and water could quite easily set up rot. For the sake of tidiness and also for protection against rot forming, old leaves should be removed. This can be carried out easily after they have become papery. Please do not be too soon doing this as damage could occur.

Care of imports: From time to time, imports may become available although there are a sufficient number of plants and seeds over here to render importation unnecessary. Nevertheless some imports are seen. The following hints may be found useful for any imported plants.

1.) Check for any pest, rot damage or any other obvious disorder. (Although the plants should be basically free from pests, they do occur and should be destroyed IMMEDIATELY as strange insects could be introduced with disastrous effects. Any rotten parts must be cut away. With some mesembrianthemums (*Muiria* being an example) if the plant is soft and rot is suspected, remove the outer layer (this is the old leaf coat) and you will be left with the new body in perfect condition. Here the old pair has protected the new. This is only evident from experience, but if the old leaves were not removed the plant would surely have died.



*Lithops fulviceps*

- 2.) Let any cut surface *completely* callus before potting.
- 3.) Pot in open soil and top dress well, and above all shade from strong sun for a few days to prevent blistering (plants have been dark for several days, therefore suffer from lack of chlorophyll).
- 4.) Water sparingly and give bottom heat to promote quick root formation if the plant is in its growing period.
- 5.) If plant is resting (i.e. old leaves still fleshy and new leaf seen), then withhold water until growing period has been reached and then as above.
- 6.) Next season, or season after that acclimatisation may have taken place and plants begin to grow at normal intervals for the particular species.

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## Grafting

by Margaret J. Martin

THERE ARE collectors who believe that one should never graft, it is unnatural. It is, but it is equally unnatural to grow a desert plant in a pot under a grey English sky. I am not advocating the grafting of all plants, but I believe that a plant growing on something else's roots is better than a dead one. Most of us have a few plants that are "non-doers" and these cacti benefit greatly from the grafting knife. I have a couple of *Parodias* that used to lose their roots at least once a year; as a result they developed nasty scars where growth suddenly stopped and started. Now that they are grafted, they flower happily without causing me any trouble. While grafting is useful for difficult plants, I find that the main use of grafting is in propagation.

Many of the seedlings that I have bought through the post have had narrow, woody necks and dried up roots. My experience is that these plants never do very well unless I get rid of the dried up bases. I have had con-

siderable success at beheading the plant and re-rooting the top. But with small plants it is better to graft. The grafted plant grows quickly and when large enough to remove and re-root, sufficient tissue can be left on the stock to send off "Pups".

I have read of growers grafting seedlings almost as soon as they have germinated, but have never had any success myself with such infants. I have speeded up the growth of pea-sized seedlings. Grafting is useful for *Copiapoa* and other slow Cacti.

Perhaps I have been fortunate but my grafted plants look little different from those growing on their own roots. I have flowered most of those of a size to flower—*Astrophytum asterias*, species of *Neoporteria* and *Parodia* as well as one or two *Echinocereus*.

Most books on the cultivation of Cacti give a list of grafting stocks. Some of these suggestions are good, others not so good. Either the stock rots easily or you

simply have not got it. Since I have not got pans of young *Trichocereus* waiting to be beheaded, I have to use what is available.

This is a personal list and the stocks that work so successfully for me may fail elsewhere. To start with three stocks which have often failed:—

1. *Pereskia* This is due to not having a plant large enough to produce really thick new growth.
2. *Echinopsis* Off-sets seem to rot very easily.
3. Imported plants which are on *Myrtillocactus geometrizans* rarely last because my greenhouse temperature is not high enough.

However, there are enough other plants to allow us to ignore these. The “classic” grafting stock is *Trichocereus*. This is undoubtedly useful for large plants but no better than *Cereus*, *Cleistocactus* or *Corryocactus*. For small plants, there are better things than *Trichocereus*.

One of the best grafting stocks for large seedlings is *Aporocactus mallisonii*. I cut the non-woody growth into 3 in. lengths; when rooted these will take seedlings up to the size of a halfpenny. Equally good are young shoots of *Nyctocereus serpentinus*. I cut my sprawling old plant into sections of about one foot. The stems were too dry and woody for grafting but they sent out plenty of side-shoots which were ideal. If a young plant is very dried up, it needs a really juicy stock. Stems of the vigorous sprawling *Echinocereus* are excellent. I have used *E. procumbens*, *E. salmodyckianus* and *E. dubius*.

Very tiny seedlings need slightly different treatment. Young plants of *Eriocereus* and *Epiphyllums* are good for small fry. I had some nondescript *Epiphyllum* seedlings which were taking up a lot of space. They made excellent grafting stock.

Finally *Opuntia*; the very young “ears” are excellent for small plants and the large pads if still juicy are also



*Neporteria taltalensis*

good. In fact, I have kept *O. robusta* going purely for grafting stock. *Opuntia* seedlings have cylindrical “necks” and it is very easy to graft onto this thickened section of the stem. My only failure was *O. cylindrica*. The cut surface dried back and formed a deep hollow, throwing the scion off in the process.

This is a short list of plants. Many more could be added to it. I suspect that almost any vigorous *cereus*-like plant would do very well. It is one way of using those pretty young plants which grow into rather tatty columns.



*Gymnocalycium mihanovichi*



*Astrophytum asterias*



# Notes from California

by Richard Russell

MY NEW INTEREST seems to be Epiphyllums and related genera. For years I've kept a few Epiphyllums, a couple of Rhipsalis and a few assorted Zygocactus. Then I don't know what happened. I guess a few of my Epiphyllum hybrids started throwing out their fantastic, giant flowers, and my interest sky-rocketed.

I have purchased Epiphyllums from the Johnson Cactus Gardens in Paramount, California (they are now moving down towards San Diego), but I read that the Beahm Gardens (famous growers of Epiphyllums) are still going strong. So I wrote for their catalogue, and upon its arrival I ordered about 40 plants. Their delivery was very rapid, and the cuttings arrived in perfect shape.

I have planted my new Epiphyllums in a mixture of one-third steer manure (sterilised), one-third leaf mould and one-third vermiculite. The latter I find the best possible material for aerating the soil. It is very light, and it does not decompose. The resultant mixture is extremely light and fluffy, although rich in organic matter.

Already, my Epiphyllums are sending out two and three foot branches, and these are the branches which usually bloom the following year (new growth does not produce flowers in Epiphyllums). I must say that the Epiphyllum flowers are about the most magnificent thing in the plant world. As I write I am looking at a plant of *Hermosissimum* which has produced three huge flowers this morning. The plant is only two years old, and its flowers are the equal of any orchid.

I have about 40 hanging pots which I keep under trees. These are planted with various varieties of Zygocactus, basket-type Epiphyllums and Schlumbergera. The Zygos and Schlumbergeras are becoming quite popular here in Southern California, and the local commercial nurseries (visited by the general public) continue to come out with new offerings. Within a few years a hanging basket of Zygos or Schlumbergeras makes a beautiful hanging mass of joints, which take on an almost unreal look when they bloom. The Christmas type are particularly appreciated, since they produce flowers when little else is in bloom.

All Epiphytes seem to take the California weather quite well, although they will not, of course, accept the full sun. Therefore, I grow them under trees or under the eaves of my house. They produce a natural effect when drooping from hanging baskets which they just do not seem to produce when tied up on stakes or grown from pots.

One plant particularly interests me, and it is a cross between *Discocactus eichlamii* and one of the Epiphyllums (it is sold by Johnson). Johnson calls this his *Disophyllum*. The plant throws out long, pencil shaped stems

from which the long graceful fronds hang. Around Christmas this plant is covered with tubular red flowers, at a time when flowers and colour are most wanted.

I guess my main point here is that Epiphytes grown in baskets are attractive year-round plants, whereas Epiphyllums grown in pots and staked-up are rather unattractive except when in bloom. Conclusion: try some hanging baskets of various and assorted Epiphytes. You'll be surprised at how natural, exotic and pleasing such a basket can be. I realise, of course, that such procedure may be difficult for most British gardeners who must to a large extent rely on greenhouses. Also, I almost forgot. Epiphyllums make very large plants in a matter of a year or so, and such space-consumers may present problems to British growers. I have also heard that some of the California Epiphyllum hybrids are hard to flower in other parts of the world. Maybe someone would care to comment on this.

My *Parodias* and *Rebutias* have made a particularly interesting display this year. My favourite *Rebutias* are *senilis* (for looks) and *violaciflora* (for size) and profusion of flowers with *R. grandiflora* in the same class as *violaciflora* (with the largest flowers in the group going to *grandiflora*).

*Parodias*, it seems to me, go along with *Mammillarias* as being surest producers of flowers in the barrel-cactus league. I have never had a *Parodia* which did not explode with flowers during May and June, and it sometimes seems that the top of the plant will literally split open with buds.

Oh yes, I hate to turn to hybrids again, but my *Echinopsis* hybrids are the best vehicles I have ever seen for (1) ease of growth, (2) profusion of large flowers, (3) rot resistance, (4) pest resistance, (5) general sun and weather resistance. I have about 17 varieties of *Echinopsis-Lobivia* hybrids growing both in pots and out in front of the house in full sun. These plants, in most cases, grow into large clumps which produce dozens of flowers throughout the season. At times, a clump will put out 12 to 15 flowers in a single night, and this is a sight calculated to stop cars along our street and bring "oh's" and ah's" from the throats of onlookers.

Another bonus offered by these hybrids is that they produce many, easily-rooted, offsets. Thus I have a whole bed (outdoors) into which I am constantly rooting offsets of my *Echinopsis-Lobivia* hybrids. I give these plants to friends, and I do not know of another type plant which is so sure to swing the public towards good feelings regarding Cacti.

Well, most of this article was about hybrids, and I probably will not write about them again soon. But the *Echinopsis* and Epiphyllum hybrids are magnificent plants, and they do have a place in cactus-gardening

which makes them worthy of note. True, botanically, they are not of much interest but I would put them near the top of the horticultural chart. And in California, I am interested in promoting the growing of Cacti, and

I would say that the Epiphyllum and the Echinopsis hybrid groups offer the best and most dramatic way of getting interest in Cacti across to the public.

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## Succulent Snippets

by Sally Cornioides

I AM VERY SORRY that Mr. Brewerton objects to pen-names and he also suggests members will stop reading this column in frustration or annoyance at not knowing the author, but I think it is more likely they will carry on reading and try to pick out clues. Neither am I the first among the cactus writers to proceed in this way; he may himself recollect "Connie Phytum" in the "Cactulent" and have also seen other "Nom de Plumes" in some of the Journals from the other side of the world. At any rate, "what's in a name?" and if you still disapprove, please turn over the page.

Water on a rising temperature was the advice given on a recent gardening programme on the radio when an expert was giving tips. The last thing I would wish to do is to come down for or against this statement as far as horticulture in general is concerned, but I doubt if many cactophiles would be convinced. Most of us, of necessity, water in the evening, on a falling temperature and some books give us to understand that this is beneficial, as it simulates the overnight dews that occur in habitat. The pros and cons of the point are unlikely to be argued as forcibly as those of the rainwater versus tapwater issue, although this controversy seems to have died down of recent years, not before time. The majority of those who aired their opinions overlooked the important point that most succulent plants are, of necessity, very tolerant and adaptable and will thrive on all types of water, weak tea, and virtually anything short of pink gin.

I was reminded of this argument when re-reading a stimulating book which was published a few years ago, namely "Collectors' Cacti", by Edward Bloom. One of the virtues of this volume is simply that it is different from so many of the texts on our hobby, not least because of its fascinating account of the Mexican climate. However, he does come down very firmly on the side of the rainwater only school, going so far as to say that tapwater contains dissolved chemicals and salts which slowly accumulate in the soil, eventually proving toxic to the plants. My sole comment is that mine are a long time in the process of dying!

I must also raise my eyebrows at one of his comments relating to *Aztekium ritteri*. After commenting that old specimens readily sprout side shoots he goes on to say that growth is slow so that a good clump can never be expected to develop in cultivation. Perhaps my plant is breaking the rules but it began to offset some four

years ago and there are now nine subsidiary heads averaging three-quarters of an inch in diameter, which flower freely. However, I must not give the impression that I am trying to pick holes in Mr. Bloom's commendable effort. It was written when he was a mere 18 years of age, and, of necessity, he lacked the experience of some of us greybeards.

Daphne Hutchinson, well known for her chirpy contributions to the Northern Counties Newsletter, sent me a cutting which was headed "Rare Tropical Plant yields Beauty Secret". This describes how a "gel" is extracted from the leaves of *Aloe vera*, from which Alo Cosmetics are made, and no doubt lady readers have been imbibing all this beauty talk in advertisements in their papers, too.

Daphne comments, "Shall we rush to try it or are we spotty enough already? Whatever happened to "Cactus Milk" which was the subject of similar advertisements some seven years ago—did too many women grow spines and glochids after using it?"

I had already thought of commenting on this new beauty preparation myself, but was going to suggest that wives might try "Cream of Cactus Lotion" or "Desert Flower" preparations before cutting up their spouses' pet Liliaceae! (Manufacturers of these products please send any commission via the Editor—and, what about a permanent advertisement in our Journal?)

For those who were too far away to get there or others who considered "The Psychology of Succulent Plant Collecting" was not their line, I can tell you that you missed a treat. Mr. MacDonald, our good friend from Kew, was his usual witty self with quips and anecdotes. He started by commenting that the psychology of plant collectors would be a good subject but perhaps somewhat dangerous to pursue too far! Some of the comments made by visitors to the Succulent Houses at Kew were most amusing and some were the rather standard enquiries that are often posed at shows such as "do you water these once a year?" or "I suppose these only flower every seven years". To this type of question he was inclined to mutter under his breath "Glochids to you!"

Well, it is time to sign off again and wait for the next brickbats to be thrown; perhaps there will be a bouquet or a few helpful cuttings too, you never know.

# Jardin Majorelle, Marrakech

by Frank Smith

ALTHOUGH it was only March when we visited Morocco, it was intolerably hot in the daytime when we reached Marrakech, our most southerly point. One day we went in our coach towards the High Atlas Mountains: with water rushing down the irrigation channel at the roadside and with the snow-covered mountains so near, we almost felt cool and managed to sustain ourselves until we stopped at a small cafe for a "coke". The amazing sight here was small villages of mud huts with overhead electricity wiring.



Next morning we heard about the "Garden" as another cool place. The hotel staff could not explain how to reach it so we decided to take a taxi which, after a little bargaining, was not too expensive. This should not have been surprising as, on our return, it was only 10 minutes walk to the "Hotel District" which is in the French part of the city, to the west of the walled Arab city. In the garden the advanced season was indicated by the fact that the flowers of the *Echinocactus grusonii* seen in one of the illustrations, had already withered. In other places were flowers which might be



seen in English gardens from July onwards and banana trees showing their fascinating fruit development; all on one tree at the same time could be seen flower buds near the top, lower open flowers with their enormous





purple petals two feet long, flowers that had shed their petals, clusters of green bananas the size of pea pods, next large green bananas, and finally, nearest to the ground but still out of reach, ripening bananas. All the time there was a raucous barking from frogs in the ornamental lake; very close persistent observation identified the smallest frogs we have ever seen and also some water tortoises sun-bathing on a protruding rock.

It appears that the garden was made by the French artist Majorelle in "colonial" days and his curiously shaped residence, covered in bougainvillea, is still in private occupation. The garden now belongs to the

State and is officially known as the Fondation Félicien Pothier. At the entrance, one is confronted by the little blue hut where payment of 1 DH. (1s. 6d.) is requested. Some small boys offered (in French) to show us around but soon left us alone when they saw the constant delays to take photographs. There were very few other visitors and the man in the blue hut was much cheered by my thanks for "le joli jardin". We hoped that he did not have to live on his takings.

Altogether it was a most pleasant morning in this refuge from the heat and we left reluctantly down the hot, dusty road for our hotel, our lunch, and our siesta.

## Impressions of the Essex Show

by Donald Best

AS A VISITOR, somewhat unknown, from the North Surrey Branch, I was able to look dispassionately and objectively on the plants exhibited at the Essex Branch Summer Show held at the Barking Town Hall on Saturday, 31st May, 1969. This was, in fact, the 17th Annual Show and from what I had read in the article written by Mrs. Maddams, in the August edition of last year's Journal, I was expecting to find a high standard. I was not disappointed. For a branch show, this was on a very large scale and was obviously well organised. The show comprised 55 classes, 10 of which were open, so there was plenty of opportunity for members to fit in those awkward plants which are sometimes left at home. There were some exhibitors in the open classes from my district, but I wonder how many more might have come forward if they had perhaps an extra hour on the Saturday morning to stage their plants? But, doubtless the Show Committee have their reasons for allowing two full hours before midday to set the scene and check for eligibility, etc.

In the Specimen *Astrophytum* class, in pots over 4 in., we saw only one plant in flower, this being a clean looking *A. myriostigma* belonging to Mr. Taylor and which was duly placed first. An *A. glabrescens* deservedly took second place, followed by *A. ornatum* placed third. The smaller pot size produced close competition and Mrs. Francis won with her *A. myriostigma* v. *nuda*. Mr. Wright gained second with an *A. quadricostatus*, with Mr. Thompson's bright green-looking *A. asterias* in third position. *A. asterias* is generally not seen in such a hue and one can only imagine that this could conceivably be one of the newer German hybrids, many of which are more globular in shape, as was seen here?

*Pterocactus kuntzei* and *Opuntia cylindrica* won first place for Mr. Taylor in the Two Plants in *Opuntia* class. Mr. Hammond had to be content with a second placing for his *P. kuntzei* and *O. papyracantha*. Large flower buds were in evidence on Mr. Brown's

*O. microdasys* v. *rufida* and *O. engelmannii*, but these were obviously not regarded as exciting to lift him above third. It is clear that these plants do not have to be bedded out to flower. However, a large number of 10 in. pots are not easily fitted into a collection. Miniature *opuntias* are definitely on the ascendancy and this could be due to the space difficulty. In view of their popularity, the entries in the class for a Group of Three Plants was not particularly inspiring; some of the more notable miniatures not being in evidence. The group exhibited by Mrs. Chambers did the trick, and I felt, deservedly so. Miss Potton's three species of *Tephrocactus* held a worthy second. *O. microdasys* appeared in this class and one wonders as to its eligibility as a true miniature. Most judges seem not to disqualify it, although the marking should inevitably be low. The fact that no third prize was awarded here could be indicative of the judge's feelings on this occasion.

The class for Three Large *Mammillarias* produced some of the better plants on show. Mr. Taylor's group included *MM. bombycina*, *hahniana* and *zeilmanniana* and took first prize. Only one flower could be detected on this super *M. bombycina*, sitting resplendent in its 14 in. pan, but this didn't really matter. His *M. hahniana* is as clean and as white as could be and is decidedly a better form than the majority seen in collections. *M. zeilmanniana* always scores when in flower and was not out of place alongside his others. Sympathies are not really in order for Mr. Richardson who was placed second, for he is hard in chase and displayed large specimens of *MM. schehasei*—looking similar to *bocasana* from a distance—and *zeilmanniana*, rivalling Mr. Taylor's with its many blooms. It would seem that the Essex Branch members are taking to flat pans for these plants which are almost all shallow rooting. It is apparent that even the more immature plants should be grown this way, thus eliminating the possibility of waterlogged compost beneath them. Many seem to

have preserved their clay pans, the plastic counterparts not being easily obtainable at present and for the larger caespitose *mammillarias*, not at all suitable, anyway, due to their breaking easily when lifted. The section for the three smaller plants was won by Mrs. Francis with *M. guelzowiana*, just about to open its beautiful pink flowers, the buds being all of an inch long, together with *M. candida* v. *rosea* and *M. nejapensis*. Notable in the second group was a good specimen of *M. klissingiana*, with a nice *M. chionocephala* serving well in the three placed third.

Class 8 provided for Three Plants in *Cereanae*, won by Mr. Richardson, who showed a nice plant of *Winteria aurispina* among his entries. This is the plant which is pendular in habit, in the same manner as *Aporocactus*, but with thicker stems and, as the name suggests, bearing attractive golden-yellow spines. A certain amount of variability is apparent in this species, as was seen from an entry in the group taking second. The plant was darker altogether, with narrower stems. This may perhaps be due to methods of cultivation, however, as one can never be sure? The plant was shown as *Winteria aurilana* but, of course, the genus is monotypic; the only valid name being *Winteria aurispina*.

Mr. Taylor's *Stenocactus*, with its attractive black spines, stood out in the class for Three *Echinocactanae* and must have helped considerably in attaining him first prize. In the class for the Smaller *Echinocactanae*, some of the choice species were absent. One would have liked to have seen, say, *Aztekium ritteri* on display, for example. *Echinocereus* are also no problem to Mr. Taylor, for his *E. reichenbachii*, *E. knippelianus* and *E. kermesina* were given the decision in the Three Plants in *Echinocereanae*. *E. kermesina* was simply glowing with rose-pink flowers bearing long cream-yellow stigmas.

The Show Committee had provided a class for Three *Lobivias*, *Rebutias* and at this time of year one expects to see many fine blooms on these plants. This was indeed so, especially with Mr. Thompson's *Rebutia krainziana* v. *brevisetata*, where it was possible to count up to 20. Where had all the *lobivias* gone? One answer could be that members just happen to grow their *rebutias* better. It was noticeable that the bigger plants did not succeed in this class. "How much can you carry?"—was the theme, contrastingly, in the next two classes; for here we were seeing the epiphytes pleasingly provided for. Unfortunately, not many members had bothered to stagger in with them. The classes were split Two Epiphytes and Two Epiphyllums; the first of which afforded Mr. Lodge victory over Miss Potton and the other gave us an opportunity of seeing the first prize winning entry of Mr. Thompson, containing *Epiphyllum "Erica"* with large magenta coloured blooms.

Let's hope that next year, members, with or without wheelbarrows, get busy and give more support, for the

Committee have every right to expect a splash of colour on display. Indeed, Mr. C. Innes who was adjudicating must have been a little dismayed at the turnout, especially when considering the obvious potential which lies within this active branch.

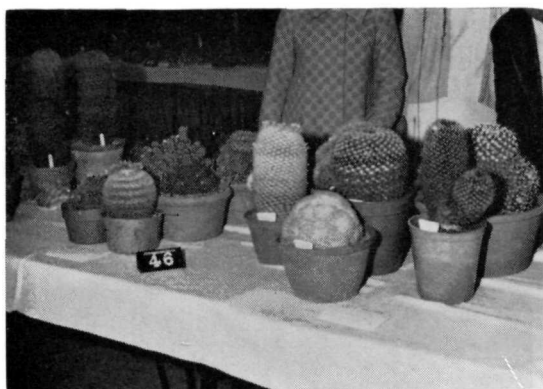
There was a section for One Monstrose Plant and it was interesting to see a *Monvillea* take first place instead of the usual *Mammillaria wildii* and *Opuntia vestita*. I am not a lover of cristate plants, although I suppose it can be said that they add to the spectacle of a show with their weird shape and form. However, many people prize these very highly and, of course, some are quite rare. In Class 16 we saw exhibited some grafted plants; one specimen only required to be shown. Mr. Brown had a *Blossfeldia* in flower and was duly placed first. Some plants, as is commonly known, do not stay particularly true to type when grafted. By and large, it does not seem to apply to *Blossfeldias*, so there appears to be a real case for sticking these on a vigorous rootstock. Class 17 was badly supported and one cannot imagine why, for this catered for two plants not covered by Classes 1 to 16. Surely, here again was an opportunity to give the greenhouse staging a close inspection to seek out a couple of those specimens that are not easily accommodated elsewhere.

The first prize winners in the Large *Agave* section were Mr. and Mrs. Brewerton with a good specimen of *Agave stricta*, all of 18 inches in diameter. The second prize winner can take heart, as he couldn't have come far behind in this instance. Following on from here we saw some agaves in pots up to 4 in. and judging by the support seen, it was evident that one can grow such plants without breaking the greenhouse glazing. The were some quite colourful exhibits in the class for Three Plants in *Echeverioideae*, also one or two interesting plants were shown in the classes covering the *Crassulaceae*.

There were some good typical specimens in the class for Five *Lithops*, especially in the winning group, although one could see a number of bloated plants amidst other entries. Sometimes, in an attempt to get *Lithops* into show condition following the resting period, there is a temptation to water them before they have fully emerged.

In Classes 26 and 27 there were some very interesting plants on view, as one would have expected with exhibits from Messrs. Brewerton and Brown who possess some excellent *Euphorbias*. The really interesting ones appeared in the section for plants in pots up to size 4 in. (Class 27); some of the choicer dwarf species being in evidence. Mr. & Mrs. Brewerton produced three nice *Stapeliads* in the next section. Their *Echidnopsis dammaniana* was quite eye-catching in the first prize winning group.

Class 29 was for Three Plants in *Asclepiadaceae* and it was here that we were able to see the fine *Brachystelma barbariae* belonging to Mr. Brown. This specimen was



Open Class for Mammillarias



*Brachystelma barbariae*—Best Plant in Show

awarded "Best Plant in the Show" and there was little doubt that this was well merited. Indeed, with its bract of purplish-red flowers sitting atop a well formed caudex base, it looked a trifle unreal. Why then was nobody bothering to give the plant a closer examination? One was soon able to discover the reason, however, for this plant is a relative of the *Stapeliads* and has the same characteristic carrion odour.

Looking at the entries in the class for Three *Aloes* it was pleasing to see the dwarfer and rarer species in prominence, among which we observed two small specimens of *Aloe haworthioides*, a small *Aloe bakeri* and a rather attractive *jucunda*. Two specimens of *Haworthia bolusii* were seen in the section for Three *Haworthias* and it was noticeable that whereas one was quite typical, the other, unfortunately, seemed rather open. Messrs. Brewerton and Brown were active participants in the Three Plants in *Liliaceae* and here was seen a particularly fine *Gasteria armstrongii*. Mr. Richardson's *Stapelia mutabilis* proved its worth among the Specimen Cristate Succulents, with Miss Potton's *Echeveria roslin* placed second. *Gerardanthus macrorhizus* and *Cissus hypoleuca* emerged winners of the class for Two Other Succulents, entered by Mr. and Mrs. Brewerton. On advice from a colleague of mine, I have recently changed the name of my *G. macrorhizus* to *Kederostris africanus*. My plant certainly looks similar to that displayed here and I am now quite unsure about my labelling. Apparently, the two are quite distinct, although I have not seen them side by side, with *G. macrorhizus* being something of a rarity. *Sarcocaulon multifidum* was intriguing in the pair placed second and I trust Mr. Brown will forgive my describing this caudiciform, rudely, as "A minute Anvil, Struck by Lightning!"

There were at least 100 flowers to be seen on a fine *Rebutia pseudodeminuta*, which coupled with *Wilcoxia poselgeri*, won for Mr. Richardson a first prize in the

Two Plants in Flower. Worthy of mention was Mr. Taylor's *Lobivia sublimiflora*, bearing superb yellow blooms. The general consensus of opinion concerning the entries among the seedlings was that they were of a very high standard. Miss Potton triumphed here with a neatly arranged entry, but Mr. Lodge provided an unusual effect with a solitary *Leuchtenbergia* amidst mainly globular types. Equally, in the next class we saw a large number of entries competing and all seemed very well presented, this being of importance in the section for a Box of Plants. Most exhibits took the form of 15 square pots filling a seed tray. Noteworthy were *Haworthia truncata*, *Matucana yanganucensis* and a multi-headed *Parodia aureiflora* in the winning group. Without any real help from his container, Mr. Levett succeeded against good opposition in the class for a Miniature Garden; his entry being very well laid out.

Classes 39 to 45 were for Novices and Juniors and the support, in general, must have been pleasing to the Officers and Committee, for these are the up and coming members of the future. The first of the classes in the Open Section provided for Six *Mammillarias*, won by Mr. & Mrs. Maddams, their worthy group comprised *MM. bocasana* (well flowered in a 12 in. pot), *picta*, *candida v. rosea*, *gigantea*, *plumosa* and *magnimamma v. bockii*. Mr. Richardson took second place with a nice group, of which his *M. auriceps* was very striking. Throughout the remainder of the exhibits among the open classes, a high standard was maintained. One plant of particular interest and which was adjudged "Best Epiphyte in the Show", was *Zygocactus opuntoides*, exhibited by Mrs. Maddams. For the benefit of those who have not seen this plant, it might suffice to describe it as having the flower and habit of *Zygocactus* but with the glochid covered areoles on the stem sections normally associated with the *Opuntiae*.

This was certainly a very fine show, which must have been enjoyed by participants and visitors alike.



## Connoisseur's Corner

### COPIAPOA MONTANA

THE last 15 years has brought a spate of new and fascinating plants from South America, particularly from Chile, Peru and Bolivia. For these we are particularly indebted to Ritter and Cardenas, although others have also been responsible for interesting discoveries. With such a bewildering array of material at his disposal the cactophile inevitably wonders what shall be his choice for the limited space at his disposal and, not surprisingly, opinions do differ. However, it is rare to find anyone who is not captivated by the various species of the genus *Copiapoa*, particularly large imported specimens of *C. cinerea* in all their regal grandeur.

Yet, there are several small *Copiapoa* species worthy of attention, not least because they flower at a comparatively early age. *C. montana* is one such, and deserves to be in every collection. It is a somewhat columnar species which eventually reaches seven or eight inches in height and some three inches in diameter and it offsets from the base when a few years of age. The body is divided into vertical ribs, each of which is notched into a series of flattened tubercles. The apex of each tubercle bears the areole from which five or six dark brown spines emerge.

At four or five years of age the attractive flowers will appear in mid-summer, and a second crop in August or early September is not uncommon. The blooms are pale yellow and approximately two inches in diameter. Perhaps the most fascinating feature of the flower is the



way in which the stamens are loosely distributed within the inner perianth segments. They are a complete contrast to the normal arrangement in which stamens form a tight cylinder round the stigma. This species, described by Ritter in 1960, is now available from time to time, both as plant and seed, and presents little in the way of cultural difficulties.

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## Epiphyllum Hybrids and their Hybridizers

by F. Braun

### PART II

FOLLOWING publication of my article in the February Journal, Dr. Irwin of the Epiphyllum Society of America has notified me of certain errors and omissions which require correction.

#### Page 13

The varieties raised by Knebel, other than those commemorating his family and relatives are those varieties readily available in this country. I appreciate that he raised many other worthy hybrids such as Gertrude Beahm, CeKa, Camillo Schneider, Heureka, Dr. Von Roeder, Deutschland, etc., but these and his other varieties are somewhat more difficult to obtain and would only be located after extensive searching and possibly importing cuttings from abroad.

Mrs. Clarion Steele was years ahead of Poindexter with the results of European seeds. Poindexter was only

placed first for alphabetical reasons. Mrs. Steele was the earliest of the West Coast hybridizers in the 1930's.

#### Page 14

R. W. Kado should read R. F. Kado. Both Kado and Ito in fact returned to California after the War, Kado to his Rockcraft and Bonsai business and Ito took over Lessar's Nursery specialising exclusively in cacti and succulents.

The address for the Coolidge nursery should be Altadena Drive and not Alterdena Drive. As the nursery is no longer in existence, this alteration is perhaps academic.

Mr. Leslie C. Parker should be in the past tense as his nursery is now being operated by Mr. Ito. What has become of Poindexter's plants I cannot say at the moment.

There are four varieties called Pfau, 1. Callender's

Pfau, 2. Dreers Pfau, 3. Belgian Pfau and 4. Pfau.

Cactus Pete Junior only operated from the stated address for a short time and was assumed to have gone out of business. However, I understand that he is still growing Epiphyllums at another address although I believe he is not open for business at the moment.

#### Page 15

Neither Mr. Hathaway, Mr. and Mrs. Harmon or Nelson Ross sell Epiphyllums and therefore should not be approached for catalogues or cuttings.

The reference to Effinger "knew nothing about Epiphyllums" should be deleted. I understand that Nelson Ross only assisted Effinger in organising his nursery until the Garden Grove premises were ready, probably as Ross is gradually going blind. Effinger expects to be open for business during the coming season and should have a good selection of plants.

Floyd Nahigan left the Los Altos address about 10 years ago and has apparently lost all interest in these plants.

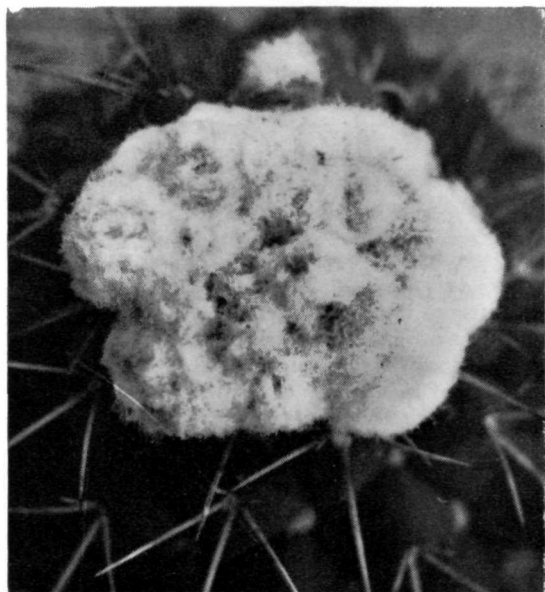
E. J. Robertson and C. L. Wright were both former presidents of the American Society and Mr. Wright is currently the Treasurer.

Ed. Hummel is no longer at Inglewood and his business is now wholesale and mail order only.

Harry Johnson now does mail order only and I understand Mrs. McCollum ceased her business four years ago.

#### Page 16

Finally the words in the paragraph relating to Mr. Innes "including some of the un-named De-Laet varieties" should be deleted as it is a printer's error and the following words substituted "and his catalogue now lists several hundred varieties".



#### Future Meetings in London

Tuesday, September 19, Autumn Show:

Less Common Cacti—Miss M. Martin.

Wednesday, October 8, Ceropegias—Mr. C. G. Brown.

Wednesday, November 19, Winter Care—Mr. A. Boarder, Mr. W. F. Maddams, Mr. P. V. Collings.

#### 50th Anniversary of Dutch-Belgian Association "Succulenta".

Our President Mrs. Shurly, was very happy to receive an invitation to the opening of the Golden Jubilee Congress of the above Society by Mr. J. Klaasesz, Queen's Governor of the Southern Provinces of Holland, and also to the reception following the official ceremony.

We would like to take the opportunity of somewhat belatedly congratulating "Succulenta" on the occasion which took place last May.

## Oddities

#### *Strange goings-on in the greenhouse*

The aim of this series is to report unusual growth forms observed in members' collections. Members are invited to send contributions to the series, preferably including a photograph or line drawing. If any morphologists among our readers can provide an explanation of these phenomena, the Editor will be pleased to hear from them.

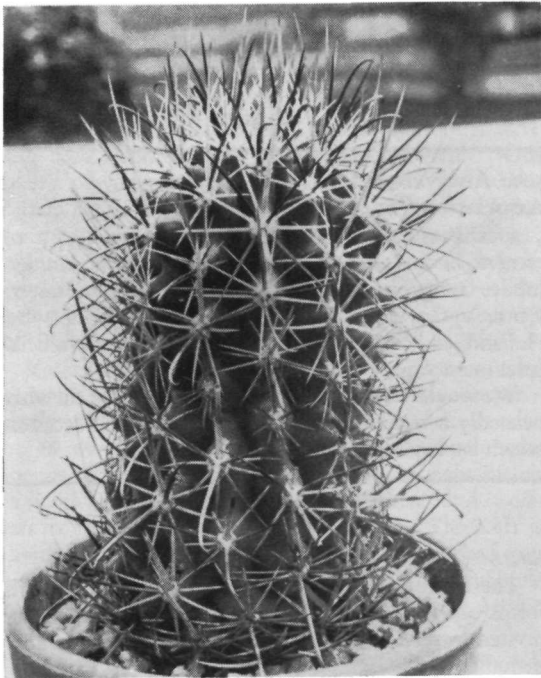
No. 10 M. J. Brown.

I bought my *Mammillaria Compressa* in June, 1967, from a florist's shop in Carshalton and in my opinion it was a perfectly healthy and normal plant. Then in October, 1967 I noticed a spot of white woolly substance forming on the top which I thought was mealy bug so I tried to remove it with a camel hair brush dipped in methylated spirit but found it was firmly fixed to the crown of the plant and would not move. I made enquiries from different people including experts but nobody can tell me what it is or how it got there so I decided I would carry on cultivating it in the normal way—dry in the winter in a temperature of approx. 45° with a paraffin stove for heating and normal watering in the summer, but I never give my plants any fertilizer.

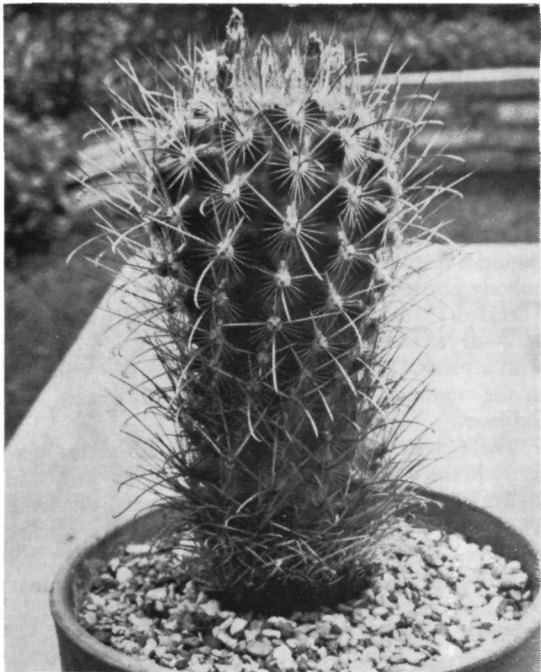
The *Compressa* has grown well and seems perfectly healthy and the white substance has grown as well till now it is about one and a half inches in diameter. The white substance is softish to touch rather hairy but solid. In the last few weeks a piece about quarter of an inch has gone a lightish brown and a very small piece of green is showing in the middle of the white.

Perhaps some other readers know what this is or have had the same experience, if so I would like to hear their comments through the medium of the Journal.

## Correspondence



*Sclerocactus whipplei*



*Ancistrocactus scheeri*

As a grower with a particular liking for the "desert" cacti I have been following with interest the recent articles and correspondence on the case, or otherwise, with which these plants can be grown. I find myself in broad agreement with Mr. Putman. In my experience, plants of *Ariocarpus* (except *scapharostrus*) *Encephalocarpus*, *Strombocactus*, *Pelecypora*, etc., are not difficult to grow. Planted in coarse, gritty compost containing very little humus they will thrive with normal watering and still retain their fine, rugged appearance.

I was interested however, that Mr. Putnam should single out *Sclerocactus* as a particularly difficult genus. My plant of *Sclerocactus whipplei* grows alongside the other desert species and thrives with exactly the same treatment. I enclose a photograph of this plant and also one of the somewhat similar *Ancistrocactus scheeri*. I must confess that I have not flowered the *Sclerocactus*. I have heard that, in habitat, these plants are subjected to very low winter temperatures and that they will only flower if they have this winter freezing. I have not dared to try freezing my only specimen. I would be interested to hear from any grower with knowledge of this matter.

If, from the preceding, I have given the impression that I can grow all cacti without difficulty I must hasten to correct this. Apart from *Ariocarpus scapharostrus* mentioned above I have failed completely to successfully grow *Toumeyia paprycantha*—even as a grafted plant.

W. Weightman  
Orpington, Kent.

With reference to your article "Photographing your plants" (II) in the May issue of the Journal, as a Society member and one of "the little shop round the corner" photographic dealers, I must take exception to your rather derogatory remarks about the smaller dealer.

It is my experience that the smaller dealer really looks after his customers, whereas the larger shops, although giving admittedly in many cases excellent service, tend to become extremely impersonal, but the smaller dealer is on what may be called intimate terms with the majority of his customers and has the backing of some considerable number of years, experience, which is more than can be said for some of the alleged "salesmen" in the larger dealers, who, working on a commission basis, always tend to sell the customer the most expensive and unnecessary equipment to do a simple job.

All reputable small dealers, myself included, give a guarantee with all their secondhand cameras, and, in the majority of cases, prices will always be considerably lower as overheads are less than the larger stores.

There appear to be several inaccuracies in your text to which I would draw attention. You state that by placing extension tubes between the camera and lens that this "alters the focal length of the lens". Whoever told you this (possibly one of the larger dealers?) is all wrong. NOTHING alters the focal length of the lens



except a lens convertor, of which the good ones are quite good and poor ones not worth bothering with as they destroy lens definition. These are of little use for close-up photography anyway.

You state that with a set of extension tubes it is possible to focus on a subject only an inch away. This is not so. With a standard 50 mm. focal length lens one would need approximately six inches of extension tubes and/or bellows.

You further state that "unless you are the lucky owner of a Leica you will also have to cope with parallax troubles, etc.". The Leica is only parallax corrected to the minimum focusing distance of the lens which is usually three feet. Nearer than this one must employ the Leitz near focusing devices (very expensive) or alternatively use the Visoflex housing (even more expensive at £89 16s. 0d. and costing as much as a good quality S.L.R.). The alternative would be the now discontinued near focusing Summicron lens at *circa* £100 which only focuses down to 19 in. and gives a field of view of approximately 7 in.  $\times$  10 in., which is of little use for close-up photography. The other alternative would be to use the Leicaflex S.L. at *circa* £395 which is a true S.L.R. and eliminates parallax troubles.

I cannot agree with you about the alleged "high cost" of colour film for the  $2\frac{1}{4}$  square twin lens reflex camera. Using 35 mm. colour film one obtains (assuming one purchases 36 exposures at a time)  $1\frac{1}{2}$  sq. in. for a cost of 11½d. Using 120 film (say Agfa at 17s. 7d. for 12 exposures process paid) one gets five  $\frac{1}{16}$  sq. in. for 1s. 6d. Surely the law of economics in relation to area points out that the 120 size pro rata is far more economical but admittedly the disadvantage here is the difficulty of getting real close-up and the rather high cost of projection as opposed to 35 mm.

Hugh Miller,  
S.W.6.

(I thank Mr. Miller for his comments. I realise my wording was perhaps a little slipshod and may have misled some readers. From the technical point of view Mr. Miller is undoubtedly far more knowledgeable than I and I am grateful to him for taking the trouble to correct my errors and I hope he has forgiven me for my remarks about "the little shop round the corner" in which category I did not intend to include anyone of his calibre.

E.M.D.)

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### Small Ads.

"STARTING WITH CACTI" (with colour), by Arthur Boarder, published by Collingridge at 25s. A complete guide from seed raising to flowering and exhibiting, the result of 62 years practical experience.

Mr. Boarder has often mentioned making central holes in the bases of plastic pots, so that plants can be pushed out with a stick (and have their roots torn up through the centre of the ball!). Has he not yet discovered that plants never get jammed into these pots because the walls are too smooth for roots to cling hard, as they did in clay? All one ever needs do is hold the pot horizontally, tap it gently while turning it, and out slides the plant, just like that. If compost is moist (and in plastic pots it almost always is), the tapping is hardly necessary. Think of the time and effort saved in not needing to make those extra holes! (Lazy Daph).

To me the whole idea of using plastic pots is to save labour: Mrs. Stillwell is putting lots of her miniature Mesembs. back into clay because she found them growing too lush. The answer here is, *all* plants need far less watering when in plastic, which holds moisture for weeks even though compost surface looks dry. My own miniature Mesembs. (all five of them!) stay compact and typical because they are watered no more than ONCE A MONTH during their growth season. Fast-growing plants are drowned fortnightly, even then many of them have not dried out and are left for a second fortnight. The roots of Haworthias tend to rot in plastic pots if watered, so they get a drink about *twice a year* and keep their roots.

Just for the record, my greenhouse is in a completely open situation and baked in sunshine all day and evening. Plastic offers every advantage over clay for the no-time-to-spare cactophile, or the lazy one like me.

Daphne Hutchinson,  
North Shields.

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## News from Branches

### North Surrey Branch

In previous years this Branch has held a number of "Restricted Branch Competitions", open to members only and which have been judged by popular vote—each member attending being given a voting paper. In the early days, results admittedly did tend to favour the more showy and spectacular plants, and some smaller but more difficult and specialised ones were apt to be overlooked. However, as members have learned more about the plants and become more discriminating, results did improve and as the evening usually ended with comments by one of the experts, we did all learn quite a lot about judging. This year, however, we decided to change the system and ask an outside judge to come along and not only judge the plants but give us his reasons for his decisions. We were fortunate for the first competition this year to have Mr. E. W. Putnam as our judge and after completing his judging, he gave us some very interesting comments on the plants and his reasons for making the awards, in each class. We felt this was very helpful and hope that in our next

competition we shall show that we have benefited by his remarks.

### North London

Capel Manor Horticultural Centre,  
Bullsmore Lane, Enfield.

On Saturday and Sunday, May 31st-June 1st, an exhibition was staged by the North London Branch at the Capel Manor Horticultural Centre open weekend.

Plants for display were contributed by most members of the Branch which resulted in 282 plants being exhibited.

The centre piece was a 6 ft. × 9 ft. display, which was staged by Mr. and Mrs. Dale, and contained 60 plants. The two side stagings had 222 pots and each Genus was separated and labelled.

Some 1,400 visitors saw the exhibition, over 500 copies of the aims of the Society and Branch activities were distributed, 60 booklets were sold and numerous enquiries answered by members of the Branch acting as stewards, and it is anticipated that this will lead to several new members for the Society.

The centre display naturally caused the greatest interest but several pans or pots on the side stagings caught the eye, such as a 9 in. pan of *Mammillaria zeilmanniana* in full bloom, a very pretty *Schlumbergera gaertneri* hybrid with flowers in a lilac shade, a small pan of *Aylostera albiflora* in bloom, a *Notocactus graessneri* with two lovely green flowers, an *Echinocereus sheerii* in bloom, two really large but perfect *Euphorbia obessa* and last but by no means least a *Diplocyantha ciliata* with its lovely yellow flower.

#### *A Note for your Diary*

Starting in September the North London Branch will meet in Capel Manor Horticultural Centre on the third Friday in each month, 7 p.m. for 7.30 p.m.

All G.B. members welcome.

Jack Kemp

## Chelsea Show

AS A result of the favourable publicity, booklet sales and several new members gained at the Chelsea Show of 1968, it was resolved to again show, this time to be a solo effort and not one of partnership with the National as before. The writer was entrusted with the organisation of the whole effort from the first application for show space made to the R.H.S. to the final clearance certificate given at the end of the Show.

The stand allocated to us was 16 feet long by six feet wide, with a four inch deep rim all round the island table site. Hindsight, ever easy to possess, has since suggested that a wider site of about eight feet would have been more compatible with our type of display.

The display itself was difficult to assess, as no one could definitely state what plants, their sizes—pots as well as the actual growth—would be actually available to the exhibit until they had been collected, transported



*Society Stand at Chelsea—May 1969*

to the show and laid out in such a manner that a scheme could be moulded around them and the plants themselves linked up in a combination that would show them to their best advantage whilst integrating as a harmonious whole.

Here, I would like to offer my thanks to the willing helpers who translated broad statements from myself into carefully placed and detailed groups of plants—Mrs. Whicher, Mr. Hurley, Mr. Newton, Mr. Read, Mr. Reynolds, Mr. and Mrs. Bourne and Mr. Best. Again I would stress that when I asked for a good selection of large sized plants with which to form the backbone of the exhibit, the North Surrey Branch responded nobly. Mr. and Mrs. Maddams, who were on a visit to America, gave willing permission for the use of whatever plants were needed from their collection. Our Chairman, Mr. Boarder, also contributed the fine selection of lithops that was so much admired. Mr. Collings, despite all the handicaps of a split collection through moving to his new home in the south, contributed plants as did Mrs. Dyson, Mrs. Whicher and a gentleman whose name escapes me. After setting out the plants, the whole surface area was dressed with 14 hundredweights of builders sand. Unfortunately, this was very wet and proved difficult to spread evenly over and between the pot rims, which by Show regulations, must be hidden. The Sunday, on which we set up the stand, was both cold and wet, but all stuck at the task until well into the evening.

The Monday was spent by two or three people with clean paint brushes tidying up the now drying sand and putting the finishing touches to things before the judging at 4.30 p.m. This, the final judgement on our efforts, resulted in a Silver Banksian medal for the Society.

From opening time on the Tuesday morning to the final bell on the Friday night more volunteers turned up to man the stand, sell booklets and journals, enrol new members and, most important of all, answer questions both on the plants and the Society. Beginners

they might have been when their stint started, but two hours later it was a job to get them to take their free time and make way for the next shift. Ladies and gentlemen, I really do admire the way you tackled that great unknown—the British and foreign public at all weights. In addition to the folk whose names have already been mentioned in their role as helpers, and who came back for stand duties, we had Mrs. Massey, Mrs. Stillwell, Miss Drage, Mrs. Bickers, Mrs. Fereday, Miss Baker, Mr. Hyams and Mr. Ellis, not forgetting B. Verity, all reporting for duty ahead of time and staying late until being driven off by me.

Others who contributed in a large measure to the success of our stand were—Mr. Jennison of Northern Counties, who made a personal delivery of a stock of booklets; Mr. Miller who had a supply of the Society's Journals on the stand by 9 a.m. on the Sunday morning. Mr. Auger who, by taking the stand next door, showed the public the type of plant they could easily obtain at a reasonable price, thus increasing their interest in the hobby. Lastly, the members from all over the country, who visited the stand and expressed their appreciation of our efforts, coupled with the hope that we should make an annual feature of the event at which all could rendezvous.

Alan Clare

## ANNUAL DINNER

The Restaurant of the R.H.S., Greycoat Street, S.W.1. has been booked for the 29th November, this being the date nearest to our 48th Anniversary, for a dinner at 7.30 p.m. Tickets will be 2 guineas a head and it would be appreciated if members desirous of attending would get in touch with the Secretary at an early date. Parking in Vincent Square will be readily available at the time stated. Needless to say, the guests of members will be especially welcome.

Catering has been arranged for 50–80 people at the price stated. Drinks will of course be extra.

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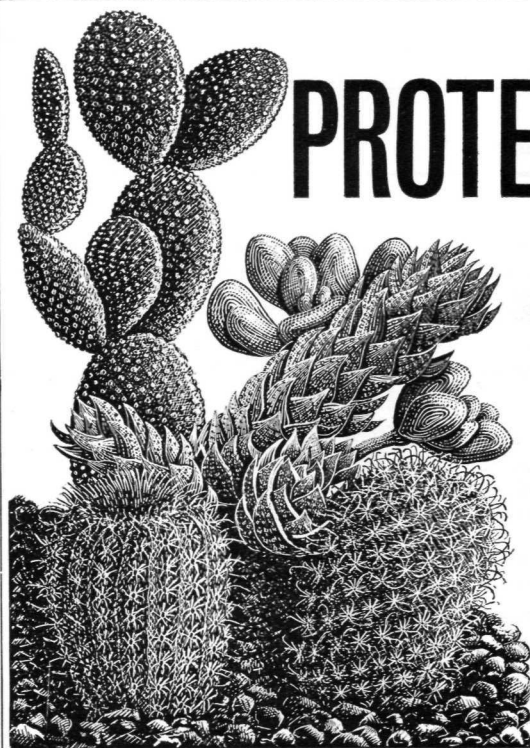
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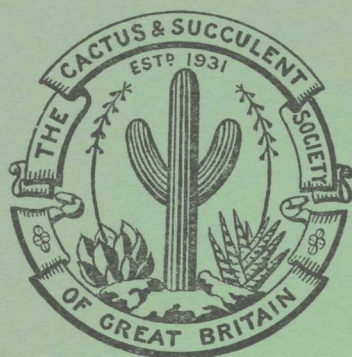
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# THE CACTUS AND SUCCULENT JOURNAL OF GREAT BRITAIN

Vol. 31

November 1969

No. 4

## Editorial

THERE IS NOT much space for me this time, so I will begin by reminding you about the Society Dinner on the 29th November at the R.H.S. Restaurant, R.H.S. Hall, Greatcoat Street, S.W.1. Tickets 2 guineas each from the Secretary, Mr. A. Clare, 26 Albert Street, St. Albans, Herts. There is still time to hurry up and get yours. This is a new venue for the function as there had been a number of complaints about the previous meeting place. This should be a very good evening and I look forward to seeing you there.

Another point I want to mention is that there has just been a further printing of the Society Booklet. Branch Secretaries requiring these in bulk should apply to Mr. Hugh Miller, 289 New Kings Road, Chelsea, London, S.W.3 (see advert.)

Please make sure that you read, and act upon, the notice of the Annual General Meeting, below. The new rules make this most important.

It was with great regret that we learned recently of the death of Herr Helmut Gerdau, President of the German Society, Deutschen Kakteen-Gesellschaft e.V., since 1965. As a keen Cactophile he will be much missed by collectors in Germany and our sympathy goes also to his widow and son. He is succeeded as President of the Society by Herr Manfred Fiedler whom we wish a happy and successful term of office. E.M.D.

## Obituary

MR. C. W. PITCHER was one of the most respected and loved members of the National Cactus and Succulent Society. He first became interested in succulents at a visit to the Bradford Branch annual show, and soon developed a fine collection of plants he was pleased to call "T.C.P's", his familiar name for the caudiciform succulents owing to their likeness to turnips, carrots and parsnips.

He spent a great deal of his time lecturing on these plants to succulent lovers all over the British Isles, undertaking tours of the far-flung Branches.

His editorship of the Bradford Bulletin well fitted him to take over the Editorship of the Journal of the National Society, and he raised this publication to the forefront of succulent literature.

One of the greatest interests in his life was the organisation of Shows, and he served as Chairman of the Shows Committee for a number of years. During this time the twenty-first anniversary of the National Society was celebrated by a National Show at Nottingham, the first venture of this kind for a long time. Under his leadership, the Shows Committee started a series of annual courses for training judges to ensure a more even standard of judging shows.

We of the National Cactus and Succulent Society will long miss his drive, energy and wise counsel.

## Annual General Meeting

IN ACCORDANCE WITH Rule 6, I give notice that that an Annual General Meeting of the Cactus and Succulent Society of Great Britain will be held on 25th February, 1970 in the New Hall Lecture Room of the Royal Horticultural Society, Vincent Square, London, S.W.1, commencing at 6.30 p.m.

The attention of all members is drawn to Rule 5, sections (d) and (e), covering the procedure to be followed in the election of Officers. This must be strictly adhered to if your nomination and vote are to count.

Under 5(d), the President and all Vice-Presidents are to be elected annually by a show of hands at the Annual General Meeting.

Under the same paragraph, The Chairman, Hon. Secretary and Hon. Treasurer, as well as members of the Council due to retire by rota after three years of office, must be nominated in writing bearing the signature of a proposer and seconder and be accompanied by the written and signed consent of the nominated person to serve in the office for which he or she has been so nominated.

Such nominations must be in the hands of the Hon. Secretary not less than nine weeks prior to the Annual General Meeting. The effective date in this case is the 8th December, 1969.

The following members of the Council are due to retire by rota and are eligible for re-election:

1. Mr. A. Boarder—officiating as Chairman.
2. Mr. I. F. Newman—elected to Council after handing over as Hon. Treasurer to Mr. R. H. I. Read, whose place and turn he thus took over.
3. Mr. B. Makin.

In the event of there being more nominees to the Council than the three vacancies shown, a list containing details of all nominees will be circulated to all members entitled to vote six weeks prior to the Annual General Meeting for a further postal vote.

Your active co-operation will be appreciated. Please use your vote for the good of your Society.

ALAN CLARE,  
Hon. Secretary



# Cultural Notes

*Cacti*—by A. Boarder

THIS SUMMER HAS been a very good one for our plants and the amount of sunshine has brought many flowers with their aftermath of fruits. These seed pods are such a colourful show for most of the year and one should always endeavour to obtain as many as possible. By the time this journal reaches you it will be time to get all the plants ready for the winter. No doubt most collectors will have repotted their plants by now, but it is probable that I may not have started. Each year seems to bring so many tasks that it is almost impossible to get any repotting done before October or November. I do not find that this makes much difference to the growth of the plants. Actually it means that the soil in the pots is in good condition and so the roots can remain healthy until the spring.

I note that a correspondent in the last journal has been offering me advice. I am always glad to have any assistance in growing my plants but I would have been more pleased had the information been anything more than what I already knew. I am quite aware that plants can be removed from plastic pots by squeezing them, and this is all right for small plants. When my large mammillarias, many with fierce spines and hooks, are being dealt with, I find that it is much better to remove them from their pots in an upright position. This I do by inserting a stick up the drainage hole on to the large crock which I always use. This method I have advocated for years and any of my readers who do not know this have sadly missed my point. The stick never goes through or even touches the roots of a plant. The crock, as large as will go in the pot, ensures that it works as a platform, raising the whole ball of soil with roots without any trouble. This ball is then held and worked on with the plant still in an upright position. The crock can be nipped into shape with a pair of pincers.

So far this season I have not been troubled with mealy bug but until I can handle all the plants which are at the rear of the staging individually, I cannot be certain that there are none. During the spring I watered with Pestex, which is stated to be a systemic insecticide. The action of this is said to be that the plant takes up the liquid in the sap and when any pest bites the plant the fluid will kill it. However, no-one has ever told me how much of the fluid has to be taken up before it becomes lethal to pests. For instance the recommended dose is a fluid ounce to a gallon of water. Providing this is watered to a plant, there must have to be a fair quantity to soak into the soil of the pot in the first place. Then the plant roots have to take up this liquid and disperse it all over the plant. Let us consider an echinopsis about as large as a grape fruit. In this there is a lot of sap and one wonders how much of the insecticide has to be taken in for the whole of the sap in the

plant to become lethal to any pest. I shall be glad to hear from any reader who is able to give me any information as to what percentage of the sap of a plant has to contain the insecticide sufficient to kill any biting pest.\*

I am experimenting with some of the soil-less compost and at the moment my tests have not been held long enough for me to be able to give any conclusive results. In some cases it appears to be an advantage over my usual compost but in others there does not seem to be much difference. I pricked out some current year's seedlings into Levington compost, some in J. Arthur Bowers Cactus compost and some into my own type. After a couple of months there does not seem to be much difference in the rate of growth in either. The concrete box with Levington compost has become very green with Algae on the top, much more so than in the other composts. Also this seems to be a great attraction to the tiny black *Sciara* fly. If this is to be more infested than my other compost then I shall not use it again.

I had a *Euphorbia obesa* which for a couple of years did not appear to grow at all and to my way of thinking was on its way out. I potted it in Levington compost and after a few months it has taken on a new lease of life, it is growing well, a good colour and has flowered very well, a female plant but at the moment I have no male plant in bloom. I also had a *Mammillaria guelzowiana* which had stood for a couple of years without making any new growth and it looked on its last legs. I potted this into the same compost and now it has definitely turned a healthy green and appears to be growing. On the other hand one or two other doubtful starters do not seem to have benefited so far. I think that it would be a good plan to try the Levington for striking off-sets and cut pieces of cacti, as it should encourage root formation. I have a few last year's seedling in the same compost and some are growing well in it but they look rather lush. This is the only complaint I have had so far as regards potting in Levington. Many plants grow too quickly, become lush and do not look at all typical. I know that many plants, although looking lush, also flower well and so one must make an individual choice.

I am sometimes asked if one should take off the side shoots from certain mammillarias. Most of the types which make these side shoots are what is termed caespitose, and it is quite natural for them to do this. If one exhibited a plant of this type which was single or without many off-shoots, it could be down-pointed. Many of the hooked mammillarias with fine large flowers are in this category, and I have had a grand display of flowers on a group of *M. swinglei*. This had

---

\*Please send your answers to the Editor.



at least 20 flowers out at a time and really a magnificent sight. When these mammillarias make a good group one can expect that many of the side shoots will flower as well as the main stem, and this adds to the attraction of such plants.

Towards the end of October it will be necessary to go over the whole collection to make certain that all is in good trim for the long days of rest. All top soil should be lightly forked over and changed if at all foul. Any weeds should be removed, labels checked and the drainage hole inspected. These often get stopped up and so should be opened up again. The roof of the greenhouse or frame should have attention to make sure that all is in good condition.

The next step will be to see that any heating apparatus is in good order. Where electricity is being used it is a good plan to check up on all connections. Points of plugs should be cleaned and polished with fine emery cloth. Also if there are several connections of plugs in a greenhouse, it is wise to wrap insulating tape all over the plugs and sockets to ensure that no drips or damp can enter. If this is not done one can get what is known as frying, and shorting could occur or crackles on radio or television in the home. Any thermostat should be inspected. It may be found that the make-and-break connections have become dirty and need cleaning. Also it is not unknown with some types, for spiders to make their nests in them. Any wiring which appears at all frayed should be replaced. It is possible to get plastic covered cables nowadays which will last almost indefinitely.

Whilst little can be done to improve any of the tubular or cable heaters, apart from seeing that they function, the fan type of heater may require servicing as this having working parts may need some attention.

Paraffin oil heaters will certainly require attention. First examine the wick and if it appears to be disintegrating, it should be changed for a new one, before any lighting is done. The oil should have been emptied out at the end of the last season but if this has not been done, now is the time for this. Discard any old oil, and any which has been stored all the summer may have lost some of its strength and one would be well advised to start with fresh paraffin. If the heater is one with overhead water pipes and a fume pipe, these should be cleaned out, especially the fume pipe. This can collect plenty of soot during a winter's burning. If the heater is of the type without over-head pipes it is essential that something should be fitted over it to disperse the heat. As the heat rises to the roof very quickly from a lamp it soon loses much of its value over the cold glass. Therefore some form of disperser should be fitted. Where a lamp is used under a staging, a good idea is to suspend a sheet of corrugated iron well above the lamp. This sheet should be bent to form a wide channel over the lamp and so the heat will strike it and spread out over the whole length of the staging. If the lamp stands on a path in the greenhouse it is still possible to

fit something over it and even a range of inverted flower pots can be stood above the lamp to help spread the heat.

If one is fortunate enough to have a lamp with hot water pipes and a fume pipe above it, it is possible to construct long tubes of firm plastic to fit on each end of the flue pipe. This will not only spread the heat but most of the vapour will condense in the tubes and can be caught in jars under each end. This will mean that instead of the glass roof and glazing bars being constantly wet whilst the lamp is alight, these will remain perfectly dry at all times.

If gas heating of water pipes is available then a lot of work and worry can be dodged. The solid fuel boiler can be a very hard graft to keep alight throughout a winter and unless one is on hand to attend to it at certain types of weather, it may either go out altogether in dull weather or burn away like mad during a very windy clear spell. The washers of the pipes should be inspected to see if any need changing for new ones before lighting up for the first time. I would never recommend this type of boiler to anyone with a medium or small sized greenhouse, but a very large one may have to be heated in this manner.

For the average house paraffin oil heating is the cheapest to run but it is of no use trying to heat a fairly large greenhouse with a small type lamp. One should not have to turn the wick up to its maximum but it is better to have a powerful type of lamp which can be run well within its limits, the fear of a "draw-up" is then obviated. A blue flame lamp is better than a white flame in my opinion and I have used several types of lamp during the past years. One point cannot be over-emphasised, and that is, always return to the lamp soon after it has been lighted as it is almost certain that as the lamp and oil warm up, so the flame can rise. Unless the wick is turned down soon after the lamp has warmed up, trouble could occur later. During the early spring it is important to visit the greenhouse where an oil lamp is used, early on a sunny morning. It is surprising how soon the sun can heat up a greenhouse and so could cause the flame to draw up.

Plastic pots still give rise to many arguments but some of the ideas mooted are rather difficult to understand. For instance we are constantly told not to use them for *Lithops*, but my own collection of about 70 species has been in plastic pots, mostly half-pots for nearly two years. These plants are quite healthy and have not become blown or untypical. Some have about 30 heads and are over 20 years old. One could plant *Lithops* in plastic pots and by withholding water they could become desiccated. It all depends on the amount of water given. One would think that it is impossible to over-water a clay pot, but this is not so. Plastic pots are all right for any plant, cactus or other succulent as long as too much water is not given. It is as easy as that. When watering is mastered then so is the growing of our plants whether in plastic pots or clay ones.

## Cultural Notes

### Other Succulents—Mrs. M. Stillwell

THIS HAS BEEN without a doubt one of the best summers we have experienced for many years, and I am sure all our plants have benefited from the extra hours of sunshine. As the autumn approaches the many flowers of the *Mesembryanthemums* take precedence in the greenhouse, with often a predominance of yellow. I broke up several of the *Pleiospilos* and re-rooted the heads this year, as I find they seem to get smaller with age, as the base becomes woody and they appreciate a new start in life. The newly rooted heads are flowering well this year, some with more than one flower to each head. These plants you will find usually produce plenty of seed, but often result in hybrids, and should not be passed on as true Species. By the autumn, *Pleiospilos nelii* should have just the one large body which will show signs of a new one in the centre, through which the buds will appear about January-February.

The *Conophytums* come into their own in the autumn, when the old papery skins can be carefully removed to give them a tidier appearance. Here it is possible to introduce some colour other than yellow into the collection, by choosing those *Conophytums* with the mauve and purple and pink flowers. Unfortunately these are usually produced by the smaller types which take a number of years to reach a good-sized clump. Any of the following produce showy flowers: *C. wettsteinii*, *C. fenestratum*, *C. erniana*, *C. minutum*, *C. odoratum*, *C. ficiforme* and *C. pearsoni*. *Conophytums* can scorch if grown too close to the glass. One should not be without the very early flowering *Conophytum notabile* with deep bronze-coloured flowers. This is one of the problem plants that with age develops stems which give it the appearance of a shrubby mesembryanthemum rather than a stemless, and it is debatable whether it should be included in the stemless mesembryanthemums for show purposes.

The Autumn Show at the R.H.S. Hall produced some very choice plants from the members, although we should still like to see more compete. The dwarf Aloes have become very popular during the last few years, and would be ideal for people lacking a lot of space, and for those with shadier conditions and even windowsills. On the show bench was the very attractive *Aloe jacunda* and *A. albiflora* with its dainty white flower heads, and a nicely marked *A. rauhii* which caught everyone's eye. *Aloe haworthioides* is, of course, a real gem and still much sought after. My only complaint at the London show was that the latter was grossly overpotted, probably to bring the pot size into line with the other exhibits in the class, but I trust it was returned to a pot more fitting to its size after the show.

There are also some very beautiful *Haworthias* available today including those going under the name of

*H. bolusii* and *H. setata*. One wonders if *H. bolusii* is really just another variety of *H. setata* of which there are so many. I have grown seed from my plants, which have produced the most attractive hybrids all slightly different, which makes one wonder how many really true species do find their way into collections, but being a true plant lover, I find the little *setata* hybrids most pleasing to the eye. *Haworthia bolusii* as I know it, and which was an important plant many years ago, is a very white hairy plant and almost as large and round as a cricket ball. The bottom rows of leaves always tend to die back and have to be removed carefully from time to time.

In spite of what Mrs. Daphne Hutchinson says in her letter published in the journal for August, I still prefer to keep the choicer *Haworthias* in clay pots. It is natural for *Haworthias* to form new roots each year and to lose some of their old ones; when repotting the new roots will be seen growing very thick and white from behind the bottom row of leaves of the rosette. This will often make it necessary to remove the bottom row of leaves before potting up again to give them a little more room; at the same time the old dead roots can be removed. The best time to do this is about September. I cannot imagine what *Haworthia retusa* varieties would look like if only watered twice a year as Mrs. Hutchinson seems to advocate as they soon start to shrink when they need water, whether in a plastic pot or not. My plants are usually kept rather on the dry side for the same reason as Mrs. Hutchinsons, simply that I cannot always find time to get round to watering all of them. I agree solely that cacti grow ideally in plastic pots, but I am not too sure about the miniature growing succulents which, to my mind, must remain compact to keep their beauty.

*Gasterias* and *Aloes* seem to do well, and flower well, in plastic pots and I have a large plant of *Gasteria batesiana* which never looked better and has flowered from every head. *Gasteria liliputana* is very attractive when in full flower, but only when it has reached at least a 4½ inch pot and to my mind should not be exhibited with just one or two heads; this is not a show size plant.

I have noticed in the course of judging that so many people who have been lucky enough to obtain a small rare plant cannot wait to show it, and then wonder why it did not get first prize. It is no good showing a small immature cutting, however rare, if it has not got properly established and please do not try to fool the judge by putting it into a large pot. The six pots of *Lithops* that received first prize at the show this year were perhaps the smallest of the exhibits, but were all adult clumps beautifully firm and well coloured and very

carefully presented. So many people seem to get their *lithops* oversized and some I noticed seemed to be sitting just on top of the soil, making them look even taller. *Lithops* have contractile roots pulling them down into the soil. Show pots always look nicer if given a top dressing of cornish grit or coarse aquarium gravel, but not all coloured chippings please.

The *Euphorbias* were well represented this year and must have taken great care to transport as their milky latex exudes at the least touch. It is always the safest way of packing to enclose the whole plant in a core of thick newspaper to ensure that it does not touch its neighbour. When the autumn is approaching *Euphorbias* should receive less and less water to harden them off for their winter rest; they stand the cold if allowed to become dry. Many are still growing vigorously during the autumn and one can only be governed by the weather when watering. When any deciduous leaves start to turn yellow and die off, that is the sign that they need a rest.

As winter approaches, have a good clear up in the greenhouse, and if possible brush down all shelves and

walls, and at the same time clean the inside of the glass to ensure that the plants receive the maximum of light during the dark days; put a little Jeyes fluid in the water for washing shelves and woodwork; it helps to deter pests, and also if time allows examine the underneath of all pots for signs of root bug or woodlice that may be hidden from view and either wipe the pots with the same Jeyes fluid flannel or grind them into some powdered paradichloride of benzene crystals. Drips during the winter can play havoc and although I dislike lining the house with polythene for the winter, it often comes in useful pinned under roof-lights, or anywhere else that may show signs of leaking. If it is pinned up loosely to catch the water, it can be emptied out easily. Check all thermostats to ensure they are working properly; often they get stuck during the summer, possibly if we get a bit careless and get water in them. I always like to get some of the repotting done in the autumn, particularly the larger plants that are well established and do not resent disturbance, but do not move young seedlings or plants known to be temperamental.

## Notes from San Diego

by Richard Russell

I BELIEVE MY INTEREST in cacti started back in 1938. In those days I lived in the heart of New York City. The mother of a very good friend of mine was a botanist, and she kept a box full of cacti in her window. Most of the plants did not do very well, but there was one tiny specimen which grew splendidly, seeming oblivious of the harsh conditions of a steam-heated city apartment. The little plant was labelled *Freilea grahliana*. I noted with interest that within a few years the little cactus had thrown out dozens of "pups". Furthermore, strange, furry little buds kept appearing at the crown of the plant. Being cleistogamous, the buds never opened, but went directly to seed.

I moved to San Diego, California, ten years ago, and of course this area is a cactus grower's delight. Unlike the cities of the east, everything is going for the cactus fancier here. But somehow, I have never forgotten the little *Freileas*. I still have a soft spot in my heart for this strange, little-known genus.

The name *Freilea* was put forth in honour of Manuel Fraile, a curator of cacti in the U.S. Department of Agriculture in Washington, D.C. The genus was set up by Britton and Rose in 1922, and it included nine species which were previously included in Schumann's all-encompassing genus, *Echinocactus*. All the *Freileas* are tiny plants; they come in cylindrical, semi-cylindrical and globular shapes.

They are relatively easy to grow, and I have done best with them in semi-sun in large containers which do not dry out too quickly and which stay relatively cool. In the past I was limited as to a small number of



A 3-foot stand of *Elychnia iquiquensis* in the author's front garden

species. I have always had the quick-multiplying *F. grahliana* and *schlinzkyana*, both globular types. I also had the globular *F. columbiana* and *pygmaea* as well as *F. pseudopulcherrima*. Finally, I owned the more difficult-to-grow and rarer *F. gracillima* (a tiny columnar plant). Last year I received two new and beautiful *Freileas* for my collection, *F. cataphracta* and *F. castanea*. The latter is one of the most interesting species in the genus, the plants appearing like tiny, bejewelled *Astrophytums*.



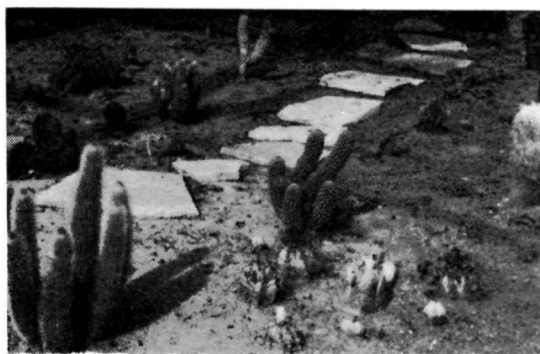
Just a month ago I was lucky enough to be able to add a number of new or harder-to-find species to my collection. First, I received *F. dadakii* which some place as a variation of *F. pygmaea* (it looks like a totally different species to me). *F. knippeliana* is now in my collection. This plant has been around a long time, but I've never been able to get a hold of it. I have a minute  $\frac{3}{8}$  inch specimen, smaller than a pea. I also have *F. horstii*, which is fairly new, a little columnar plant with creamy-white spines practically hiding the plant. And the most striking of all is *F. albifusca*, a most amazing little columnar plant,  $\frac{1}{2}$  inch high with longish, bristly red spines all curving upwards. The latter is, in my mind, the most unusual looking plant in the genus with the possible exception of *F. castanea*.

I would think that *Fraileas* would be popular in England, since they take up literally no space and a full-grown plant may make a clump two inches across. Many are supposed to flower in full sun, but I have had only cleistogamous, seed-bearing buds. I note that in full sun *Fraileas* tend to bronze and to almost cease growth. But in semi-sun (screens) the plants grow very quickly and they stay green. Some are almost yellowish green. Most *Fraileas* present a delicate appearance because of their size, and many appear very tender such as the sparsely-spined *F. pseudopulcherrima*.

All in all, I wish to recommend this extraordinary genus to cactus lovers, although perhaps the most frustrating thing about collecting *Fraileas* is the difficulty in obtaining the various species. I might also note that there is a great sparsity of literature on the genus, and those wishing to go in for *Fraileas* would be practically doing pioneering work. Finally, what other genus can boast that all its species could be placed (in specimen size) within the confines of a single window box?

The writer has the advantage of having a fairly large amount of space in the front of the house in which to plant the larger specimens as well as space in the back garden in which to grow cacti in pots. Curiously, the more difficult plants do best in the ground, and I would guess that this is because they have the advantage of even root temperature and all the space they need in which to expand their roots. Some plants are very slow to establish, taking up to two years to "make it". For instance, I have a *Cephalocereus hoppenstedtii*, two feet tall, which I planted in full California sun. This plant sat dormant for two years, and finally in July of 1969 it started showing growth. The same story goes for a wrinkled *Homalocephala texensis*, which, covered with screen slowly fattened and this year (two years after planting) presented me with a shower of its lovely, frilled flowers. I note that some of the more difficult specimens, once they root and "take", are perfectly happy and hardy. It is as if their "baptism of fire" has been successfully passed.

Two extremely interesting *Opuntias* have been planted in the front directly in the ground. *Opuntia quimila* from S. America, a blue-green pad with one or



A view in the author's garden

two startlingly long spines (up to 5 inches) projecting from each areole. I have never seen an *Opuntia* like this one for novelty of looks. A second *Opuntia* I gave just planted is *O. echinos gigantea* (the giant *Opuntia* with tree-trunk growth from the Galapagos Islands). This, too, is an interesting plant, the young seedlings being covered with a hairlike set of golden bristles. I also have a number of plants of the wonderful *O. erinacea ursina*, which is our famous "grizzly bear" *Opuntia* from the Mohave desert and thereabouts.

I believe that the grizzly bear is my favourite *Opuntia*, growing easily in very dry, sandy soil and quickly forming long-haired, silvery clumps. The plant has never flowered for me, but in appearance it is one of the most beautiful cacti available if grown outdoors. Unfortunately, I imagine *O. erinacea ursina* is a difficult customer for British growers, and I would doubt that it would obtain its full, hirsute beauty inside or in a greenhouse. This is one plant of which I can say, the less done to it the better. I just place a pad in the ground and leave it alone. I don't water the pads or touch them. Within three years a remarkable, hairy clump will result.

One of the most frustrating, yet exciting events here is receiving a new, evidently unnamed or unclassified plant. About six months ago Bob Taylor of El Cajon gave me a little clump of what is obviously a *Mammillaria*. Bob is a very frequent visitor to Mexico, and if he thinks a plant is new, he's usually right. "This is one I've never seen before", Bob told me, "see what you can find out about it." The *Mammillaria* is tiny, about  $\frac{1}{4}$  inch and it possesses a long, reddish hooked central spine (each hooked central is about  $\frac{1}{4}$  inch in length with about eight white bristly radials). The *Mammillaria* clumps quickly, forming very compact plants. A 1 inch clump may contain 15 heads! As soon as I propagate some of these, I will send them to England. (A few members may remember that in 1964 I sent the first *Mammillaria barkerei* seen in two decades to England.)

Well, I see that these notes have extended a bit too far already. Next issue I want to write about some fantastic plants I have such as *Mammillaria micheana* and *albicans* and *Oroya borchesii* and *Rebutia nivea* and *R. mentosa*.

# The Thirteenth Bi-ennial Convention of the Cactus and Succulent Society of America

by W. F. and B. Maddams

THE 13TH BI-ENNIAL Convention of the Cactus and Succulent Society of America, held during the week commencing 4th May, 1969, at Pasadena, California, was much more than a further instalment of an increasingly successful series of meetings. Its timing and location were selected to commemorate the 40th anniversary of the formation of the Society and a great deal of planning and effort had been expended prior to the assembly of more than 300 cactophiles at the Huntington-Sheraton Hotel to ensure that the week's activities were worthy of the occasion. It is a moot point whether we, as complete strangers, are in a more advantageous position than the average member of the American Society to judge how well the objective was achieved but we have no hesitation in saying that the Convention was a resounding success in every respect. It is regrettable that the two of us from Great Britain and Mrs. McIver from Australia were the only overseas visitors to what one is tempted to call "the greatest cactus show on earth". Given the stamina and enthusiasm there was the opportunity to converse with the top personalities of the American cactus scene, visit a number of very fine collections in the Los Angeles area, improve one's knowledge by attending the afternoon symposia covering a wide range of topics and, in spare moments, to join in social activities.

Obviously, we are not familiar with possible venues for the Convention in the Pasadena area but we imagine that few others would have been more suitable than the Huntington-Sheraton Hotel. This must challenge for the title of doyen of the large hotel with multiple facilities as we now know it. Dating back to 1907 it was the brain-child of General Wentworth, after whom it was named. A few years later it was acquired by the railroad magnate, Henry E. Huntington and, much later, by the Sheraton Corporation of America; hence, the present name. It stands proudly in 30 acres of grounds which were landscaped by William Hertrich, widely known for his outstanding work in the nearby Huntington Botanical Gardens. The Hotel was well able to provide the many and varied amenities required for the week's activities and it was particularly convenient that the very fine display of plants could be staged within a stone's throw of the lecture halls and hotel foyer.

The fact that there were two concurrent series of four one-hour lectures on each of three afternoons prevented anyone, even with the most robust constitution and receptive mind, from hearing more than one half of the specialist talks. In fact, it was not the intention that anyone should attempt this and it would need a person of very catholic tastes to benefit from doing so. Consequently, we are not in a position to give adequate

reports on the whole of the four afternoons and, inevitably, our comments reflect our particular interests; the absence of detailed comment on some of the lectures in no way implies criticism or lack of merit.

As we were to find on our subsequent field trip into Mexico, the mere process of transporting oneself from the Los Angeles area to the Mexican border is quite time consuming and any method for shortening this process provides correspondingly more time for collecting. It was therefore rather appropriate that the first talk of the afternoon sessions should be devoted to what seems to be the answer to the perennial problem. Mrs. Kathryn Sabo, of *Mammillaria saboae* fame, suggested that the solution lies in covering much of the territory in a small 'plane. The fact that her husband is a professional pilot is a help but we may see this idea in much wider use a few years hence.

The second opening talk, by Dr. James Hendrickson, on the ocotillo family, although of a rather specialised nature, was full of interest. The speaker gave a detailed account of the Fouquieriaceae and examined critically the characters used to set up the various species. This work is to be published as a monograph and it should be studied by all who are seriously interested in a detailed examination of a particular group of cacti or the other succulents.

Mr. W. F. Maddams followed with what was, seemingly, a second highly specialised discourse, on the *Mammillaria picta* complex. In fact, he selected this particular group of species to illustrate the problems which arise when one attempts a taxonomic treatment of a group of intergrading plants. He emphasised the necessity for a thorough knowledge of the variability of the population in habitat and defended the use of the concept of a complex for such a group of plants. This last point was endorsed by several of the audience, well qualified to comment, in an interesting discussion after the talk.

Readers of the American Cactus Journal will be aware of Professor Chester Dugdale's interest in the genus *Lithops* and of his trip to South Africa to study and collect in habitat. This talk "Mostly *Lithops*" was essentially a commentary on this experience, illustrated with numerous colour transparencies. These demonstrated vividly how well these plants mimic their surroundings and when a particular species grows in different surroundings this can result in varying appearances, a factor which has to be taken into account in taxonomic work. This talk must have interested far more people than those specialising in the genus.

Professor Dugdale was followed by Paul Hutchison, again with habitat transparencies, but from a very

different area, namely Peru. He is as well qualified as anyone, excepting Ritter perhaps, to comment authoritatively on the cacti and other vegetation of this area and he certainly made the most of the opportunity. It is difficult to summarise a talk of this type and to pick out the highlights, but one point which emerged merits mention. The authentic *Borziacactus morleyanus*, which is of distinctive appearance, is a plant of some rarity and it is clear that the specimens now reaching Great Britain under this name are not true.



*A chat with Dr. Dodson (at Tegelberg's Cactus Gardens)*

Concurrently with this talk Dr. Jay Dodson was busy showing a variety of colour transparencies of some of the many interesting plants in the University of California Botanic Gardens at Berkeley, of which he is the Curator. This is one of the top collections of succulent plants in the U.S.A. and, inevitably, Dr. Dodson could do no more than make a selection from many choice items. We had an invitation to visit the Gardens but, unfortunately, time did not permit.

The first talk of the Thursday afternoon session proved to be among the most interesting of the whole Convention, with Myron Kimmach giving an account of his cactus collecting activities in Mexico. Myron's duties of Curator of the Huntington Botanical Gardens have taken him on several trips into Mexico, to the States of Sonora, Sinaloa, Chihuahua and Durango and it was evident that he has thoroughly familiarised himself with the succulent flora of the northern portion of Mexico. If we are to pick up on any particular part of his fascinating illustrated talk it will be his explorations in Copper Canyon, the Mexican answer to America's Grand Canyon. This is an area rich in succulent plants and we were interested to learn that what appears to be a new *Mammillaria* species has been brought back from the Canyon.

We were in something of a quandary the following hour because both talks, very different in nature, demanded our attention. We eventually listened to Dr. Larry Mitich talking about cacti native to some of the Western States of the U.S.A. and regretfully missed Sister Marie Fidelis discussing chromosome investigations into the Cactaceae. We gather that it was a first class lecture and that many examples were drawn from the genus *Mammillaria*. However, Dr. Mitich's account of

cacti which are hardy in the rigorous conditions of Wyoming and North Dakota was of particular interest to us as we have corresponded with him for several years. We must admit that we played truant for the rest of the afternoon, forsaking the lecture rooms to browse among the exceptionally fine display of plants collected together as part of the Convention.

On Friday afternoon the last session of lectures took place and it was evident from the attendances that stamina and enthusiasm remained undiminished. Dr. Lyman Benson is widely known for his conservative treatment of cactus taxonomy but, be that as it may, his views deserve careful attention and his talk, followed by an informal discussion, gave those so inclined ample opportunity to air their views. Mr. Doyle Noel's lecture was on a completely contrasting subject; as Chief Agricultural Inspector at the Nogales Border Plant Inspection Station he is obviously in an unexcelled position to give advice about obtaining plant import permits and the cleaning up of plants for inspection. He did not disappoint those, such as ourselves, who were to be faced with this problem for the first time soon after the Convention.

There followed another of the highlights of the Convention lectures, Dr. Reid Moran on the subject of Dudleyas. He gave a systematic but lucid account of the genus and its relationship to *Echeveria* and *Pachyphytum*. Drawings and colour transparencies showed admirably the differences in the floral characters and this was a model lecture, educational but interesting.

The two topics for the final hour were very contrasting.

Mary Bellerue ran a judging panel at which there was an open discussion on the best methods for assessing plants on the show bench. A series of suggestions had been circulated in advance of the event and this proved particularly helpful. It is evident that the American Cactus Society, like the National Cactus and Succulent Society in this country, is making every effort to ensure that show schedules and judging criteria are as good as is humanly possible. The other event was a *Mammillaria* panel, comprising Bob Foster (Assistant Editor of the *American Cactus Journal*), Denis Cowper and Peter Sharp (who will be remembered by many members in the London area), with Bill Maddams acting as Chairman and coming in with an additional opinion as required. After the somewhat hesitant start that often seems to characterise these panels the audience warmed up and questions were forthcoming in ample numbers, so much so that the event over-ran its scheduled time by a quarter of an hour. Although the team had to deal with a higher proportion of nomenclature and taxonomic queries than would probably be the case in Great Britain, and the answers to these are often as much a matter of opinion as hard fact, there is no doubt that the session was a real success.

"All work and no play makes Jack a dull boy" but the Jacks (and Jills) at the Convention were not subjected



to work all the time by any means, and there was a chance to enjoy the great outdoors. In fact, two mornings and one whole day were devoted to visits to some of the finest collections to be seen, some not only locally famous but of world-wide renown.

On Tuesday a coach and several cars proceeded the short distance to the Huntington Botanical Gardens. These gardens were first developed as a Desert Plant Collection by Henry E. Huntington in 1907; collected material from many areas has been amassed since that time and the Gardens now extend over ten acres. The aim here is to assemble plants for botanical and scientific purposes and this is claimed to be the most comprehensive collection of outdoor plantings of succulents of its kind.



Down the main path at the Huntington Botanical Gardens

There was a light drizzle as we arrived, blamed, of course, on our presence, but that could not dampen our spirits when we sighted the splendid clumps of *MM. geminispina*, *centricirra* and *compressa* which are so much more impressive in reality than when seen in photographs. However, there are many other gems in the collection about which little is heard as a rule. Amongst those are the fibre plants and related groups. We had seen *Puya chilensis* in bud at Tresco but here it was in full bloom and several other species as well with their attractive and colourful spikes, one with parts in a very striking and unusual shade of green. Another sight that impressed us was a field of tall red flower spikes which at closer quarters could be seen to arise from various large Aloe species. It was near here that we spoke to Myron Kinnach, curator of the Gardens and Gary Lyons who assists in the Desert Plant Section. They are doing an inspiring job in testing plants for hardiness and generally experimenting with growing out of doors in Californian conditions. They have found a good number of Euphorbias and some stemless mesembryantheums such as *Cheiridopsis* stand the conditions well but hastened to reassure us that they did not experiment with rare plants or other plants where replacements were not easily available.

A walk through a path lined with free flowering *Echinopsis* hybrids led us to a slight mound where, beneath some tall trees, coffee was being served. Here

we were able to sip while enjoying an unsurpassed view. Stretching below us were paths adorned each side with the glossy green of large Euphorbias, the lighter green of Opuntias and now and then the showy white and cream spikes of Yuccas, while beyond were the Liliaceae and, rising now and then in silhouette, some fine specimens of palms. Afterwards we looked more closely at the bed right at our feet, for here were some interesting species of Mammillaria including such prizes as *M. zuccariniana* and *M. arida* both rarely seen in collections in this country but obviously, like the others round them, growing well and enjoying the outdoor life at Huntington.

We would have liked to have stayed much longer and taken more photographs and made some notes but it was time to return. Two days would be more the time than two or three hours really to find all the treasures there were to see but, regrettably, our proposed return later in the week did not materialise.

A rather earlier start had to be made the next day, Wednesday, as our three coach loads were making a trip further afield, about 70 or so miles distant, to the Tegelberg's Cactus Gardens. We were soon on our way through the San Bernardino Mountains with their green lower slopes with clusters of pines and occasionally clumps of the stately Eucalyptus with its colourful bark; above, the peaks were swathed in mist but we knew there was still some snow lying there. Soon we were out in the wilds of the Mojave Desert where the spectacular, but rather untidy-looking, Joshua trees (*Yucca brevifolia*) rose above the choyas and other arid area vegetation.



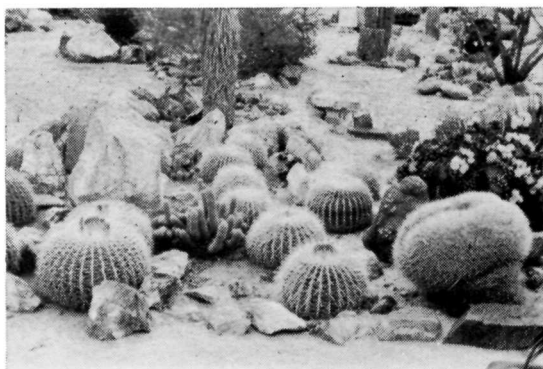
Gil Tegelberg Junior at the Tegelberg Nurseries

The Tegelberg Nursery itself lies some 3,000 feet up in the Lucerne Valley a situation of great extremes of temperature; a winter low of 6°F. has been recorded while 112°F. is not uncommon in the summer months. This has meant that the majority of the plants must be kept in greenhouses and three long constructions have been built for this purpose. There are, however, some attractive plantings of cacti and other succulents outside but these are mainly those native to the desert beyond the fence such as Ferocacti, small saguaros, Agaves and some Echinocacti and Mammillarias; all seemed to be growing and flowering well.

Inside the greenhouses were found the gems and the enterprise of the Gil Tegelbergs Senior and Junior in rearing and propagating many choice plants could also be seen. Many collectors pass on their finds to the Tegelbergs for propagation and investigation. On our visit we were able to examine closely a long and thickly spined Mammillaria found by Dr. Dodson (of the Berkeley Gardens) which is probably a new species. The two enthusiasts also showed us *MM. petrophila* and *phitauiana* which were collected by Edgar Baxter before he died.

Amongst the other beautiful Mammillarias that caught our attention were some large specimens of *M. magallanii*, mostly grafted and a fine specimen of *M. guelzowiana*. There was also *M. baumii* with a deeper yellow flower than is seen over here. What really dumbfounded us was a *Melocactus intortus* in a large tub; this plant about 15 inches high had a cephalium which nearly reached 2 feet. There were some other Melocacti, too, and some large specimens of Neoporteria, including *N. napina* in flower.

Their interest does not lie in cacti alone; there were some sizeable and unusual other succulents as well, the choicest being grouped together at the end of one of the houses. A *Taveresia (Decalbone) grandiflora* with a two foot span was in tip top condition and there were flowers as large as a hand on a sizeable plant of *Hoodia gordonii*. Rising to the roof were Idrias, and perhaps the most eye-catching of all, an *Adenium multiflorum*; this grey stemmed, tree-like succulent had shiny dark green



A group in the Tegelberg Cactus Garden

leaves and large white flowers edged with wide bands of deep carmine pink.

A number of the party went on a "Treasure Hunt" in the desert where the Tegelbergs had previously "hidden" plants for them and they later came back proudly with their "finds". We, however, were too busy making notes, photographing and, as usual, being besieged by people who wanted to talk to us and we barely saw the whole collection. It should be remarked that for this occasion the Hotel had provided picnic lunches in true American style; we each had our box containing chicken to gnaw, sandwiches, Russian salad in a tub and fancy cakes and there was plenty to satisfy the heartiest appetite.

The next morning there was a choice of visits. One party set off quite early for the Rancho Santa Ana where Dr. Lyman Benson was to be the guide, but we opted for a slightly easier morning with less travelling as we would be having more in the near future. We were invited to join three others to make a car-load and set off along the freeways and then along a tree-lined boulevard to the garden of Kitty Sabo at Woodland Hills.

Here, a fine scenic display of outdoor cacti could be viewed without straying from the drive, but walking amongst the plants many more interesting species could be discovered. There was a group of *Marginatocereus marginatus* with six columns up to 15 feet tall and other columnar cerei from 10 to 12 feet tall. Twisting and turning at their feet for about 20 feet were the "arms" of *Trichocereus thelogonus* the "creeping devil" of South America. There was also the Mexican "creeping devil" *Machaerocereus eruca* with 12 stems each about 10 feet long. There was a vivid splash of colour from a group of hybrid *Echinopsis* with shades ranging from yellow to deep red and a bed of large Mammillarias had some fine flowers amongst them, too. What thrilled us most in these was a fine specimen of *M. winterae* with its large yellowish flowers and there was also a clump of *M. hertrichiana* about a foot across.

There were many more fine plants in good condition, often in flower or in bud, and we cannot refrain from mentioning *Soehrensia bruchii*, an eight inch high plant with eight deep red flowers very like those of a *Lobivia*. Another striking flowering plant was a *Thelocactus* nine inches in diameter.

Away beyond this fine display was a greenhouse, or rather a part covered above with Saran, a form of PVC which is quite often used for overhead protection of plants in these parts, with pots of plants on benches. Here were some priceless Mammillarias, some we had never seen before such as *M. cerralboa*, a columnar plant with long, golden-yellow hooked spines and *M. ginsamarka*, a hybrid from Japan, the body of which somewhat resembles *M. marksiana*. It was not surprising that the person after whom it was named should have the biggest clump of *M. saboae* we had seen; it filled a six inch diameter pan and close by was a clump of *M.*

*theresae* in bud. Some other cacti there included a four-headed specimen of *Toumeyia papyracantha* on its own roots and a large plant of the small growing *Pediocactus knowltonii*.

We also noted a few other succulents such as *Graptopetalum occidentale* and even some *Mesembryanthemums* but the latter had to be covered over as some marauding creature tended to nibble them. It was with great regret that we had to tear ourselves away from this fine collection as our driver was anxious to make a move near the front of the "cavalcade" heading for the Gay's place at Tarzana.

Ed Gay is the President of the Cactus and Succulent Society of America and so it is not surprising that he and his wife have what is probably a unique display of succulents in a private collection. In fact, the sloping hillside at the back of their garden has been transformed into what might be called a living reference book on the Cactaceae by their careful thought and efforts. There are eight terrace beds set into the hillside with paths between; these are each 75 feet long and eight feet wide except for the lowest which, as it accommodates the Cereanae, is more than twice as wide. The whole is covered by a "roof" of Saran which gives some filtered shade to prevent scorching but allows enough sunlight in to encourage free-flowering. In these beds the genera are arranged morphologically; the *Mammillarias* and *Dolichothele* for example are arranged along one whole bed, the hooked spine species together, including several *M. longiflora* which were in flower when we were there in May and some large clumps of *M. occidentalis* forms. There were fine large clumps of many of the *M. elongata* group in flower and amongst the other *Coryphanthanae*, two large *Thelocacti*, *T. conotholos* and *T. lophothele*, both about seven inches in diameter and flowering well. We could have spent a day looking at this sub-tribe alone but as we had only an hour or so altogether we left them to look at the other terraces.

We had the pleasure of seeing *Oroyas* in flower for the first time; *Oroya gibbosa* was reminiscent of *Weingartias* both in spination and position of flowers. Some of the *Ferocacti* were up to 15 inches in diameter and *F. alamosanus* with yellow-green flowers was particularly attractive. Below on the wider beds a *Cleistocactus smaragdiflorus* with dozens of red flowers had a bird's nest, complete with hungry beaks peeping out, set in the crutch of its stems.

Nearer the house a mass of colourful *Echinopsis* "Paramount" hybrids edged the borders and one bed was set out with *Opuntia basilaris* and other similar *Opuntias* which were smothered in pink, yellow and red flowers. Even along the side of the house *Selenicereus* and *Hylocerei* were clambering up the walls and flowering in profusion and by the patio were bedding schemes with *Aeoniums*, *Agaves*, *Haworthias* and *Echeverias*. We only had time for a quick glance in the large covered greenhouse but we knew that Ed's priceless crests and some of Betty's choicest succulents were



Vista at Kitty Sabo's garden

at the Convention display. However, there were some Epiphytic cacti in evidence, many still showing a few flowers and some other small succulents including some *Mesembryanthemums*.

Their front garden was landscaped and included a large clump of a *Trichocereus* hybrid with a profusion of flowers and a variegated form of *Agave shawii* which they had collected in Lower California. A number of red-spined *Ferocacti*, about a foot tall, looked very effective and there was the ever-popular "creeping devil" and other shrubby succulents to complete the picture.

That, for us, was the end of the Convention visits, although a party went off on all-day trip to "Lotusland" we felt that a rest before our long trip down into Mexico was in order for Saturday. We did have a quick look at Abbey Gardens in the afternoon but that is another story.

As in the daytime, so also in the evening our time was well occupied. There was a banquet each night but these were not the formal occasions such as the Annual Dinners of this and other allied societies. In fact, everything was very casual. Each table began on the first course in its own time, smoking in between courses was quite common and people often wandered from table to table to have a chat as well. There were two other differences from such events in England; coffee was served with the main course and generally any speeches were made before the sweet course was served.

Each night a different Society or group of Societies from the surrounding area acted as hosts and there was a special theme with decor to match and also some of the participants decked out appropriately as well. The host Society chose those to occupy the high table and others sat round the smaller tables wherever they wished. After feeding, those with sufficient stamina listened to other talks, generally illustrated by colour transparencies.

Unluckily, owing to an excess enthusiasm in cactus collecting in Arizona en route from Belen, New Mexico, we did not arrive in time for Monday evening's banquet, where there was a Mexican theme. This was followed by an address of welcome by Charles Glass,





*Ed Gay with his variegated Agave*

Convention Chairman and response and introductions by Ed Gay. Later Dr. Lyman Benson gave an illustrated lecture on "The Winds and the Deserts"; we were sorry to miss this as we understand the account of the connection between the winds and the climate generally of the South Californian deserts was well illustrated, including the cacti and other succulents of these areas.

However, we were there the next night, the big night, when the Los Angeles and Metropolitan Cactus and Succulent Societies were the hosts and the theme appropriate for the 40th Birthday party of the Society, the "Roaring Twenties". There was a background of Charleston music and a number of the ladies wore suitable outfits to perform this dance. The centre of each table was decorated with a succulent "tree"—about 50 rosettes of *Echeverias* and *Crassulas* pinned on to a central pad, set on a stick and fixed in a pot; there was a smaller edition as a table "favour" in front of each place. A number of ladies had spent a good many hours, and used a good many rosettes to make these attractive mementoes.

This was the occasion when voting took place for the Convention King and Queen, an appointment which lasts until the next Convention. Don Skinner and his wife were elected. At this time also there were speeches and greetings to celebrate the 40th Anniversary and we

took the opportunity to present ours. Betty relayed the good wishes of this Society to its sister Society in America and handed the President a special "card" prepared by Mrs. Whicher which said "The Cactus and Succulent Society of Great Britain send greetings to the Cactus and Succulent Society of America on the occasion of their 40th Anniversary" and one of the spoons engraved with the Society badge. Bill followed with a scroll recording the Greetings from the Mam-millaria Society and these two "surprise items" were obviously much appreciated. In fact, judging by the flashes going on there must be a number of photographs on the other side of the ocean which record the event. Incidentally, we were surprised that there appeared to be no outside "coverage" of this very special occasion, in the form of pressmen or local radio, and this applied to the rest of the Convention activities, too. The grande finale of the Anniversary Banquet was the bringing in of a very large, specially designed cake of which everyone managed a taste.

Perhaps it would seem surprising that we could get down to serious matters after such excitements, but soon a good crowd was assembled in the Georgian Room to hear Dr. Reid Moran's talk on "The Vegetation of Baja California". This was, as expected from such an experienced plant hunter and photographer, very worthwhile and with some fine transparencies for illustration it made a good ending to the evening's entertainment.

The theme the next evening was "the Wild, Wild West" and the Viennese Room was suitably decorated with large dice and cards. At the tables were more playing cards and small dice in front of each place each with a seedling cactus planted in a small cavity at the top. For this occasion some people turned up in the typical cowboy style clothes but Bob Foster went one better choosing the '80s style of lady's dress so often seen in western films. He had spent most of the afternoon in the Beauty Parlour and guaranteed it was all his own hair on top!

At the end of this banquet, large boxes of plants were carried in and arrayed along tables by the dais and Franklin Crosby began his talk on "Succulents from A to Z (pronounced zee over there)". He started at *Aeoniums* and we could soon see that it would be a rather long drawn out affair as with the "A"s he had so many plants to pick up and accept or reject with semi-humorous comments that they alone took a quarter of an hour. Maybe it was our day at the Tegelbergs' which had tired us, or Mr. Crosby's comments became more corny; whatever the case, we were not the only ones who silently slipped out after an hour and a half or so. We understand a few stood the course, but we never heard if he reached zee.

The host Societies on Thursday night were the Howard Gates Cactus and Succulent Society and the Mojave Desert Club with their theme "Mission Days". A replica of a mission bell on a wooden frame hung above our heads and a small model was on each table

with explanatory notes that it is really an "Indian Rain Cross" in origin but has been used as a religious symbol by many races. The table favour was a packet of *Opuntia basilaris* seeds.

Probably the best talks of the evening series followed this banquet. First Robert A. Foster, in more serious mood most of the time, spoke on "Collecting in Mexico" and this was cleverly illustrated with the help of two projectors. In this way we were able to see what a plant looked like in habitat and how it flowered in the owner's collection simultaneously. This certainly whetted our appetites for the Mexican trip but we were sorry that it would not take us in the area where he showed some fine clumps of *Epithelantha* growing. The other talk of the evening was Dr. George Lindsay on "The Genus *Ferocactus*"; Dr. Lindsay is the leading exponent on this genus and his knowledgeable observations, aided by colour transparencies, were certainly enlightening. One particular point which interested us is the fact that each ring on the spine of a *Ferocactus* represents one day's growth.

Friday evening presented a gay and colourful scene, the Hawaiian Luau by the poolside; evenings can be reckoned to be warm and dry in California in May and this was no exception. Sleeveless dresses and casual shirts were the order of the day, apart from the real enthusiasts who wore grass skirts or silky Hawaiian robes. This time two packets of *Zinnia* seeds were by each plate and we were later presented with an abalone shell each and garlanded with a lei, more lasting than genuine flowers as it was made of plastic! A Hawaiian band played appropriate music while we collected and

enjoyed a suitable meal with fresh tropical fruits, Hawaiian rice and barbecued chicken.

Afterwards the King and Queen were crowned and the King made some edicts, including banishing Bob Foster to Mexico for dressing as a woman (to which Bob's reply was "Yippee"). Les Rothstein the master of ceremonies for the evening, filled in with a few humorous stories and a special Hawaiian entertainment followed. A fire eater performed some dangerous feats and we were quite glad we were not near the front where there was a good chance of being singed. However, one of us no doubt would have liked to be nearer the front when two hula hula dancers gave some demonstrations! Thus ended a delightful and memorable evening.

This was really the end of the Convention as well but some more energetic folk set off in buses for a day at "Lotusland" in Santa Barbara on the Saturday morning. Knowing the days ahead would be somewhat strenuous we were quite content to look again at the wonderful plants at the exhibition (a full description of this will appear elsewhere), until their owners packed them ready for transport home.

"Come again next time" they all said to us, and how we would love to get down to Texas in two years time and join in this friendly gathering of great names and small growers, enthusiasts all, once more. However, if we cannot make it we hope there will be a better representation of cactophiles from this side of the Atlantic next time; we are sure you would not regret the trip.

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(Illustrations from transparencies by Betty Maddams)

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## The June Show 1969

THE SOCIETY PRODUCED a very interesting and eye catching display of cacti and succulents at the R.H.S. Show on the 24-25th June. All the exhibits, with very few exceptions, were of high standard. Most of the classes drew a reasonable number of entries although the numbers were a bit down on last year.

The most interesting class of the show was the class I for six cacti, which produced some magnificent specimens including a wonderful display by Mr. L. Jefferies.

Class 5 for six *Mammillarias* drew some interesting small specimens, one entry including a very fine *M. Gulzowiana* among others. Included in some of the entries were some small specimens of the larger growing *Mammillarias* such as *M. Rhodantha* although the class was intended for the smaller choice plants. Whilst on the subject of *Mammillarias* Class 11 for a *M. Bocasana* unfortunately only received four entries although this is a fairly common plant and I am sure many *Mammillaria* enthusiasts have got it in their collections.

Class 7 for three plants in *Echinocactaceae* produced a wide cross section of this genus, including the smaller

less common plants and the larger *Notocactus*, *Ferocactus* and *Hamatocactus* of the winning entry.

The seedling class had reasonable support with some very well grown seedlings but it would be nice to see a few more entries as a result of the Society Seed Distribution.

Class 23 drew some interesting combinations and was won by two huge plants of *Echinocactus Grusonii* and *Testudinaria Elephantipes*, the latter being housed in a large tub exceeding the largest size of pot. Also in this class was a fascinating pan of *Lophophora Williamsii* with a multitude of small heads in excellent condition.

Entries in the novice classes were down on last year but there was a wide and colourful display of plants in both classes. Also lacking support were the junior class although the exhibits staged were, in general, of good quality.

Finally class 25 again had a very fine entry of flowering cacti and colourful succulents by Mr. and Mrs. Maddams. It is unfortunate that others rarely compete in this class as it could be very effective and eye catching. I am sure it would be a very good advertisement for the society. J.A.

# Results of the June Show 1969

Cacti: Mr. A. Boarder.

Judges

Succulents: Mrs. M. Stillwell.

## Class 1 Six Cacti any genera. 7 entries.

- 1st Mr. L. Jeffries. *Notocactus ottonis*, *Mamillopsis senilis*, *Mamillaria plumosa*, *Notocactus pampeanus*, *Pseudolobivia kermesina*, *Seticereus icosagonus*.  
 2nd Mr. and Mrs. W. F. Maddams. *Mamillaria magnimamma* v *hystrix*, *Mamillaria bocasana*, *Gymnocalycium curvispinum*, *Eulychina santpieana*, *Espostoa huanucensis*.  
 3rd Mr. R. H. I. Read. *Echinocereus knippellianus*, *Pseudolobivia kermesina*, *Ariocarpus fissuratus*, *Mamillaria gigantea*, *Oreocereus trollii*, *Lemaireocereus chichipe*.  
 H.C. Mr. J. E. Taylor  
 C. Mr. F. D. Harding

## Class 2 Three Cacti in pots not exceeding 5 in. dia. (for members who have not previously won a First Prize in any Cactus Class). 7 entries.

- 1st Mrs. P. Poulter. *Parodia catamarcensis*, *Mamillaria celsiana*, *Astrophytum ornatum*.  
 2nd Mr. D. Best. *Parodia suprema*, *Mamillaria ingens*, *Oreocereus trollii*.  
 3rd Miss I. E. Potton. *Mamillaria beneckii*, *Echinocereus chloranthus*, *Pelecypora asselliformis*.  
 H.C. Mr. J. D. Andrews  
 C. Mrs. D. Finch

## Class 3 Three Rebutias and/or Lobivias. 7 entries.

- 1st Mr. L. Jeffries. *Lobivia famatimensis* v *leucomalla*, *Rebutia pseudodeminuta*, *R. fiebrigii*.  
 2nd Mr. and Mrs. W. F. Maddams. *Rebutia marsoneri*, *R. spagazziniana*, *Lobivia jajoiana*.  
 3rd Mr. J. E. Taylor. *Rebutia wessneriana*, *R. iseliana*, *R. senilis stuemeriana*.  
 H.C. Mrs. T. Watt  
 C. Mr. E. G. Canham

## Class 4 Three Mamillarias. 6 entries.

- 1st Mr. J. E. Taylor. *M. zeilmanniana*, *M. bombycina*, *M. hahniana*.  
 2nd Mr. and Mrs. W. F. Maddams. *M. candida rosea*, *M. picta*, *M. magnimamma* v *bockii*.  
 V.H.C. Mr. R. H. I. Read  
 H.C. Mr. J. D. Harding  
 C. Mrs. T. Watt

## Class 5 Six Mamillarias in pots not exceeding 4½ inches diameter. 7 entries

- 1st Mr. and Mrs. W. F. Maddams. *M. carrettii*, *M. pennispinosa*, *M. saboae*, *M. densispina*, *M. egregia*, *M. cowperae*.  
 2nd Mr. C. E. Parker. *M. bombycina*, *M. applanata*, *M. weisingeri*, *M. klissingiana*, *M. giseleana*.  
 3rd Mrs. T. Watt. *M. supertexta*, *M. schwarzii*, *M. nejapensis*, *M. heeriana*, *M. albicoma*, *M. petterssonii*.  
 V.H.C. Mr. J. D. Harding  
 H.C. Mr. J. E. Taylor  
 C. Mr. R. H. I. Read

## Class 6 Three miniature Opuntiae. 5 entries

- 1st Mrs. T. Watt. *O. boliviensis*, *O. tunicata*, *O. ovata*.  
 2nd Mr. and Mrs. W. F. Maddams. *Tephrocactus cylindrolanatus*, *Opuntia russellii*, *Tephrocactus hussei*.  
 3rd Mr. C. G. Brown. *Tephrocactus minisculus*, *T. pentlandii fauxianus*, *Opuntia species*.

## Class 7 Three plants in Echinocactaceae. 10 entries.

- 1st Mr. L. Jeffries. *Ferocactus wislizeni*, *Notocactus scopae* v *ruberima*, *Hamatocactus hamatacanthus*.  
 2nd Mr. J. D. Harding. *Astrophytum ornatum*, *Gymnocalycium curvispinum*, *Ariocarpus furfuraceus*.  
 3rd Mr. J. E. Taylor. *Notocactus ottonis*, *Stenocactus vaupelianus*, *Leuchtenbergia principis*.

V.H.C. Mr. E. G. Canham.

H.C. Mr. and Mrs. W. F. Maddams.

C. Mr. C. E. Parker.

## Class 8 Three Cacti (for Juniors under 18). 3 entries

- 1st Mr. M. Ede. *Mamillaria pseudocrucigera*, *Lophophora williamsii*, *Lobivia aurea*.

## Class 9 Three Gymnocalycimus. 8 entries

- 1st Mr. L. Jeffries. *G. valnicekianum*, *G. kurtzianum*, *G. baldianum*.  
 2nd Mr. J. R. Taylor. *G. lafaldense*, *G. saglionis*, *G. species*.  
 3rd Mr. E. G. Canham. *G. curvispinum*, *G. schickendanzii*, *G. oenanthemum*.  
 V.H.C. Mr. and Mrs. W. F. Maddams.  
 H.C. Mr. J. D. Harding.  
 C. Mrs. P. Poulter.

## Class 10. Three Echinocereus. 3 entries

- 1st Mr. and Mrs. W. F. Maddams. *E. subinermis*, *E. baileyi*, *E. berlandieri*.  
 2nd Mr. E. G. Canham. *E. subinermis*, *E. fitchii*, *E. species*.  
 3rd Mr. and Mrs. D. V. Brewerton. *E. reichenbachii*, *E. cinerascens*, *E. blankii*.

## Class 11 One Mamillaria bocasana. 4 entries

- 1st Mr. and Mrs. W. F. Maddams.  
 2nd Mr. J. E. Taylor.  
 3rd Mrs. T. Watt.

## Class 12 One Cactus imported since 1st January, 1967. 5 entries

- 1st Mr. C. E. Parker. *Melocactus intortus*.  
 2nd Mr. R. H. I. Read. *Anistrocactus sheerii*.  
 3rd Mr. and Mrs. W. F. Maddams. *Tephrocactus glomeratus* v *atrospinus*.

## C ss 13 Cacti raised from seed by the exhibitor, sown on or after 1st January, 1967, in container not exceeding 15 inches square. 5 entries

- 1st Mr. E. G. Canham.  
 2nd Mr. and Mrs. W. F. Maddams.  
 3rd Mrs. E. A. Potton.  
 H.C. Mr. W. L. Tjaden.

## Class 14 Three Aloes and/or Gasterias. 6 entries

- 1st Mrs. T. Watt. *A. jucunda*, *G. batesiana*, *G. minima*.  
 2nd Mr. and Mrs. D. V. Brewerton. *A. bakeri*, *A. bellatula*, *G. armstrongii*.

## Class 15 Three plants in Euphorbiaceae. 7 entries

- 1st Mr. R. H. I. Read. *Euphorbia obessa*, *E. squarrosa*, *E. horrida*.  
 2nd Mr. and Mrs. W. F. Maddams. *Monadenium schubei*, *Euphorbia valida*, *Jatropha berlandieri*.  
 3rd Mrs. T. Watt. *Jatropha capensis*, *Euphorbia decepta*, *Monadenium schubei*.  
 H.C. Mr. and Mrs. D. V. Brewerton.  
 C. Mr. J. G. Brown.

## Class 16 Three plants in Liliaceae other than those in Class 14. 5 entries

- 1st Mr. J. D. Harding. *Haworthia limifolia*, *H. setata*, *H. truncata*.  
 2nd Mr. C. G. Brown. *Haworthia paradoxa*, *H. truncata*, *H. bolusii*.  
 3rd Mr. and Mrs. D. V. Brewerton. *Haworthia obtusa*, *H. bolusii*, *H. margaritifera*.  
 H.C. Mrs. P. Poulter.

## Class 17 Three plants in Asclepiadaceae. 5 entries

- 1st Mrs. T. Watt. *Fockea crispa*, *Trichocaulon simile*, *Diplocyathia ciliata*.  
 2nd Mr. P. Bent. *Hoodia gordonii*, *Brachystelma barberae*, *Decabelone grandiflora*.  
 3rd Mr. and Mrs. W. F. Maddams. *Stapelia schinzii*, *Huernia pillansii*, *Stultitia handyi*.



**Class 18 Three plants in Crassulaceae. 3 entries**

- 1st Miss I. E. Potton. *Monanthes polyphylla*, *Crassula tecta*, *Adiomicus cooperi*.  
 2nd Mrs. T. Watt. *Crassula tecta*, *C. cooperi*. *Echeveria affinis*.  
 3rd Mr. and Mrs. W. F. Maddams. *Crassula mesembryanthemopsis*, *Adromischus poellnitzianus*, *Cotyledon wickensii*.

**Class 19 Three plants not covered by Classes 14-18. 5 entries**

- 1st Mr. and Mrs. W. F. Maddams. *Lithops terricolor*, *Cissus hypoluca*, *Testudinaria paniculata*.  
 2nd Mr. P. Bent. *Mitrophyllum mitratum*, *Lithops terricolor*, *Pachypodium densiflorum*.  
 3rd Mr. C. G. Brown. *Sarcacaulon pattersonii*, *Alluadia procera*, *Cissus hypoluca*.

H.C. Mr. and Mrs. D. V. Brewerton.

**Class 20 Three Succulents (for Juniors under 18). 2 entries**

- 1st Mr. M. Ede. *Haworthia species*, *Fenestraria rhopalophylla*, *Adromischus cooperi*.  
 2nd Mr. M. J. Brown. *Gasteria species*, *Faucaria lupina*, *Haworthia fasciata*.

**Class 21 One Pachypodium. 4 entries**

- 1st Mrs. T. Watt. *P. saundersae*.  
 2nd Mr. C. E. Parker. *P. rosulatum*.  
 3rd Mr. P. Bent. *P. rosulatum*.

**Class 22 Three Succulents in pots not exceeding 5 inches diameter (for members who have not previously won a First Prize in any Succulent Class). 5 entries**

- 1st Mrs. J. Best. *Haworthia truncata*, *Euphorbia bupleurifolia*, *Kedrosteris africanus*.  
 2nd Mrs. D. Finch. *Duvalia radiata*, *Stapelia grandiflora*, *Piranthus foetidus*.  
 3rd Miss I. E. Potton. *Crassula morgans beauty*, *Haworthia limifolia*, *Bergeranthus multiceps*.

H.C. Mr. D. J. Andrews.

**Class 23 One Cactus and one other Succulent. 6 entries**

- 1st Mr. R. H. I. Read. *Testudinaria elephantipes*, *Echinocactus grusonii*.  
 2nd Mr. and Mrs. W. F. Maddams. *Coryphantha clava*, *Euphorbia stellaespina*.  
 3rd Mr. J. E. Taylor. *Agave stricta*, *Lophophora williamsii*.  
 H.C. Mr. C. G. Brown.

**Class 24 Miniature garden of Cacti and/or other Succulents. 3 entries**

- 1st Mrs. A. E. Potton.  
 2nd Mrs. J. Best.  
 3rd Mr. and Mrs. D. V. Brewerton.

**Class 25 Group of Cacti and/or other Succulents. 1 entry**

- 1st Mr. and Mrs. W. F. Maddams.

## Results of the September Show 1969

### Judges

Cacti: Mr. K. Grantham.

Succulents: Mrs. M. Stillwell.

**Class 1 Four Cacti, any genera. 4 entries**

- 1st Mr. J. E. Taylor. *Mammillaria hahniana*, *Lophophora williamsii*, *Gymnocalycium saglionis*.  
 2nd Mr. and Mrs. W. F. Maddams. *Eulychnia saint-pieana*, *Melocactus huallancaensis*, *Mammillaria picta*, *Zygocactus opuntioideus*.  
 3rd Mr. D. A. R. Knight. *Astrophytum ornatum*, *Ariocarpus furfuraceus*, *Cleistocactus straussii*, *Mammillaria dumetorum*.

**Class 2 Three plants in Coryphanthanae. 5 entries**

- 1st Mr. and Mrs. W. F. Maddams. *Mammillaria mainae*, *Coryphantha clava*, *Neobessya missouriensis*.  
 2nd Mrs. T. Watt. *Mammillaria bella*, *Coryphantha bumama*, *Thelocactus bicolor*.  
 3rd Mr. J. E. Taylor. *Coryphantha elephantidens*, *Dolichothele baumii*, *Mammillaria albicoma*.  
 V.H.C. Mr. R. H. I. Read.

**Class 3 Three plants in Cereanae. 3 entries**

- 1st Mr. and Mrs. W. F. Maddams. *Weberbauerocereus longicomus*, *Thrixanthocereus senilis*, *Lasiocereus rupicolus*.  
 2nd Mr. J. E. Taylor. *Eulychnia saint-pieana*, *Winteria aurilanata*, *Cereus species*.  
 3rd Mr. J. G. Brown. *Cereus jamacaru*, *Lophocereus species*, *Cereus species*.

**Class 4 Three plants in Echinocactanae. 6 entries**

- 1st Mr. and Mrs. W. F. Maddams. *Notocactus schumannianus*, *Sulcorebutia steinbachii* v *gracilis*, *Ariocarpus retusus*.  
 2nd Mr. E. G. Canham. *Gymnocalycium curvispinum*, *Echinocactus grusonii*, *Ferocactus glaucescens*.  
 3rd Mr. R. H. I. Read. *Gymnocalycium multiflorum*, *Astrophytum ornatum* v *mirbellii*, *Ariocarpus fissuratus*.  
 H.C. Mr. C. G. Brown.

**Class 5 Three plants in Echinocactanae in pots not exceeding 3½ inches diameter. 7 entries**

- 1st Mr. and Mrs. W. F. Maddams. *Copiapoa hypogaea*, *Aztekium ritteri*, *Encephalocarpus strobiliformis*.  
 2nd Mr. J. E. Taylor. *Gymnocalycium cardenasianum*, *Stenocactus heteracanthus*, *Neoporteria multicolor*.  
 3rd Mr. R. H. I. Read. *Neogomesia agavoides*, *Turbinocarpus pseudomacrothele*, *Parodia maxima*.

**Class 6 Three Cacti, any genera, in pots not exceeding 5 inches diameter. (For members who have not previously won a First Prize in any Cactus Class). 6 entries**

- 1st Mrs. E. Potton. *Mammillaria guelzowiana*, *Leuchtenbergia principis*, *Copiapoa carizalensis*.  
 2nd Mr. and Mrs. D. T. Best. *Parodia gracilis*, *Oreocereus celsianus*, *Matucana crinifera*.  
 3rd Mrs. D. Finch. *Mammillaria schiedeana*, *Astrophytum ornatum*, *Lophophora williamsii*.  
 H.C. Miss I. E. Potton.

**Class 7 One Espostoa or Oreocereus. 8 entries**

- 1st Mr. and Mrs. W. F. Maddams. *Espostoa huanucensis*.  
 2nd Mr. R. H. I. Read. *Oreocereus trollii*.  
 3rd Mr. D. A. R. Knight. *Espostoa lanata*.

**Class 8 Three Cacti (for Juniors under 18 years). 5 entries**

- 1st Mr. A. G. Rivett. *Melocactus bahiaensis*, *Matucana crinifera*, *Ariocarpus retusus*.  
 2nd Mr. M. Ede. *Mammillaria species*, *Lophophora williamsii*, *Astrophytum capricorne major*.  
 3rd Mr. D. Ede. *Stenocactus lamellosus*, *Mammillaria heyderi*, *Mammillaria coronaria*.

**Class 9 One Cactus and One Cristate of the same species. 7 entries**

- 1st Mr. and Mrs. W. F. Maddams. *Mammillaria schwartzii*.  
 2nd Mrs. D. Finch. *Mammillaria wildii*.  
 3rd Mr. F. Johnson. *Mammillaria rhodantha*.

**Class 10 Four Euphorbias. 5 entries**

- 1st Mrs. T. Watt. *E. suzanne*, *E. stellata*, *E. bupleurifolia*, *E. decepta*.  
 2nd Mr. and Mrs. W. F. Maddams. *E. obesa*, *E. valida*, *E. stellaespina*, *E. kunthii*.  
 3rd Mr. R. H. I. Read. *E. obesa*, *E. bupleurifolia*, *E. tuberosa*, *E. squarrosa*.  
 V.H.C. Mr. D. V. Brewerton.

**Class 11 Three Crassulas in pots not exceeding 4½ inches diameter. 5 entries**

- 1st Mr. and Mrs. W. F. Maddams. *C. barbata*, *C. suzanne*, *C. otzenii*.  
 2nd Miss I. E. Potton. *C. mesembryanthemopsis*, *C. tomentosa*, *C. namaquensis*.  
 3rd Mrs. D. Finch. *C. mesembryanthemopsis*, *C. arta*, *C. columella*.  
 H.C. Mrs. T. Watt.

**Class 12 Three plants in Asclepiadeaceae. 5 entries**

- 1st Mrs. T. Watt. *Diplocyatha ciliata*, *Fockea crispa*, *Carallum deflersiana*.  
 2nd Mr. C. G. Brown. *Stapelianthus decaryi*, *Huernia species nova*, *Brachystelma barbariae*.  
 3rd Mrs. D. Finch. *Piранthus globosus*, *Caralluma europa*, *Stapelia hirsuta*.  
 V.H.C. Mr. and Mrs. W. F. Maddams.

**Class 13 Three Aloes and/or Haworthias. 8 entries**

- 1st Mrs. T. Watt. *H. setata*, *H. rugosa*, *A. jucunda*.  
 2nd Mr. C. G. Brown. *A. haworthioides*, *H. maughanii*, *A. somaliensis*.  
 3rd Mr. D. V. Brewerton. *A. bellatula*, *A. haworthioides*, *H. bolusii*.  
 V.H.C. Mrs. E. Potton.  
 H.C. Mrs. A. Whicher.  
 C. Mr. and Mrs. W. F. Maddams.

**Class 14 Three Kalanchoes and/or Senecios. 3 entries**

- 1st Mr. and W. F. Maddams. *K. behariensis*, *K. orygalis*, *K. nykiae*.  
 2nd Mrs. E. Potton. *K. millottii*, *S. stapelaeformis*, *S. rowleyi*.  
 3rd Mr. C. G. Brown. *K. longiflora*, *S. ovoidus*, *S. citrifolius*.

**Class 15 Three Echeverias and/or Dudleyas. 3 entries**

- 1st Mrs. E. Potton. *E. perle von nuremberg*, *E. roseum*, *E. leucocina*.  
 2nd Mr. and Mrs. W. F. Maddams. *E. pluridensis*, *D. rubella*, *E. gibbiflora*.  
 3rd Mr. D. V. Brewerton. *E. crenulata*, *E. kewensis*, *E. hybrid*.

**Class 16 Six Lithops. 3 entries**

- 1st Mrs. H. Hodgson. *L. erniana*, *L. insularis*, *L. terricolor*, *L. marmorata*, *L. optica forma rubra*, *L. helmutii*.  
 2nd Mr. and Mrs. W. F. Maddams. *L. aucampiae*, *L. pseudotruncatella*, *L. bella*, *L. marmorata*, *L. lateritia*, *L. schwantesii*.  
 3rd Mrs. T. Watt. *L. comptonii*, *L. geyerii*, *L. optica forma rubra*, *L. bella*, *L. umdausensis*, *L. otzeniana*.

**Class 17 One specimen Aloe. 6 entries**

- 1st Mr. D. V. Brewerton. *A. rauhii*.  
 2nd Mrs. H. Hodgson. *A. albiflora*.  
 3rd Mrs. E. Potton. *A. greatheddii*.  
 V.H.C. Mr. C. G. Brown.  
 H.C. Mr. and Mrs. W. F. Maddams.

**Class 18 Six Stemless Mesembryanthemums. 3 entries**

- 1st Mr. and Mrs. W. F. Maddams. *Fenestraria aurantiaca*, *Pleiospilos willowmonensis*, *Lithops terricolor*, *Ophthal-*

*mophyllum lydiae*, *Conophytum cupreatum*, *Titanopsis schwantesii*.

- 2nd Mrs. T. Watt. *Dinteranthus wilmotianus*, *Conophytum cupreatum*, *Titanopsis calcaria*, *Gibbaeum album*, *Frithia pulchra*.  
 3rd Mrs. D. Finch. *Frithia pulchra*, *Cheiridopsis candidissima*, *Pleiospilos bolusii*, *Lithops optica forma rubra*, *Gibbaeum pretense*, *Argyroderma octophyllum*.

**Class 19 Three Succulents not covered by Classes 10 to 18. 6 entries**

- 1st Mr. D. V. Brewerton. *Gasteria armstrongii*, *Adromischus umbraticola*, *Cissus hypoluca*.  
 2nd Mr. and Mrs. W. F. Maddams. *Gasteria armstrongii*, *Cissus Hypoluca*, *Monadenium schubei*.  
 3rd Mr. C. G. Brown. *Sarcocaulon vanderetiae*, *Alluadia procera*, *Orystachys chanettii*.  
 H.C. Mr. R. H. I. Read.

**Class 20 Six South African Succulents in pots not exceeding 4½ inches diameter. 4 entries**

- 1st Mr. C. G. Brown. *Dactyloopsis digitata*, *Pachypodium saundersonii*, *Cotyledon reticulata*, *Anacampseros alstonii*, *Othonna pygmaea*, *Sarcocaulon multifidum*.  
 2nd Miss I. E. Potton. *Senecio scaposus*, *Lithops species*, *Crassula otzenii*, *Haworthia truncata*, *Haworthia limifolia*, *Bergeranthus multiceps*.  
 3rd Mrs. A. Whicher. *Haworthia truncata*, *Aloe nubigena*, *Pleiospilos nelii*, *Gasteria liliputana*, *Lithops optica forma rubra*.

**Class 21 Three Succulents, any genera, in pots not exceeding 5 inches diameter (For members who have not previously won a First Prize in any Succulent Class). 4 entries**

- 1st Mrs. A. Whicher. *Haworthia bolusii*, *Aloe bellatula*, *Crassula columella*.  
 2nd Mr. J. D. Andrews. *Cheiridopsis pillansii*, *Crassula mesembryanthemopsis*, *Euphorbia obesa*.  
 3rd Mr. J. G. Brown. *Stapelia variegata*, *Gasteria acinacifolia*, *Euphorbia moneroi*.

**Class 22 Succulents raised from seed sown by the Exhibitor on or after 1st January, 1967, in a container not exceeding 15 inches by 15 inches. 3 entries**

- 1st Mr. and Mrs. W. F. Maddams.  
 2nd Mrs. A. Whicher.  
 3rd Mrs. E. Potton.

**Class 23 Three Succulents (for juniors under 18 years). 4 entries**

- 1st Mr. A. G. Rivett. *Senecio anteuphorbium*, *Euphorbia moneroi*, *Euphorbia bupleurifolia*.  
 2nd Mr. D. Ede. *Echeveria agavoides*, *Adromischus cooperii*, *Euphorbia woodii*.  
 3rd Mr. M. Ede.

**Class 24 One Cactus and One other Succulent. 6 entries**

- 1st Mr. and Mrs. W. F. Maddams. *Testudinaria paniculata*, *Copiapoa cinera*.  
 2nd Mr. R. H. I. Read. *Euphorbia horrida*, *Mammillaria gigantea*.  
 3rd Mr. D. A. R. Knight. *Conophytum elishea*, *Mammillaria geminisplina*.

**Class 25 Group of Cacti and/or other Succulents to cover space not exceeding 2 ft. in width by 2 ft. 6 in. in depth, arranged for decorative effect. 1 entry**

- 1st Mr. and Mrs. W. F. Maddams.

**1969 BRANCH RESULTS AND FINAL TOTALS**

North Surrey	..	..	..	..	..	..	174 points
Essex	..	..	..	..	..	..	67 points
Berks and Bucks	..	..	..	..	..	..	36 points
West Kent	..	..	..	..	..	..	5 points

## CUPS AND TROPHIES

The Banksian Medal	Mrs. T. Watt
The Sir William Lawrence Cup for Cacti	Mr. and Mrs. W. F. Maddams
The Evelyn Theobalds Cup for Succulents	Mr. and Mrs. W. F. Maddams
The Joan Farrow Memorial Cup for Groups	Mr. and Mrs. W. F. Maddams
The Challenge Shield for Juniors	Mr. M. Ede
The William Denton Memorial Trophy for Branches	North Surrey
The P. V. Collings Cup for Euphorbias	Mrs. T. Watt
The Mrs. Pryke-Howard Cup for Six South African Succulents	Mr. C. G. Brown
The Mrs. Luty-Wells Cup for Three Cacti	Mr. L. Jeffries
The Sarah Cutler Memorial Cup for One Mammillaria	Mr. and Mrs. W. F. Maddams
The Mrs. Hedges Cup for Succulents from Seed	Mr. and Mrs. W. F. Maddams
The Ibbotson Cup for Six Cacti	Mr. L. Jeffries
The William Denton Medal for Six Stemless Mesembryanthemums	Mr. and Mrs. W. F. Maddams

## The September Show 1969

THE SEPTEMBER SHOW this year was extremely interesting, though maybe there were somewhat fewer entries than last year, but I was particularly struck with the general high standard of the entries. All the plants were in good condition and at last exhibitors seem to be taking real note of the remarks so often made by the Judges about the importance of presentation of their plants. So many times has it been impressed upon us that a smaller plant in good condition in a clean pot may do better than a larger specimen looking tatty round the base and in a none too clean pot, a size too small. Of course this does not mean that size does not count and obviously a good large one will probably beat a good small one but condition is one of the important points to be borne in mind and certainly as a whole the plants in this show were in good condition and well presented.

Now let us go round the show, class by class for the benefit of those who were not able to see them for themselves.

Class 1 for four cacti had surprisingly enough only attracted four entries. One would have expected more than four members would be able to produce four cacti of any genera. However, those entered were very interesting and included some less usual plants. Mr. J. E. Taylor came First with his enormous multi-headed *Mammillaria hahniana*, surely a most unusual specimen and three other nice plants. Mr. & Mrs. Maddams came Second, including among their four, two very interesting plants—a fine *Melocactus huallancaensis*, with its cephalium complete with a flower, just poking through and a *Zygocactus opuntiioides*. This is a most unusual *Zygocactus* with stems very like small opuntia pads; in fact at a quick glance it might be mistaken for an *Opuntia*, but a closer inspection proves that it is indeed a true *Zygocactus*. A most attractive and desirable plant.

In Class 2 all three prize-winners managed to produce three Coryphanthanae of three different genera; in fact among the nine plants shown by these three exhibitors no plant was duplicated, making therefore a varied display.

Class 3 for three plants in Cereanae surprisingly only attracted three entries and of these only the Maddams entry was really outstanding, consisting of some of the newer South American Cacti which Bill Maddams has been trying to popularise of recent years. Mr. J. E. Taylor (2nd prize) had two very nice plants but the third was not up to the same standard, which probably made this easier for the Judge in this particular class.

Class 4 for three plants in Echinocactanae was better supported and all three prize-winners had very nice entries, the Maddams family again producing three really superb plants, gaining the first award, in particular the *Notocactus schummanianus* and the *Sulcorebutia steinbachii v. gracilis*.

In Class 5 for three plants in Echinocactanae in pots not exceeding 3½ inches in diameter, there were several entries of quite nice small plants of stenocactus, gymnocalyciums, etc., but of course they stood no chance against the greater specialities shown by the three prize-winners and in particular the *Copiapoa hypogaea*, *Aktezium ritteri* and *Encephalocarpus strobiliformis* coming again from the Maddams stable to win First prize.

Class No. 6 for three cacti in pots not exceeding 5 inches for members not having previously won a first in any cactus class drew six entries and Mrs. E. Potton well deserved her First place though the other prize-winners were surely not far behind.

The entries in Class 7 showed us that although there is a tendency for the taller cerei to become woody and perhaps even a little tatty at the base with age, it is possible to keep them in really good condition and the Maddams *Espostoa huanacensis* was a really beautiful specimen.

Class 8 for three cacti for Juniors with five entries was quite startling. The Society is fortunate to have Junior members who are so keen that they can produce entries of this standard. Andrew Rivett in particular (First prize-winner) had three very fine plants which one would hardly expect to find in the collection of a Junior and which some of us might quite well envy, i.e.



*Melocactus bahiaensis*, *Matucana crinifera* and *Ariocarpus retusus*. The two Ede Brothers, Michael and David (2nd and 3rd respectively) also had some very good plants.

In Class 9 once again Mr. and Mrs. Maddams deserved their 1st with a normal and a cristate *Mammillaria schwartzii*, both very good specimens, particularly as the cristate form was growing on its own roots. Certainly Mr. F. Johnson's cristate form of *Mammillaria rhodantha* was a marvellous specimen which incidentally drew comments from a number of visitors to the show, but unfortunately the normal form did not come up to the same standard being quite a small plant. If only he had been able to produce a comparable specimen of the normal form, he would possibly have jumped from 3rd to 1st place.

Class 10 for four Euphorbias was a really outstanding class and must have set the Judge quite a problem. The four plants shown by Mrs. T. Watt were each beautiful specimens of their species and though I am not myself a Euphorbia fan, I must admit that both hers and those of Mr. and Mrs. Maddams which came second almost converted me.

Class 11 for three Crassulas in small pots also produced some interesting entries as some of the smaller Crassulas are delightful little plants and here again the Judge must have had some difficulty in coming to a decision, as all the entries were of a very high standard..

Class 12 for three plants in Asclepiadaceae was another very good class and Mrs. Watt's *Caralluma deflersiana* in bloom, *Diplocyantha ciliata* and *Fockea crispa* were well worth the first prize, though Mr. C. G. Brown could not have been far behind with his *Stapeli-  
anthus decaryi*, *Huernia spec. nova* and *Brachystelma barbariae*, which won the Best in Show at the Essex Show earlier this year.

On the other hand Class 13 for three Aloes and/or Haworthias, which was quite well supported was much less outstanding though it included some quite nice plants.

Class 14 for three Kalanchoes and/or Senecios only attracted three entries possibly because members are not too keen on transporting them to shows, but the three plants which won the 1st prize for Mr. and Mrs. Maddams show that even quite large plants of this type can be transported if carefully packed and handled, though I must admit that they were very plucky to bring up such large plants.

It was noticeable that in Class 15 for three Echeverias and/or Dudleyas, none of the three entries included a Dudleya. Here again it may have been difficulties of transport which influenced the choice of plants entered as Dudleyas are of course very liable to damage if knocked about at all. However, the Echeverias made quite a good show.

Class 16 for six Lithops was an example of the fact that the largest plants do not necessarily win the prizes, as the Judge placed Mrs. H. Hodgson's six small but

neat and well-grown plants before the larger specimens entered by Mr. and Mrs. Maddams, who in this class only gained 2nd place and Mrs. Stillwell commenting after the show did say that in the case of Lithops the larger grown plants were not always as attractive or as true to type as the smaller ones.

Class 17 for one Specimen Aloe produced some very attractive plants and the 1st Prizewinner *Aloe rauhii* belonging to Mr. D. V. Brewerton was a real little gem. I was also very attracted by the *Aloe ciliaris* belonging to Mrs. Whicher which was not placed.

Class 18 for six Stemless Mesembryanthemums was another very good class though there were only three entries. All exhibitors had managed again to produce plants of six separate genera and though Mr. and Mrs. Maddams *Conophytum cupreatum* in full flower was delightful, the tiny specimen of the same plant in Mrs. Watt's collection, not much more than 1 inch across and also in full flower called forth many compliments. As someone said to me, one expected to see it as a centre-piece for a fairies' tea-party.

Class 19 for three Succulents not covered by the earlier classes included quite a variety of other genera; Gasterias, Adromischus, Cissus, Monadenium, Sarcacaulon, Alluadia and Orystachys were all included in the three prize-winning entries, where Mr. Brewerton's beautifully grown plants won him the 1st award.

The plant that immediately caught one's attention in Class 20 for six South African Succulents in pots not exceeding 4½ inches in diameter was Mr. C. G. Brown's *Sarcacaulon multifidum* which was a very tiny but perfect specimen in full leaf. Mr. Brown's plants which won him the 1st Prize in this class show that he believes that good things are done up in little parcels, as all the plants were of small growing species and all in beautiful condition.

Class 21 for three Succulents, any genera in pots not exceeding 5 inches in diameter for members not having won a first in any Succulent Class, was won by Mrs. Whicher for three very nice plants of *Haworthia bolusii*, *Aloe bellatula* and *Crassula columella*.

The Seedling Class (No. 22) for Succulents raised from seed sown on or after 1st January 1967 was won by an outstanding entry by Mr. and Mrs. Maddams. It was amazing to see the amount of growth these succulents had made in just over two years. They included a very varied selection of leafy succulents, euphorbias, mesembryanthemums, monadeniums and cissus. I understand the Maddamses have been experimenting with fluorescent light treatment for their seedlings and this may be the explanation of the speed of growth the plants have made.

Mrs. Whicher also had a varied selection of plants which looked very healthy and were growing well. At a first glance Mrs. Potton appeared to have entered a half-filled container, until on looking closer one realised that in the front there were a number of Lithops which could hardly be seen. While we know that these plants

do depend very considerably on natural camouflage, perhaps in this case, it might have been better to give them a background against which they showed up somewhat more clearly.

In Class 23 for three Succulents for Juniors again we saw some surprising plants in such a class and Andrew Rivett again deserved his 1st Prize. In this class David and Michael Ede reversed the order, David coming second and Michael third. However, this still did not stop Michael from winning the Challenge Shield for Juniors on which we congratulate him very heartily.

Class 23 for One Cactus and One Other Succulent was won by Mr. and Mrs. Maddams with two magnificent plants—an immense *Copiapoa cinera* and a well-grown *Testudinaria paniculata*. I saw the latter arrive at the hall done up in a wigwam of sticks and string which shows that if you make the effort it is possible to bring up even plants which are difficult to transport. Mr. Read's *Euphorbia horrida* and *Mammillaria gigantea* came a good second and Mr. D. A. R. Knight came third with *Conophytum elishea* and *Mammillaria geminispina*, the latter a very large multi-headed specimen in very good condition. Another plant in this class which was well worthy of notice was the *Kedrostris africana* in full leaf entered by Mrs. Whicher, which was most attractive. These "turnips and parsnips" while for part of the year

very uninteresting to all except the enthusiasts are undoubtedly very fascinating when they do their stuff and burst into full leaf which is so often quite delicate looking and contrasts strangely with the huge wood-like base of the plant.

Finally we come to Class 24 in which there was once more only one entry. I am sure Mr. and Mrs. Maddams would be only too pleased to have some competition in this class for although the Group was a wonderful sight and worthy of a 1st prize in any company, I am sure they would much rather beat someone else, and I dare say they would even not mind being beaten themselves for once, if only some of you others would put in an entry! So what about it?

Incidentally, the Show would have been very much poorer without the entries of Mr. and Mrs. Maddams who entered in all 21 out of 24 classes—in fact all the classes for which they were eligible. We really must congratulate them. Surely they set an example to all of us who only enter one or two classes. What about giving them more of a run for their money next year. I am sure many of our members could at least enter quite a few classes, so think about it for next year, will you?

E.M.D.

## Connoisseur's Corner

### CONOPHYTUM CUPREATUM

THE CURRENT TREND in succulent collecting is, perhaps regrettably, away from Mesembryanthemums but even if space can be only spared for one or two, the small-headed, clumping Conophytums should be amongst them and one of the gems of these is *Conophytum cupreatum*.

This delightful small, neat plant from Little Namaqualand and Bushmanland, Cape Province, will take many years to grow out of a 3½ inch pot and so should be guaranteed house-room in any collection. The heads are coppery-brown—from which the name derives—with dark green 'windows' and when examined closely in sunlight the surface is seen to be slightly uneven and with an almost metallic sheen.

In the author's experience *Conophytum cupreatum* is one of the earliest of the Conophytums to come into growth each year and also to start flowering. It is generally in full growth by mid-July and from this time the clear, white, starry flowers come through and open showing their bright yellow centres. These flowers have the advantage over most flowers of Conophytum species in that they are open from mid-morning for the rest of the day; other species have flowers which mainly open for the morning, afternoon or evening only. Sometimes flowers will open on all the heads simultaneously making a very attractive display but other years they will open more spasmodically giving a



longer flowering period. Either way, the flowering time can be said to be from July to September.

A little care must be taken in watering clumps of Conophytums of this type. A light spray in spring is beneficial and gradually increasing water amounts once the new heads come through; a good soaking from the base every two or three weeks during August and September is probably better than small waterings from above at more frequent intervals, after that the watering must be according to the weather and the temperature held in the greenhouse. The growing season often extends into February.

# Succulent Snippets

by Sally Cornioides

WELL, WINTER IS again approaching and plants can sink back on their benches with relief and realise that they will not be disturbed by being taken to shows or displays for a few months. Not that it is not good for them to have an occasional outing if carefully transported. There is no doubt that shows and other types of exhibition make you take a more careful look at your plants and encourage some repotting which might otherwise be neglected. If you shrunk from the effort of putting some of your plants in the two fine Shows at Westminster this year (which I think may be reported in this issue), take a good look round your plants in the winter months and just see what you can do next year.

Talking of shows, a rather strange picture appeared in "The Observer Review" recently; this was captioned "Ger van Elk with his 'Well Shaven Cactus Plant', and appeared with a review of the latest Institute of Contemporary Arts Exhibition. This rather enigmatic review did nothing to explain the picture further, merely referring to it as a "non-collectable work such as an arabesque cut into the sand of a desert"! Perhaps more avant garde members could explain this phenomenon, it certainly means nothing to me or my contemporaries, we are obviously just old stick in the muds.

Still on the subject of shows, have you heard the true story of someone walking round a local Horticultural Society Show and seeing, amongst all the beautiful flowers three 4 inch pots containing our kind of plants. Hasty reference to the schedule revealed the class as "Three Medium Cactus"!

Incidentally, I expect you have always thought that Cactus Dahlias were so called for their spine-like petals, but Garden News gave some enlightenment on this subject a few weeks ago. In the July 25th issue John Street writes that the original cactus dahlia, *Dahlia Juarezii*, was the only surviving plant in a consignment sent to Holland in 1872. The nurseryman nursed it back to life and it grew and flowered. This flower was an intense scarlet which resembled *Heliocereus speciosus* flowers which was the reason for its being called the cactus dahlia. It is perhaps appropriate that cactus dahlias are now in many other gay colours as also are the flowers of different cacti.

My literary ambitions are quite satisfied by these quarterly jottings and my aspirations go no further. In particular, although I have a great esteem for Editors I have no wish to follow in their footsteps. They are in the unenviable position of being on the receiving end when things go wrong and being taken for granted when all is well. There is a world of difference between

doing such work on a voluntary basis as happens with most cactus societies, and following it as a profession; in the latter case mistakes and misprints should be few and far between.

Although there must have been some red faces around of late at the surprisingly large number of incorrect captions beneath photographs in succulents journals I have some idea of the effort that goes into these publications on the part of busy people and the occasional slip is understandable. Perhaps the most obvious of recent "bloomers" occurred in the January/March 1967 issue of "Cactaceas y Suculentas Mexicanas", the journal of the Mexican Cactus Society. The front cover showed a coloured illustration of a fine clump of *Opuntia* with fruit and the legend below was "Mammillaria magnifica sp. nov.". On the back cover there was a less satisfactory photograph, presumably of *M. magnifica*, labelled "Opuntia microdasys con frutos". A case of straight interchange of captions? Yes, probably, but what about this one: the front cover of the July 1965 issue of the New Zealand Cactus and Succulent Journal had a fine black and white illustration entitled "Stenocactus multicostatus", which I would judge to be correct. However, this same photograph appears on the cover of the October 1968 issue with the title "Strombocactus disciformis"! The descriptive notes inside refer to *Stenocactus multicostatus*, so one wonders what has happened here.

People as well as plants have not escaped these mix-ups. The June 1969 issue of *Kakteen und Andere Sukkulanten* shows a picture purporting to be Charles Glass digging up a specimen of a small *Mammillaria*. However, unless I am sadly mistaken the gentleman in question is Mr. Robert Foster, Assistant Editor of the American Journal. If I am wrong perhaps Gordon Rowley, or Mr. and Mrs. Maddams, who have met these two renowned American cactophiles recently, will correct me.

I cannot leave the topic of Editors without paying tribute to the late Chris Pitcher. Others who knew him more closely have written fitting tributes and I will not attempt to compete with these. Chris had a character which was an unusual blend of many qualities. His knowledge of succulent plants, particularly his beloved turnips, carrots and parsnips, was first rate and he could put it over to others convincingly as those of us who heard him talk in the R.H.S. Hall not so long ago remember well. He was a good society man, and yet he had a pronounced streak of stubbornness and individuality in his make up. When one met him it became apparent that, although he was domiciled in Yorkshire, he was a West countryman. In fact, he hailed from Gloucestershire and was wont to make dry but acid remarks about Gloucestershire cricket being better than that played in the county of his adoption. (How he would have relished the final positions in the County Championship this year, with Gloucestershire in second place and Yorkshire thirteenth!)



## Correspondence

My purpose in subscribing to this journal was to obtain the names of British suppliers of cacti seeds. I have only found one British supplier, to whom I have written, but instead of sending me lists, etc., he has merely sent me literature asking me to join a society for a fee of three guineas.

I have no wish to join any club; my object is primarily to purchase cacti seeds, and I am now wondering if you can help me in this connection.

I look forward to hearing from you.

M. B. Vitkay,  
Bagshot, Surrey.

P.S. From another source I was able to purchase seeds, but the ratio of growth was one or two per 100 seeds, and from some packets absolutely nothing whilst others produced only weaklings. These seeds were germinated by an experienced cacti grower. I wonder, therefore, if you can put me in touch with a reliable supplier.

\* \* \* \*

Perhaps I may be allowed to offer a few comments on assorted topics in the August number of the Journal.

I was interested in Mr. Weightman's comments on *Sclerocactus*, and the photograph of his robust plant. It is always dangerous and unscientific to generalise from limited data, and in including *Sclerocactus* among the difficult cacti I was certainly guilty of this, though I suspect my opinion is shared by many. The fact is that very few of us have had experience with more than one or two plants of this genus, and these usually (or invariably) collected plants. Sizeable imported cacti often reach this country in pretty poor condition and many seem to be carrying dormant virus infections which rapidly take charge and lead to the early demise of their host. In these circumstances it is hardly surprising that species which are difficult to raise from seed should acquire the reputation of being tricky to keep. But unless many sound and vigorous *Sclerocacti* reach the market in the near future, I fancy that show judges will continue to give this genus credit for being difficult!

I am not opposed to the use of pseudonyms by writers except where the purpose is camouflage for the making of comments of an unpleasant kind, and no-one could accuse "Sally Cornioides" of that. After reading all her contributions I would sport a half-crown bet on her identity; it is extremely difficult to disguise one's style of writing under a pseudonym! On one occasion when I wrote under a fake name my alias was instantly penetrated by one of my friends.

Daphne Hutchinson is surely absolutely right about plastic pots. I use many dozens and have never found it necessary to make additional holes in them. It is not a job I would relish, anyway, as I have had a lot of experience of the effect of intense heat on plastics: the smell is quite abominable!

Finally, on grafting; I would suggest that *Echinopsis* is a useful grafting stock, though it sprouts rather annoyingly, as it is "soft" and readily unites with almost any cactus. I have found it very good for saving valuable seedlings. Miss Martin did not mention *Cereus forbesii*; this is claimed to be exceptionally good for grafting and is very robust.

E. W. Putnam,  
Hooley, Coulsdon.

## From the Treasurer

A REMINDER that subscriptions fall due on 1st January, 1970. Will those members who pay by Bankers Order please ensure that their Bankers Orders are for the proper amount of the present current subscription, i.e. £1 5s. od.

## Accessions to the Society's Library

THE UNEXPECTED DEATH of Miss D. J. Maxwell has left a gap in the West Kent Branch which will be difficult to fill: she was one of the most regular and successful exhibitors at Branch table shows with plants that often compared favourably with those seen at larger shows. Her family have kindly donated to the Library in her memory a set of back numbers of the Society's Journal and the first three volumes of the African Succulent Plant Society's Journal. This will be kept for record and reference purposes.

The Librarian has added to the books available for postal loan:

Succulents in Cultivation (Cacti included)

by V. Higgins, 1960.

Starting with Cacti by A. Boarder, 1968.

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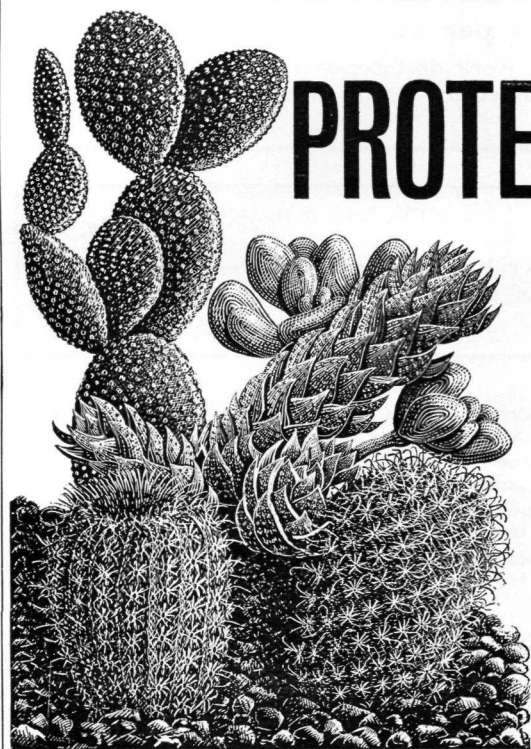
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