

*The Cactus and
Succulent Journal*
of Great Britain

Established 1931

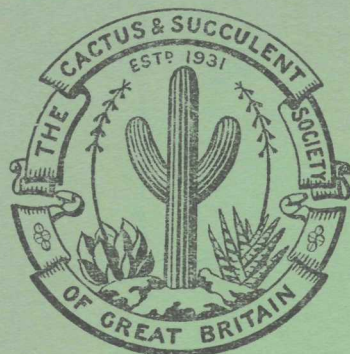
Vol. 32

FEBRUARY, 1970

No. 1



*Published Quarterly by The Cactus and Succulent Society of Great Britain
at 39, The Ridgway, Sutton, Surrey.*



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Editorial

FIRST of all, though somewhat belatedly, a Happy New Year to you all, and may it prove a successful year from the point of view of your plants. My own have been somewhat neglected since Christmas, due to a prolonged attack of 'flu but I think they should be all right as during the cold weather a kind friend kept the heaters topped up for me.

Just as I was about to sit down to write these notes, I received from the German Cactus Society (Deutsche Kakteen Gesellschaft E.V.) notice of a Photographic Competition they are running for black and white prints and colour transparencies of individual cacti, as well as for series of five to ten pictures of say one genus, or some connected theme. I have not so far had time to study and translate the rules fully but shall have done this by the time you receive your magazine and if any member interested in entering will write to me, with s.a.e., I will send the details along. The closing date for entries is the 15th March, 1970. There are three cash prizes in each of the four sections, ranging from £2 to £15, with further consolation prizes of film. So why not have a go.

E.M.D.

Letter from the President

Dear Members,

It is a great pleasure to me to be able to address you, both old and new members, in the first Journal of the New Year.

The Society like myself has passed through a crisis and is emerging full of hope for a bright future. To those members who have taken office and carried on so gallantly I must record our deep gratitude. It must have entailed a deal of toleration.

It is a matter of pride that our first show at Chelsea was staged and did as well as it did. I recall that on the two preceding days the weather was shocking. We even had snow to complicate the transport problem. Thanks must go to our Hon. Secretary and all those members who made such a magnificent effort on that occasion.

There is also another occasion which will live in our memories. I am referring to the Annual Dinner put on at the Windsor Rooms, Victoria, London on the 4th December, 1969. All those who attended voted it a very pleasant celebration.

To all our members may I extend hearty good wishes for good health, good luck and good growing in the New Year.

DORA SHURLY
President.

Cultivation Notes

Cacti—A. Boarder

I HAVE JUST been transplanting my 1969 seedlings. They were pricked out into concrete boxes in May and June and placed in my large frame. As this frame is only kept frost free with four cable heaters, the temperature is at about 40°F., minimum. In my greenhouse with the aid of a blue-flamed lamp I can keep a higher temperature and place the seedlings nearer the warmth. I had experimented with three types of compost and the transplanting gave me an opportunity of testing the advantages of the varied types.

The ones placed in Levington compost had made a good root system but hardly any better than the plants put in my own compost. There were a few losses which I put down to Sciara fly. These flies certainly appreciate this compost as it is soft and moist so that the flies choose this for laying their eggs. One type of cactus appears to be infested by the larvae of the fly and *Mammillaria bocasana* and all other soft tubercled plants are often attacked. If the base of such a plant is inspected one can see that the outside of the base of the plant has

been eaten right away and if left then the whole inside would be eaten, leaving just a shell of skin and spines. This compost also had a coating of green algae and moss form on it and some plants looked rather blown and open.

The plants placed in J. Arthur Bowers compost were rather similar and this compost did not form the amount of Algae which was on the Levington. The plants which I had placed in my own type of compost were certainly sturdier and I liked the look of them better. The spines were closer and more typical than some of the others in the soil-less compost. It is of course possible that I am so used to using my own mixture that I knew how to manage the watering better and no doubt if I had more experience with the soil-less types I would change my mind about them. As it is I shall continue to use the compost with which I am familiar as my experiments do not show me any improvements from my old and tried method of growing.

I have written several times before about the type

of compost I use for all my plants and a brief description of it would be to say that I use the same bulk mixture that goes into the J. D. seed compost with the added lime and fertilisers which go into the J. I. potting compost No. 2. This is used for all my cacti and my Lithops and I find that it is porous and yet well charged with the necessary food for the plants. It is also very suitable for use in plastic pots. My continued use of these has not caused me to change my mind as to their value. My plants have grown better than when they were in clay pots but the plastic pots have one disadvantage and that is that many types are not strong enough round the rim. One therefore has to be very careful when trying to pick up a fairly large pot or pan as careless handling can crack the edge of the pot. However, some makes are much stouter at the edges and so shop around to find the best type.

Many of the mammillaria seedlings I moved were just over a half an inch across and Lithops about the same size. These will all be kept through the winter in a place in the greenhouse where they can get some benefit from the oil lamp. I shall of course water them occasionally so that their roots do not get so dry that the seedlings die. This winter watering must be done with care as if any water is given when the weather is wrong the plants may not dry out soon enough. I only give water when the weather is on the mild side and I may give practically all the adult plants a watering at the same time. I do not believe in letting the whole collection go through the winter with no water at all. One must be careful with this watering and go, not only by the weather, but also by the temperature which one can maintain in the greenhouse. I find that my house is usually about 50° F., for most nights of the winter, and at such a temperature I consider that a watering about once a month is advisable.

I have sometimes recommended the re-rooting of some cacti which may have become very dry and withered at the base. I am sure that many plants in such a condition do not grow at their best and a re-rooting treatment will often give the plant a fresh lease of life. To cut off the base of a plant requires some courage and it may be that it is necessary to have a spare plant before this is adopted. Also one should only try this method during the best growing period, say from late April to July. I treated my very old *Echinopsis* in this manner during the summer. The plant had grown very tall but had hardly increased in girth at all. It was about eighteen inches tall and the bottom six inches or so had become very brown and withered. I felt that there could not be much sap rising through the part and the plant certainly was not flowering as well as it used to do. However, having had the plant since 1905, I had to pluck up my courage in order to operate on it. When I cut off the lower six inches I found that this part was very dry and apparently rather lifeless. I dried the base for a few days and then placed the plant on a striking medium. This

was a mixture of peat and very sharp sand on top of my usual potting compost. I am glad to report that the plant has made new growth at the top and appears to be benefiting from the operation.

At the end of November and beginning of December, I went over all my plants carefully, removing all the old top soil and replacing it with fresh. This was the first time for a year that I had handled my plants and I was surprised at the rate of growth of many of them. When one's plants are all packed rather close together it is almost impossible to see how large or how good some of them look. Then when one takes a plant in the hand it is a pleasant surprise to see how well it has grown. One result of my close inspection was to discover that there were no mealy bugs to be seen. With a fairly large collection, mostly of *Mammillarias*, it is not unusual to find at least one plant infested with the bugs. However, no plant was found with mealy bugs and I have concluded that this was because of a fairly early watering with Pestex. However, I cannot be certain that this was the only reason why no bugs were seen, as during my moving of the pots, I found four or five large dark coloured spiders. These had made strong webs round the base of some of the pots near the back of the staging and I feel sure that they have helped to keep down the mealy bugs. I never kill a spider which I find in my greenhouse as I know that if nothing else they can eat the *Sciara* flies.

At the time when you receive this journal you will be thinking of seed sowing. This operation is to my mind one of the most fascinating features of cactus growing. To raise a plant from seed and eventually flower it is something which never fails to interest me greatly. A reference to some of the old journals will give you plenty of advice which I have given in the past as to good methods of growing from seed. Briefly use J. I. seed compost, sow small seeds on the surface and just push larger ones under, try to maintain a temperature of 70° F., keep moist but not soaking wet, and you should have good results. Shade from strong sunlight for the first year; prick out when the cotyledon or food bag has been absorbed.

Many growers are now specialising and collecting one Genus. There is no need for anyone to keep one Genus only but even in a large comprehensive collection it is still possible for one to have one Genus in particular and to try to get together most of the species in this Genus. My own speciality happens to be *Mammillarias* and I have been particularly interested in them for at least forty years. When I was asked to give a talk on the newer *Mammillarias* I went through my books of plants and found that during the past few years I had had seed and raised plants from 140 different species from those I already had. This Genus is then one in which to specialise if plenty of space is available as there appears to be no end to the new species which are being found each year.

If one has limited space and still wishes to specialise in one Genus, then there are plenty of others which have many fewer species. By specialising one is able to gain more knowledge of a certain type than is usually possible when one keeps a few species of every Genus. I have hundreds of Mammillarias and try to keep two of each species so that if anything happens to one, I still have another. As my collection of Mammillarias grew I had to get rid of many other Genera and am now down to Coryphanthanae and Lithops. One could think that these plants require little space, but as some of my caespitose mammillarias are in twelve inch pans it can be realised that plenty of space is necessary if one wishes to collect together a comprehensive number of a particular Genus.

I suggest that if every member specialised in one particular Genus, of such a size group to suit his greenhouse it would be possible to extend our knowledge of every Genus far more than would be the case with a general collection.

I have mentioned the use of Pestex earlier in my article and I feel that more should be said on this subject. This is a systemic and as such is stated to enter the sap of a plant which is treated with it. There are other systemics of which I have had no experience but which may be just as good. However, there is a danger in using these types of insecticide. If one uses them regularly it is possible for the pests to breed a contempt for them. I feel then that it is better to give a fairly strong dose early in the year and then no more may have to be given. The use of many weaker doses throughout the growing season is more likely to prove ineffective after a time. It is well known that many animals as well as pests and diseases can so condition themselves to poisons that they become immune to them. In the case of my own greenhouse I gave the one treatment during the year and feel that this may have been effective. It is possible that not only mealy bug but scale and red spider can also be kept under control with a good systemic.

Cultivation Notes

Succulents—Mrs. M. Stillwell

WITH THE COMING of the New Year, one begins to think of Spring and another season to look forward to with our plants. It is always a temptation on the first bright sunny day to rush out and water the plants, but one must always bear in mind that the nights can still be very cold; and therefore too much soaking is not advisable too early. The first job should be to inspect all the plants carefully to make sure they have come safely through the winter. A plant that has started to show signs of rot or disease, can often be saved if noticed quickly and treated accordingly. Any Stapeliads showing signs of black rot should be broken up immediately, and only the clean stems repotted, and the rest should be burnt. Echeverias need to have all dead lower leaves removed, as these form a good nesting place for mealy bug.

For those people who like an early start and have a good propagator, many kinds of seed may be sown. Make sure that each pan is clearly named, as it can be most frustrating to find a pan of seedlings un-named or the labels mixed up. I prefer to name mine, rather than to number them, as I find it rather annoying and time-wasting to have to look up a number in a book, before I can be sure which seed has germinated. Do not disturb young seedlings until the weather gets warmer, and they are definitely in active growth. Seedlings like company so do not be in too much hurry to pot up into individual pots. The common leafy succulents may prove the exception if growing rapidly, as if allowed to remain in a mass far too long they can become difficult to divide without damaging the fine hair roots. I like to

grow all my succulent seedlings rather on the slow side and perhaps somewhat dry. They may remain small for a longer period, but they do retain their true colouring and also are not so likely to succumb to disease and will not be affected by strong light. They must of course not be placed in full sun at an early age.

If you are not anxious to show your seedlings which, if you are, must of course be a reasonable size for their age, it is much better to keep them on the small side and very firm, as it gives them a better start in life; nothing is more annoying than trying to get a large overfed seedling back to normal growth. It is surprising how many people grow their adult plants to perfection, but cannot resist blowing up their seedlings.

I had a number of plants in flower around Christmas time, particularly among the Mesembryanthemums, perhaps the most showy was the large mauve-purple *Cerochlamys pachyphyllum*, while *Trichodiadema densum* is always full of flowers in December. *Fenestraria aurantiaca* flowers well into December with its large orange flowers. I find this one produces many more flowers than the white variety, *Fenestraria rhopalophylla*, *Crassula laetea* always flowers well for Christmas with dainty heads of white flowers. It should be broken up every few years and the heads re-rooted as I find it will not only flower better, but the leaves will grow larger and the attractive white markings on the edges of the leaves will be more pronounced. I always expect some of the Gibbaeums to be in flower for Christmas and *G. pilosulum* and *G. molle* are some of the first to oblige.

All through the winter I have kept an oil heater burning low, day and night in each house. This with the aid of electric tubular heaters set to come on at 45° F., provide a fairly even temperature and the oil heaters keep down the electricity bills, as it is not on for such long periods at a time. with the exception of the very cold spells. It is also a safeguard against power cuts, which one can never be too sure about when the weather gets very severe. With oil heaters it is very necessary to attend to them regularly and to keep the wicks trimmed and burning evenly to prevent smoking. I have never found them harmful to the plants, if looked after properly. My houses have plenty of ventilation, even during the winter, but one completely enclosed with polythene sheeting might not be so favourable if oil heaters are used, as the fumes would not be able to escape so readily. I do place large pieces of polythene under each vent to catch any drips they may leak through, and after a severe downpour I find I have to go out and empty them; this method also enables me to leave the lights open during the summer if I go away for a week-end, without fear of being flooded out in a heavy rain-storm. It may look rather peculiar to the visitor but if it serves its purpose, I do not worry.

I always feel that *Gasterias* are a rather neglected genus and yet there are many that are really attractive. The tiny *Gasteria lilliputana* when in full flower from a many-headed plant can be a really attractive sight, as usually the stems are not too straggly. *Gasteria batesiana* is one of the nicest. It is covered with sparkling pappillae and also flowers very well. The large flat tongue-shaped leaves of *Gasteria armstrongii* are attractive. This plant is still classed as quite a rare one if a true specimen is in a collection. The flower stems are usually branching, erect and very strong growing. These are all members of the Liliaceae family and like the *Haworthias* prefer semi-shade. There are a number of hybrids on the market known as *Gasterhaworthias*, being crosses with *Haworthias*, and also *Gastroleas*, being crosses with *Aloes*. These plants grow quite well indoors on window-sills and would be ideal for the flat dweller, as they can be broken up from time to time and kept to a reasonable size without coming to any harm.

If it is not too late, I wish you a Happy New Year and lots of luck with the collection.

Connoisseur's Corner

Rhipsalis Houlettiana

There is never much enthusiasm shown by cactophiles for epiphytic cacti, but this group of plants can be most rewarding and decorative when grown in suitable conditions. The new Epiphyte House at Kew Gardens demonstrates a method for doing this, one that can easily be copied by anyone, even with a few plants. They are hung on trellis in 'Netlon' baskets lined with moss and this displays them to advantage.

Rhipsalis houlettiana certainly prefers to be grown in a hanging basket or pot fixed high on the wall so that the stems hang freely. However, it should not be placed too near to the glass as the stems have a tendency to scorch in the direct rays of the sun. The soft, green stems which have almost a bloom on them in youth can extend to two feet or more. Moreover, along these stems throughout the year at frequent intervals the cream-coloured campanulate flowers open and then fade to yellow with age. Later, a number of glossy maroon fruits may appear. There is hardly a time in the year when a mature plant has not fruit, flower or buds which makes it a worthy plant for any collection.

Like the majority of the epiphytic cacti *R. houlettiana* likes some water all the year round and appreciates being sprayed night and morning in hot summer weather. The soil should be well-drained and the addition of a little leaf-mould is beneficial as in habitat



these plants grow on decaying vegetable matter in the forks of trees. Repotting is best done in spring when the new long spikes, which will later thicken into the serrated stems, are growing from the base. As this species comes from the warm coastlands of Eastern Brazil it will flower and grow better where the minimum winter temperature can be higher than is required for most cacti, that is about 48-50°F.

Collecting in Habitat

by Betty Maddams

WHEN I first began amassing succulent plants on the window-sill and later expanding to a greenhouse, no doubt like most novice collectors I dreamt about the wonderful places where the plants were found but never in my wildest dreams did I expect to have the chance to see any cacti in habitat, let alone collect them. Yet, here I was, a dozen or so years later, accompanying my husband on the trip to the American Convention and later down into Sonora, Mexico.

After a succession of 'plane trips our first destination was reached, Belen, New Mexico, where Denis Cowper was our host. We had not expected to do more than recuperate from our journey and look at the fine selection of the *Coryphanthanae* in the Cowper greenhouse during this stay, but when a collecting trip was suggested we naturally leapt at the idea. We set off in the pick-up truck and travelled the forty miles to Socorro through rather mixed country, some cropped where there was irrigation, other parts dried up and sandy and occasionally a few cottonwood trees standing out. Always on both sides there were the mountains, reddish-orange peaks rising to over 10,000 feet; it was hard to realise that at Belen we were over 3,000 feet above sea-level (Snowdon's peak is about 3,500 for comparison) and as we travelled southwards we were gradually ascending all the time so that around Socorro the height was more like 5,000 feet. I mention this because it makes it clearer that there were two unusual elements for us to acclimatize ourselves with, the altitude as well as the heat.

We stopped in Socorro to buy my husband a "ten-gallon" hat, much needed as protection for head and neck, we were already wearing Polaroid sun-glasses as eye protection and long-sleeved shirts. Skin uncovered to that sun will soon burn when you are unaccustomed to such direct rays. We set out from Socorro on the Magdalena road and here we seemed to be going right into the mountains. Rocky crags rose up at the sides of the winding road and now and again we crossed a gully where sometimes no doubt a river rushed, but all was dry and white stones showed where the river bed lay. Soon the truck drew into a low verge, and, armed with our picks and bags and cameras, we negotiated the ubiquitous barbed wire that we soon got used to finding obstructing our way on collecting jaunts. The dry, sloping terrain with its parched vegetation seemed to give little hope in the way of a cactus but soon Denis was calling us to see our first *Mammillaria* in habitat—*M. meiacantha*—a good specimen with a fine array of fruit. Whether it was that our eyes were getting attuned or that we knew what to look for, Bill and I both found a plant for ourselves within minutes. The thrill of finding your first plant in habitat is hard to describe; being a somewhat sentimental type I know the tears twinkled in



Finding your first plant in habitat

my eyes and, needless to say, the event had to be recorded on film. We felt we must take up these two plants though they were slightly misshapen by the surrounding rocks.

By this time Denis was finding other genera as well and we soon did the same; the plants of *Coryphantha vivipara* v. *arizonica* were generally quite small but easily distinguishable with their interwoven spines, pinkish towards the crown. The third genus was rather sparse and we only found a few of these, it was *Echinomastus intertextus*. Now that our plants have plumped out the ribs can be clearly seen but at the time we discovered them the stout spines were the most distinguishing feature. A change from flora to fauna took place just about then as Denis picked up a horned toad for us to see; it was not slimy like most of its kind but of a dull sandy colour, a perfect camouflage for it in the terrain where it lives. A little later we retraced our steps to the truck and set off again. Soon we branched off into a side road which seemed to go right into the mountains. We were told that this was Water Canyon, a place with great extremes of temperature; snow is common in winter but the heat can be intense on the canyon sides in summer. The lower slopes were covered with conifers, pines, and as the altitude increased lower growing types such as junipers, all giving the impression of a Swiss scene but something was lacking, the intense greenness you find in that country. Here the paths were cracked and dry and the grass, except in very shady nooks, was scorched and brown. We were driven off the main road onto a narrow winding track; at that time we thought it was terrible, bumpy and ever ascending with precarious drops to the side—but we had not experienced Mexican dirt roads then!

At last we came to a halt and, after a much-needed

draught from the water flask, we started a steep ascent. I have vague notions that there were *Opuntias* of various types around us, both padded and cylindrical, but all our effort was needed to cope with the climb. The scree-like path—if path it could be called!—was a mixture of jutting rocks and pebbly stones that slithered under your feet, and, as already mentioned we had the heat and the added height to contend with as well and this all made quite a strain on our systems. By now I hope it has become quite apparent that collecting the kind of plants we were after could not be achieved without a good deal of effort and, in fact, this was not only the case in New Mexico but in Arizona and the State of Sonora as well. However, in this instance our efforts were well rewarded.

We eventually reached a narrow terrace or ridge and I spied first a beautiful specimen of *M. meicantha* jutting at quite an angle over the steep cliff below. It was a fine shape and well-budded, and, although looking around



Mammillaria Meicantha at an angle over steep cliff

we saw several more, we decided the first was the one to collect as it was a fair-sized and shapely specimen. That is another thing about plants in habitat, they are not necessarily plants that are worthy of the show bench or even for that matter a respectable greenhouse; they suffer damage from insects—the blue boring beetle was one mentioned to us here, and seen later on our collected plants! This is really the caterpillar-like larva which does the damage. Plants also suffer from their habitat, as they grow they become misshapen by the rocks or stones around them or even grow at angles to reach the maximum light. In addition, it is easy to damage them while trying to dig them up. We found the best method was to lever away the rocks around them with the small pick we were lent and then gradually ease the plant up and so avoid damaging too many roots.

In this area there were also plants of *Echinocereus coccineus* but, as we descended by a slightly less precarious route with our “treasure” we saw another fine



Echinocereus coccineus in the shade of the trees

stand of *E. coccineus* in the shade of the juniper trees and growing quite close to the roots. Here, obviously, the seeds had come to rest as they were halted on their way down the steep slope and found shade and some nutrients from the decaying vegetable matter under the trees. These were fair-sized clumps with from seven to ten heads, each about six inches high and all in flower or bud of a bright carmine colour. We should have loved to have taken a whole clump, but the space and luggage problem loomed large, so we contented ourselves with a few heads off one of the more straggling plants. Thus with another added load we struggled our way back to the pick-up, passing a bank with some interesting blue thistle-like flowers growing on tall stems straddled over it, and finally reached the truck. Somehow the downward descent in the vehicle did not seem quite so long or precarious, but that is not saying we were not relieved when we reached the tarmac road again.

Our next part of the journey took us back on the main Magdalena road for a time, then off on the left along what seemed a farm track and into the centre of a field. There were a few cows around in other fields trying to get what they could from the burnt vegetation, but where we had stopped gave little hope of sustenance. There were a few “teddy bear” chollas, probably *Opuntia bigelowii*, stunted and very wind-swept and the bare branches of a creosote-bush here and there.

After a welcome snack and drink in the only shade, inside the truck, we started a slow and watchful progress up the seemingly bare hill slope. The sun was extremely hot and there was a stiff, but warm wind blowing too and as we were peering closely on the ground all the time the conditions were certainly not ideal. I suppose it must have been well over a quarter of an hour before Denis called us over to see what the search was for—*M. wrightii*—a poor withered specimen pulled well into the ground as added protection against the burning sun. Not long afterwards I found one myself



An even more difficult task (photographing *M. wrightii*)

and was immediately congratulated by our host who said it took real "cactus" eyes to find one of those. To photograph my "find" was an even more difficult task; just imagine trying to make the best of a plant not much more than an inch in diameter which you could hardly pick out from its background apart from the spines. Unluckily, as that was on the colour reel that was lost, I shall never know if I met with success!

We did not meet with any more success in finding *M. wrightii*; there was no doubt of that, and when Denis returned from inspection higher up the hill he had only one small plant to show for his troubles. We did find one or two specimens of *Coryphantha vivipara v. arizonica* again, but even those were in such a desiccated state that they were hardly worth removing. Off we went onto the road again and were soon in Magdalena, a small town with a mixture of the old and the new—supermarkets and gas stations alongside houses and shacks that were reminiscent of Wild West films. After a brief halt we were off through the town and into open country again. Denis pointed to some hills or large mounds, to me somewhat resembling in shape and height the Devil's Jumps (near Frensham, Surrey), he said he had found *M. wrightii* on one of them and proposed searching one of the others to see if the same form was there as well. We turned off into a dirt track once more and then, even worse, bumped across the ground right up to a barbed wire fence at the foot of the mound; this does not sound too bad, but in this area there were prairie dog burrows (or whatever the technical term for such things is) and the weight of the truck collapsed the shallow roofs and we lurched up and down hardly knowing where our stomachs were. We were quite relieved to get out but when we started scaling the incline we realised it was tougher going than it looked. Our troubles were worsened by a strong wind blowing and, as misty clouds had blown over it became quite chilly and we wished we had our anoraks with us.

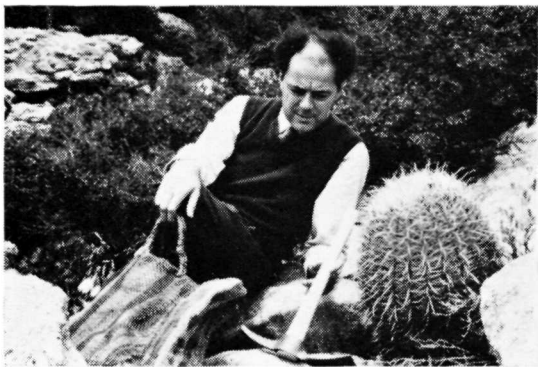
Unfortunately, this hill yielded nothing cactus-wise at all and we proceeded to a lower one. Here at least we

found one quite reasonable clump of *Coryphantha vivipara v. arizonica* but that was the sum total from that site. Denis concluded that this particular habitat of *M. wrightii* was very localised but, as time was going on, we had not time to inspect the mound he had visited before. Thus ended, not so successfully as it began, our first day's collecting in the wild, and the events that followed are not relevant to this narrative. Sufficient to say, that it was later than planned when we set off with the Cowper family next afternoon on the first stage of the eight hundred mile trip to Pasadena.

That night was spent at Flagstaff in Arizona and we awoke to snow! However, as this township was about 6,900 feet up and it was not altogether surprising and as we set off again the snow was soon disappearing as the sun came higher in the sky. We were soon among scenery that we were to find so typical of this western part of Arizona, flat plateau regions looking blue in the distance and then suddenly rising to high mountain peaks. It was while we were driving alongside one of these steeply rising parts between Williams and Kingman that Denis ran the car into the verge and said "I think this is the *M. wrightii* locality that they were telling me about". He and his son were out with their gear and up the steep escarpment like a couple of mountain goats. We, made our way rather more cautiously and in consequence the other two were soon round the corner of the cliff face and we could not really see where they had gone. We found this with all our enthusiastic collecting companions out there, they went surging ahead forgetting everything but their desire to find plants—certainly forgetting the two tyros they had brought along with them! However, we got along very well on our own generally and that was certainly the case here because we had entered a veritable cactophile's paradise.

This was clear as soon as we rounded the first overhanging cleft of rock on the steep slope, for there right in our path was a great clump of *Echinocereus*, possibly *E. fendleri*, with a mass of red flowers. There were about forty heads on this plant and flowers on practically every one, a really colourful sight. Further round this cliff we came to a terrace formed from a flat overhanging rock, at least there were great boulders and jagged rocks round a central part that was only gently sloping. Here we could not resist cries of "Just look at that" and "How wonderful" and other such expressions. There were more *Echinocerei* some with much longer white spines, varying wild flowers and, best of all, fine clumps of *Opuntia basilaris* gay with pink buds and flowers. There is no doubt that we just cannot do justice to this species over here in collections; they are nothing compared to these specimens we saw, some plants about a foot across and up to two feet high, their pads with the soft blue "bloom" rather like that associated with *Copiapoa cinerea* and the large pinkish-lilac flowers contrasting so well with the body colour.

I was still busy photographing these and various views including Yuccas when Bill called from well above me. I clambered along to see the fine *Ferocactus* he had found and nearly tripped over a smaller but more colourful one on the way. They were both *Ferocactus acanthodes*, but the one my husband had found was somewhat unmanageable as regards collecting being practically two feet high and about fifteen inches in diameter, plus its long pinkish spines. However, the one I found was irresistible and with some levering of surrounding rocks we managed to extract it. We brought it home with us and potted it up and it soon rewarded us with some bright yellow flowers. Coming back down onto the flatter part we found a number of seedlings of the same species of varying sizes. We collected some of these because we felt sorry for them trying to eke out a rather

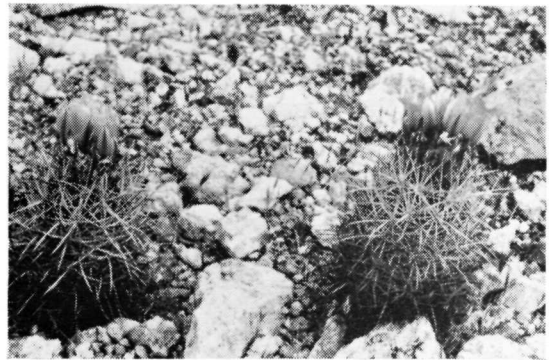


... was somewhat unmanageable

triangular existence between sheer rock. In retrospect this was a particularly interesting point, because nowhere else in our journeyings did we find such a number of different "generations" (if that is the right word) of an individual species in one locality. It is very difficult to estimate the age range of the *Ferocactus acanthodes* we saw in this small area because we cannot judge the rate of growth on this hillside in Arizona but I should think a fair estimate would be between six and forty years. This shows a very good hope for the continuation of the species in that spot. I must admit that elsewhere the *Ferocacti* we saw were all large specimens of a fair age and generally three to four feet in height.

Another point we noticed about the locality of *Ferocacti* was that we cannot recall ever having seen one on the flat; they were always on steep slopes of hills or in craggy clefts on mountain sides. We saw them at intervals throughout our trip that day in these types of localities, often stark against the cliff face with no other vegetation visible anywhere around. It is not surprising they need well drained compost in cultivation!

We retraced our steps to the car not wanting to keep our companions waiting, but we need not have worried as the other two did not return for some time afterwards and all they had to show for their investi-



Echinomastus johnsonii gay with yellow flowers

gation was one dried up plant. We forged ahead after that apart from a brief stop for a welcome iced, real orange drink at a roadside cafe where the garden was a mass of various padded *Opuntias* all in flower. We were really up in the mountains now and were told we were near Union Pass when we diverted onto a side road again near another sloping terrain.

This time there was a variety of shrubby growth, Joshua trees reared their untidy rosettes and creosote bushes straggled about between the Chollas with occasional *Echinocerei* bright with flowers. Our hunt was not for any of these, however, we climbed further up the hill and there were some good plants of *Echinomastus johnsonii* gay with yellow flowers. Though all the plants seemed to be good from a distance, it was clear when we investigated closely that some were mere shells which toppled at a touch and had obviously been ravaged by insects. These *Echinomastus* were slightly variable in size the largest being about six inches high; knowing how difficult this genus is to establish we chose a couple of smaller ones to collect. Denis Cowper in the meantime had found the other object of our search in this locality, *Mammillaria tetrancistra*, and it is not surprising that this is a rare plant in cultivation. This was the only plant of the species found although there were four of us searching the area; it was hardly two inches in diameter but it had several bright red fruits. It was back to the car again and onto the main road once more as it was already past mid-afternoon and we still had a fair way to go.

We did stop again briefly after reaching the top of the pass to take photographs of the fine views down into the Colorado River Valley. Here there were Chollas gay with yellow flowers and more Joshua trees (*Yucca brevifolia*) and the pinkish, craggy mountain peaks all around. Our journey took us through the rugged south west corner of Nevada where a wonderful modern dam contrasted with the barren rocks rising to all sides and, again, the occasional *Ferocactus* standing bravely in the clefts. After we crossed the Californian border the landscape seemed to suddenly change again, we traver-

sed a long, straight but very switch-back road by the side of a sandy shrub region termed chaparral. Now and then there was a flash of white by the road which we were told were Californian or desert lilies but seemed to us rather like white evening primroses. Then on the left-hand side of the road some irregular outcrops became evident and Denis said these were lava heaps from extinct volcanoes. It was by one of these that we made out last collecting stop before reaching Pasadena.

You could hardly miss the glowing red spines that showed against the dark rock although the remainder of the plants were difficult to distinguish from a distance,

but here were great clumps of *Echinocactus polycephalus* growing in the clefts of the rock. This is a plant that we have never seen in cultivation in England and it is really not surprising. Denis kicked off a small head for us to take but the toughness of the spination and the corky base I feel give it small chance of establishing. However, the sight of these plants, four or five clumps each one to two feet in diameter, is one that we will not forget in a hurry. After this stop it was all haste to the Convention and so that was where our first taste of collecting in habitat came to a close. A wonderful experience which I hope others of you will be able to enjoy one day.

The Genus *Astrophytum*

by W. Weightman

ASTROPHYTUMS are very popular plants with collectors and even the most modest collection is likely to include specimens. The name means "star plant" but whether this refers to the minute white flecks on the bodies of most of these plants or their star-shaped plan view seems uncertain. They are generally easy to grow and will flower well under the conditions which can readily be provided in this country. The flowers are attractive although, it must be admitted, there is not a great deal of variety throughout the genus. They are of a clear yellow colour with a very high sheen giving the appearance of being made of satin. The shade of yellow and the size of the flowers varies somewhat, not only from species to species or variety to variety, but also, sometimes, between two otherwise identical plants. Some have a red spot at the base of the petals giving the flower a red throat when viewed from above.

These plants are natives of Mexico and seem to thrive best under rather arid conditions. Whilst they may be watered copiously in hot weather during the growing season water should be withheld during dull weather and the plants should be kept absolutely dry in winter. The soil should be coarse and gritty with little humus. There is some difference in the degree of tolerance these plants show to bad conditions, e.g. over-watering and low temperatures, but my plants all receive identical treatment and thrive.

The classification within the genus is rather uncertain. Until recently it was generally considered that there were only four species, with three of these species having several varieties. More recently some authorities have raised some of these varieties to specific status and now Backeberg¹ lists six species. The validity, or otherwise, of this is beyond the scope of this article but since most growers are probably more familiar with the old arrangement it will be used here.

Astrophytum myriostigma

This is probably the most popular species. Typically, it has five ribs but the number may be anything from four



Astrophytum myriostigma

to ten. It can grow up to 2 feet tall but most specimens seen in collections are roughly globular in shape and up to 4 inches in diameter. The plant is spineless and is usually densely covered with small white flecks. The flowers are yellow without the red throat and are probably the smallest in the genus although, as mentioned above, there is considerable variation. There are about seven recognised varieties and considerably more doubtful ones. The best known are:

- v. *quadriscostata*—known also as v. *tetragona*. As its name implies this plant has only four ribs. It is sometimes seen described as a distinct species but as these plants are liable at any time to grow a fifth rib this is clearly incorrect. In fact, perhaps it should be described as a form.
- v. *nuda*. The white flecks characteristic of the genus are entirely lacking in this variety.
- v. *coahuilensis*. This is one of the varieties to have been raised to specific status. It has a more cylindrical mode of growth and the flower is said to have a red throat.

Astrophytum asterias

This seems to be the most difficult plant to obtain and is reputed to be the most difficult to keep. Losses are almost entirely due to over-watering. A healthy plant is usually at least twice as broad as it is high. Plants occasionally seen like bright green, glossy golf balls are much too lush and likely to succumb to the first cold spell. During the dry winter rest this species shrivels and shrinks considerably, but soon fills out with the commencement of watering. Don't be tempted to start this too early! The flowers have a red throat and are about the same size as the preceding species but they seem larger than they really are because they will appear on quite small plants—sometimes little more than 1 inch in diameter. This species has no varieties. Differences in appearances are due either to methods of cultivation or hybridisation.

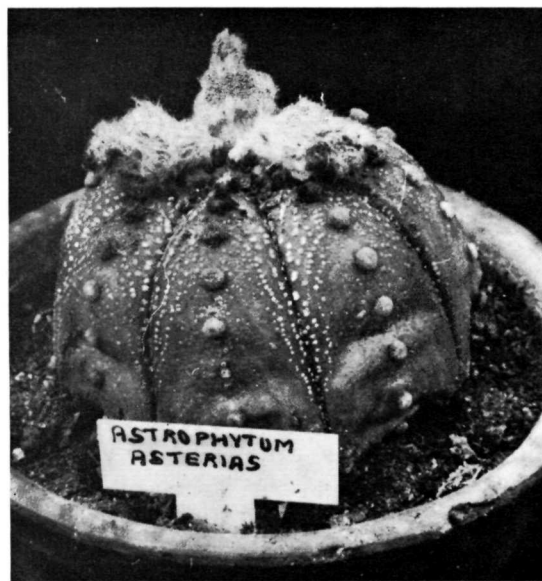
Astrophytum capricorne

This plant is also said to be difficult to keep through the winter. Again I stress the importance of watering. Being sparing with water in summer means slower, tougher growth and with absolute dryness in winter this species, in my collection, withstands temperatures very little above freezing point. This plant and its varieties produce the finest flowers of the genus, up to 3½ inches in diameter with a red throat. It seems that these plants are slow to develop their characteristic spines. One of my plants which was quite spineless up to about 1 inch diameter is now developing quite a formidable armament. The great variation in the spines is responsible for the considerable number of varieties described. Those usually met with are:

- v. senile*. The body of this plant is almost hidden by the long twisting spines. With the similar *v. aureum* it has been considered a distinct species. It produces a series of magnificent flowers throughout the summer and is probably the most sought after plant of the genus.
- v. niveum*. This variety has fewer but longer and coarser spines than the true species.
- v. majus* and *v. minus* are distinguished from the type species primarily by their respectively larger and smaller sizes.

Astrophytum ornatum

This plant has been considered a natural hybrid between *A. myriostigma* and an *Echinocactus*². The stout, sharp, almost straight spines possibly gave rise to this theory. It is the largest of the genus and, in habitat, makes a columnar plant up to 3 feet tall. In cultivation it is usually roughly spherical in outline and up to 6 inches in diameter but a fine columnar specimen may be seen in the Sherman Hoyt collection at Kew. The plant is readily obtainable and easy to grow but I must confess to its being my problem species. Although usually stated to be easy to flower I have never flowered a specimen. I suspect that these plants need to be rather large before they flower but I concede that the rather spartan treatment I hand out to the genus in general may



Astrophytum asterias

not suit this species. I would be most interested in readers experiences and views on this matter. The white flecks are often arranged in straight lines making patterns on the body of the plant. Several varieties have been described but the only one commonly encountered is: *v. mirbelli*. This variety has larger and more numerous white flecks than the normal plant.

Hybrids

The various species within the genus seem to hybridise fairly readily. I suspect that a little "foreign blood" in the ancestry of some specimens may be responsible for some of those varieties that are difficult to name. Most of the unashamed hybrid are crosses between *A. asterias* and *A. capricorne* and its varieties. I have noticed an odd feature here. I obtained a seedling of such a cross when it was about ¼ inch in diameter. The plant appeared to have characteristics exactly halfway between the two species but as it grew it began to look more and more like *A. asterias*. The plant is now about 1 inch in diameter and, except for the presence of some very weak spines, would pass for *A. asterias*. Incidentally, this plant commenced flowering when less than ¾ inch in diameter.

Some years ago I cross pollinated *A. capricorne* with *Hamatocactus setispinus*. This resulted in seed being set on the *Astrophytum* but it failed to germinate. This year I crossed *A. myriostigma* with *H. setispinus* and a fruit has formed on the *Hamatocactus*. This will be sown next year. Since *Astrophytums* never offset all plants must be raised from seed. Although rather slow of growth there is no particular problem here and a packet of mixed, or even named, *Astrophytum* seed is likely to keep the amateur with a taste for nomenclature busy for years.

Abnormal forms

Cristate and monstrose forms of *Astrophytum* are known but seem to be rare in cultivation. Backeberg³ illustrates several such specimens of *A. myriostigma* which might be of interest to specialists in this type of plant but they seem to have little, aesthetically, to recommend them.

In writing these notes, use has been made of the standard works on the subject but many of the points

raised are observations of the author and must be taken as opinions, not facts.

References

- 1, 3. Curt Backeberg—"Die Cactaceae", vol. V, pp. 2651-2674.
2. J. Borg—"Cacti" p. 311.

Cacti in Dorset

by Adele Whicher

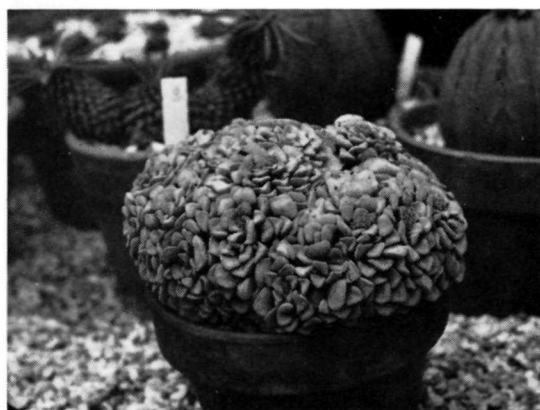


General view of Miss Brown's greenhouse

DURING OUR holiday in Dorset we visited Miss Brown, our seed distributor. She has a very fine collection of plants both cacti and other succulents, all beautifully grown and arranged. Her house is one that she and her friend Miss Walker had built in the village of Hazelbury Bryan, near Sturminster Newton and the garden is open with fine views over farm land to Bulbarrow Hill.

The greenhouse is in the centre of the lawn, completely open to the sun and light, but with the glass lightly shaded. There is also a large conservatory built on to the house on the south side. In here is a wide range of plants, including large pans of miniature crassulas—*C. mesembrianthemopsis* was the largest I have ever seen. *C. cornuta* was flowering from every head as well as *C. marnierana* and some others were *C. arta*, *C. tecta*, *C. otzenii*, *C. gillii*, *C. decepatrix* and *C. namaquensis* var *lutea*.

I was particularly interested in a small tree-like plant, *Cotyledon sinusalexandri*, which I had not seen before; Miss Brown says it has pink flowers. It is very like *Ceraria pygmaea* in appearance, which I have not seen in flower but which Jacobsen says has a whitish-pink inflorescence. *Cerariae* belong to the family Portulacaceae whilst *Cotyledon* is a member of the family



Crassula mesembrianthemopsis

Crassulaceae although both are found in Little Namaqualand. *Huernia pillansii* was in flower and the very unusual bell shaped flower of *Stapelia leendertziae* was the largest I had seen. *Andromischus umbraticola*, the rare *Andromischus marianae*, *Fockea crispa* from the Karroo, *Tavaresia angolensis* and pans of *Stomatium* spp. also two large pans of *Glottiphyllum* spp. all caught my eye as well as numbers of *Euphorbia* seedlings crossed between *E. obesa*, *meloformis* and *horrida*, all I believe from Miss Brown's own seed. *Astrophytum asterias* seedlings had been flowering very well. At the side of the conservatory were two fine tubs of *Hoya carnosa* trained up bamboo canes, one was the variegated variety which Miss Brown finds the less strong grower. There was also a fine and perfect specimen of *Agave victoriae-reginae* and an equally handsome *Agave parrasana*.

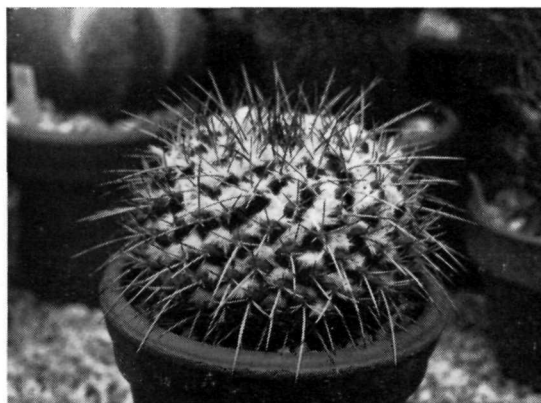
Among the cacti I particularly noticed a fine *Mammillopsis senilis*, a very dark spined *Mammillaria microhelix*, *M. Fischeri* which was quite new to me together with *M. surculosa*, *bombycina*, *Multidigitata*, and *ochoterrenae*, and also *Parodia chrysacanthion* and a fine long spined specimen of *Lobivia jajoana*. It was October when we visited Miss Brown and the greenhouse was very colourful and fragrant with *Conophytums* and some *Lithops*



Euphorbia sp. bought from Sir Oliver Leese

in flower. The rose red *C. odoratum*, pink flowered *C. pallidum*, yellow *C. dissimile* and lilac *C. tischeri* were all in fine flowering clumps. The white flowers of *Ophthalmophyllum maughanii* were fully out and nearby was a large *Dirteranthus van zyl*i. Among a number of *Haworthias* were *H. truncata*, *H. maughanii*, *H. limifolia*, *H. mantelli* and the unusual *H. obtusa* var *dielsiana* which is almost transparent. *Haworthia mantelli* is an intermediate hybrid between *H. truncata* \times *H. cuspidata*. Among the Aloes *A. dichotoma*, which grows tree-like with age, was very attractive, so also was *Aloe Bakeri*. There were also some interesting *Mammillaria* seedlings including two different varieties of *louisae* from the *Mammillaria* Society's seed. Many wooden flats contained seedlings in various stages of growth—mainly *Mammillarias*, *Parodias* and *Lobivias* with a sprinkling of various other globular cacti such as *Rebutias*, *Gymnocalyciums*, and *Weingartias*. A number of the larger seedlings were growing together in deep wooden flats and Miss Brown finds they grow better in company. Miss Brown does not grow any *Cereus* or *Opuntia* as, in her view, they take up too much room and have to get to a good size before they flower. She is also gradually discarding her *Epiphyllums* for reasons of space and because they are uninteresting for much of the year. Her main interest is in seed raising and growing on to produce nice plants, old and "tatty" plants being ruthlessly discarded. She told us that she likes to get her seeds sown by late February or early March so that they are large enough to prick out by August at the latest. She finds that if they are small and have to be left in their seed pans they do not over-winter very well. After sowing in Bowers Cactus Compost the seeds are germinated in a propagator at 70° C. although experimental sowing in Levington's Seed Compost produced satisfactory results.

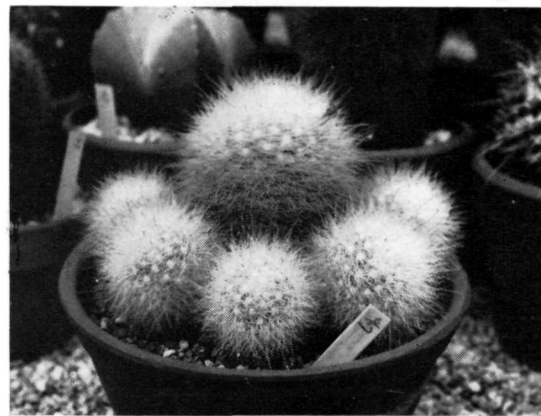
Pests do not seem to be much trouble to Miss Brown. She uses a Systemic insecticide two or three times during the growing season and keeps a sharp look out for red spider. Malathion spray is used to check *Sciara* fly in the



Mammillaria fischeri

propagator. Most of her plants are under rather than over watered, owing to lack of time, and in this connection her experience shows that growing seedlings in wooden flats is a great help as they do not dry out in the Summer nearly as frequently as they would in small pots. Although she has not gone over to plastic pots a few of her plants are doing very well in them and an experiment with *Leuchtenbergia principis* seedlings gave better results in plastic than in clay.

We were made very welcome and much enjoyed our visit. I appreciated a cutting of *Cotyledon sinus-alexandri* and, as I have a very small *Ceraria pygmaea* I am looking forward to comparing them in growth, which I fear will be very slow.



Mammillopsis senilis

Collection of Epiphytic Cacti for sale.

100 *Epiphyllums* (25 species and 75 hybs.) 100 other epiphytic cacti (50 *riphsalis*) *Discocactus*, *Acanthorhopsalis*, *Epithelantha* etc. to be sold on 4th April 1970 either as a whole collection if a reasonable offer is made by this date or as separate items on and from this date.

K. A. Grounds, 11 Alloa Road, Goodmayes, Ilford, Essex. (01-590 8101)

Notes on the 1970 Seed Distribution

WE GATHER from a number of members that the notes which appeared in the February 1967 and February 1968 issues of the Journal on some of the varieties of seed which were made available on those occasions proved helpful, particularly to those with limited experience. We are therefore resuming this feature and although it is impossible to mention everything listed this year we are endeavouring to comment on the lesser-known species and to indicate which are suitable for comparatively inexperienced growers. It will be noted that the list of cacti is more extensive than that of the other succulents and this is so for two reasons. We are actively pursuing a policy of disposing of the seed acquired for a particular year before the next distribution comes round and this necessitates tailoring our purchases to the demand. Of recent years the seed of cacti has been consistently the more popular and our stocks of seed of other succulents has been adjusted accordingly. Secondly there is no doubt that seed of choice other succulents would be in demand if we could provide it but this is difficult to do other than in a small way. It is not merely a case that such seed is expensive to purchase; it is usually only available in quantities of one hundred whereas we do not list any item unless we have a thousand of it because we do not wish to disappoint an appreciable number of members.

We are offering seed of a group of plants in the Coryphanthaceae because, by and large, the members of this sub-tribe other than the genus *Mammillaria* are sadly and unjustifiably neglected. The genus *Ancistrocactus* contains four species, native to Texas and Northern Mexico, of which the best known are *A. megarhizus* and *A. scheeri* now listed. These plants are rather cylindrical in habit and tend to offset and form clumps of heads with age. The tubercles which are grooved on the upper surface, and thus resemble most Coryphantha species, are set in near vertical ribs. *A. scheeri* has fairly stout hooked central spines and the attractive greenish yellow flowers appear freely on older plants. They are not the easiest of plants to raise from seed and great care must be taken with watering, but they are distinctive and attractive plants at an early age. *Coryphantha arizonica* is one of several species now often accepted as varieties of *C. vivipara*. As its name implies it is native to Arizona although I collected plants in southern New Mexico in May 1969. It forms quite small heads, up to three inches or so in diameter, and becomes caespitose with age. Its interlacing white radial spines, somewhat darker centrals and deep pink flowers make it a desirable species.

New Mexico is also the home of some of the *Escobaria* species, many of which are diminutive but highly interesting. *E. strobiliformis*, a name which seems to



Escobaria tuberculosa

persist rather than the correct *E. tuberculosa*, is somewhat atypical in that it is of cylindrical habit, forming clumps of stems up to seven or eight inches in height and about an inch and a half in diameter. However, it does have the typical groove on the upper side of the tubercles and the flowers appear very close to the growing point. Specimens a few years in age produce the attractive pink flowers at intervals throughout the summer and, together with *E. chaffeyi*, it is probably the easiest of the *Escobarias* to raise from seed.

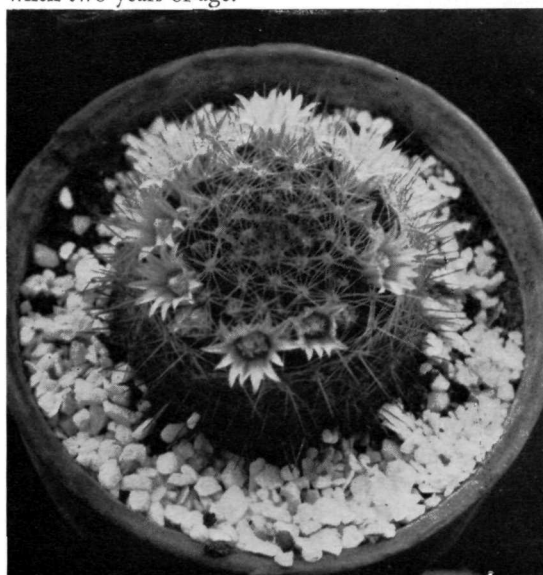
The genus *Gymnocactus*, established by Backeberg, is probably something of a mystery to many members. He separated it from *Neolloydia* because its species do not have a groove on the upper side of the tubercles and, by and large, the flowers are smaller. Consequently, the *Neolloydia horripila* described by Borg is the same as the *Gymnocactus horripilus* we now list and, just to confuse the issue, other writers have referred to it as *Mammillaria horripila* and *Thelocactus horripilus*. This is unfortunate in that it may lead to a neglect of a very deserving plant which has brown tipped white spines and carmine red flowers. It is not difficult to raise from seed although growth is not particularly fast.

Last, but not least, among those other Coryphanthaceae, is *Thelocactus bicolor*. The various *Thelocactus* species differ somewhat in their obvious affinities to a typical member of the sub-tribe Coryphanthaceae if such exists. *T. bicolor* has quite flattened tubercles, and although these are grooved, they are set in near vertical ribs and, at first sight, it looks to be almost as much a member of the Echinocactaceae as, say, a *Hamatocactus* species. Those members who have a certain amount of seed raising experience should have no difficulty with



Thelocactus bicolor

this species. It grows slowly but steadily and after six or seven years the large lilac flowers with red throats, with petals that open almost flat to a spread of two and a half inches, will appear from June to September. Among the Mammillarias listed *M. viereckii* is particularly deserving of mention. It is one of a group of species which flower early in the year, usually from February; indeed, *M. picta* which is probably the best known of them, usually flowers from November until April. *M. viereckii* is easily raised from seed and should flower when two years of age.



Mammillaria viereckii

The Editor, in her article on the September 1969 Show which appeared in the last issue of the Journal, remarks on my attempts to popularise the columnar *Cerei* from South America. I have included a few of these in the list but I trust that there is no undue bias towards them. A considerable number of new *Cleistocactus* species have come from Bolivia during the last fifteen years and some of them are no more than catalogue names at present not having been described in the literature. *Cleistocactus la Paz* seems to be one such, as I have not been able to trace it in Backeberg's Lexicon or other works of reference. There is such a variety of spine colour among these new *Cleistocactus* species that one or two examples should be in every collection, to supplement the attractive but now commonplace *C. straussii* and I recommend *C. la Paz* as easy for beginners.

Several *Corryocactus* species are described by Borg but the genus is seldom found in cultivation and we trust that *C. ayapayanus*, a native of Bolivia as the name implies, will prove popular. It makes a small clump of almost upright stems which may reach four feet in height and the salmon coloured flowers are three inches in diameter. Those members who visited the June 1969 Show in the R.H.S. Hall who were not familiar with *Seticereus icosagonus* will probably have put it on their wants list after seeing Mr. Jeffries' fine specimen which was obligingly in flower for the occasion. It forms small clumps of stems each about one and a half inches in diameter and although these are erect when short, they gradually become more prostrate as they elongate, although they do not hang as markedly as those of *Aporocactus flagelliformis*. Each stem is densely covered with yellow-orange spines and the reddish flowers are somewhat zygomorphic, as in the case of one or two other related genera of South American *Cereanae*. The spination of *Weberbauerocereus johnsonii* is rather akin to that of *Seticereus icosagonus* but the former is a typical columnar *Cereus* with a single erect stem. It grows readily from seed and is one of the best species to come out of the western part of South America since the war. Those who find the generic name something of a tongue twister may like to know that it commemorates Dr. Weberbauer, who did much work on the flora of the Peruvian Andes.

Very different in habit and habitat, but desirable none the less, is the little known *Machaerocereus gummosus*, from Baja California. The generic name means dagger cereus and this is an apt description for the strong, sharp central spines and if the plant is of prostrate habit, as in the case of the celebrated but uncommon *M. eruca*, it is understandable how the trivial name "Creeping Devil" comes about. *M. gummosus*, being of more upright growth, presents fewer problems in a small greenhouse and although its purplish-red flowers are unlikely to appear in cultivation it is definitely a plant for the collector who wishes to enlarge his scope

to cover lesser known species. I cannot offer advice on how easy it is to raise from seed.

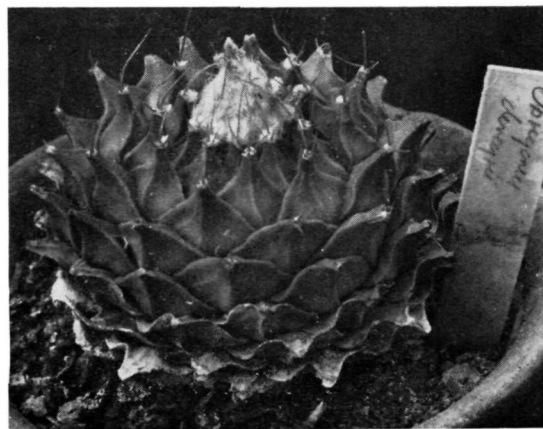
I am rather sad that the genus *Mila*, together with *Arequipa* and one or two others, now finds itself out on a limb so far a classification for show purposes is concerned. On grounds of pure logic I do not disagree with the N.C.S.S. Guide to Shows that these genera are not acceptable as *Echinocactanae* nor *Cereanae* but it does rather leave them out in the cold, and out of sight may well be out of mind. The genus *Mila*, in which Backeberg places twelve species, is certainly of botanical interest and the plants are attractive and deserving of cultivation. In a broad sense they may be called the South American equivalent of the Echinocerei and much resemble the procumbent species of this genus except the spines tend to cover the stems more completely. The flowers, which are usually yellow and appear near to the ends of the stems, are followed by gooseberry-like fruits. *M. fortalazensis*, like the other species, hails from central Peru (the generic name is an anagram of Lima, the capital of Peru), and also resembles them in being of rather slow growth from seed. Nevertheless, it is much recommended.

The whims and fancies of fashion are but fickle and although the genus *Echinocereus* is now comparatively out of favour the wheel may turn full circle before long. We have offered seed of several species of recent years and we shall continue this policy because there is a good deal of variety of form and the flowers are outstanding. Of those listed *E. pentalophus*, which is one of the group with untidy procumbent stems, is probably the best known. A good specimen grown in a sunny position will produce an appreciable number of four inch flowers in late May or early June and some members will recall the free-flowering plant used as the illustration for the Society Christmas card some years ago. *E. blanckii* is somewhat similar; the stems are rather longer and it is free-flowering. Like *E. pentalophus* it is easy to raise from seed. I have a particular attachment to *E. engelmannii*, having seen large clumps of it in habitat in northern Arizona, and apart from the attractive flowers, the long spines which are usually brownish, but may be almost white or yellow in some forms, add to its appeal. It is comparatively cold resistant whereas *E. cinerescens* which also makes clumps of rather thick, erect stems prefers rather more warmth in winter as its home is central Mexico. The specific name means ash-grey and this refers to the colour of the spines, although they are reddish at the base. The pectinate Echinocerei always attract attention because of their spination and to add to those offered in the past we now have *E. pectinatus* v. *castaneus*, which has somewhat fewer radial spines than the species and the spines as a whole are chestnut brown in colour.

Professor Borg referred to Ferocactus as the princely genus of cacti but, as in the case of the Echinocerei, they are not particularly popular at present. It is true that

many species do not flower readily, that most of them ultimately attain an appreciable size and that the secretion of sugary liquid from the areoles can lead to the formation of black mould. Nevertheless, anyone who has seen these majestic barrel cacti in habitat wants to grow them, even if they are somewhat less impressive in cultivation. In particular, the species with deep red spines usually fail to give the same intensity of coloration in Europe. *F. acanthodes*, which comes with central spines ranging from yellow to red, is one of the best of the Ferocactus species and if it is given full sun the spines should develop satisfactorily. The central spines of *P. alamosanus*, from the Alamos area in Sonora and *F. rafaensis* from the Minas de San Rafael in San Luis Potosi, are both more awl-shaped and are yellow. With both, the bluish green bodies are more apparent because the ribs are well separated and not completely covered by the spines. Both are somewhat more tender than *F. acanthodes* but grow well in average greenhouse conditions.

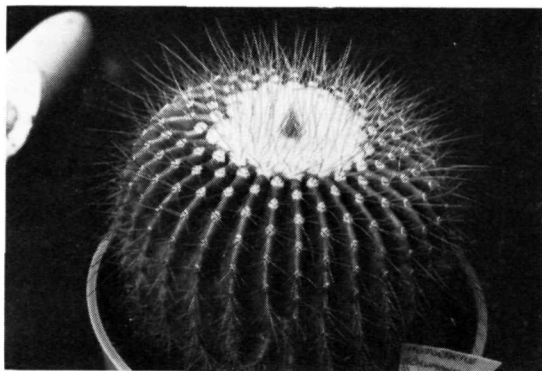
It has never been very apparent why, of the Echinocactus species, *E. grusonii* alone is popular, with *E. horizontalis* a poor second and the others also rans. *E. ingens*, from Hidalgo, eventually reaches a considerable size, as indeed does *E. grusonii*, and with its flattened dagger-like central spines it is rather reminiscent of some Ferocactus species. The other two Mexican Echinocactanae which we list are very contrasting and different from each other and from most members of the sub-tribe. *Leuchtenbergia principis*, with its very long acutely triangular grey-green tubercles and twisting papery-yellow spines qualifies for the epithet unique; it can never be mistaken or misidentified. It is one of the aristocrats of the Mexican Echinocactanea, but it is by no means so slow in growth as the *Ariocarpus* species, *Aztekium ritteri* and the like. In fact, the only problem in raising from seed is that the germination seems always poor. Such seedlings as appear grow steadily and



Obregonia denegrii

vigorous specimens will flower when five years of age, the large, yellow blooms appearing in mid-summer on the ends of the newer tubercles. *Obregonia denegrii* is also less difficult from seed than might be supposed and, at three years of age, the seedlings are attractive miniatures of mature plants. There seems to be no information on the age at which flowers first appear.

We return to South America for the remaining cacti, which include some particularly interesting species. Like all *Frailas* *F. aurea* is diminutive, averaging about one and a half inches in diameter but, contrary to what might be expected, the various members of the genus are not particularly slow from seed and are perfectly easy to grow. In fact, it is difficult to understand why they are not more popular, being so economical space-wise; perhaps it is the fact that the flowers only open fleetingly, although seed is usually forthcoming in quantity. *Notocactus schumannianus* eventually attains an appreciable size but most of the specimens in cultivation

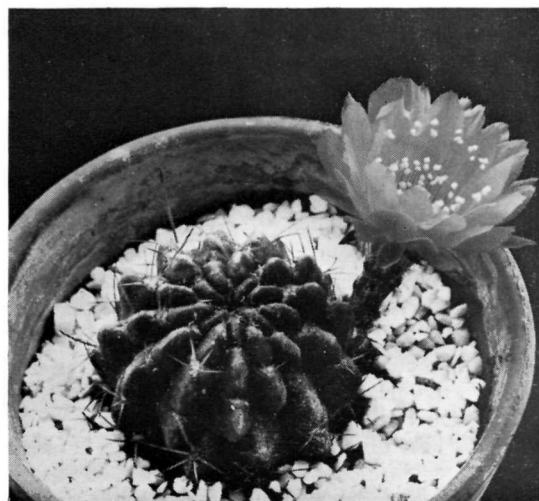


Notocactus schumannianus

are still globular even though they may have reached seven inches in diameter. Smaller specimens are rather reminiscent of *N. leninghausii* except that the spines are not so brilliantly yellow. The two species also have it in common that they are unpredictable in their flowering; comparatively small plants may oblige but larger specimens may refuse.

Neochilenia wagenknechtii v. *multiflora* may be a somewhat lengthy name to write on a label but this should not deter anyone from growing the species, one of the best of the *Neochilenias* or *Nichelias* as they should be called if rules of priority in naming are observed. Like most *Neochilenias* the seedlings grow quite steadily and the plants should be producing the typical large pale yellow flowers during the fourth summer. In contrast, *Parodia erythrantha* v. *thionatha* is not for the beginner in seed raising; it is one of a group of species with almost dust-like seed and the growth is very slow until well into the second year. Nevertheless, it is a desirable plant having, essentially, the floral characteristics of *P.*

microsperma, of which it was classed a variety until Backeberg made the new combination, and the spination of *P. erythrantha*. For those wishing to try their hands at raising *Lobivias* from seed, *L. ferox* is as good an introduction as any. It is probably only a variety of the type species, *L. pentlandii*, and as might be surmised from the name *ferox*, it has long curving central spines which make it more distinguished than most *Lobivia* species when not in flower.



Lobivia pentlandii

Turning now to the other succulents, as mentioned, at the beginning the selection is not as good as we would have liked; however, there are some interesting species for both novices and more experienced growers to try. No doubt *Dioscorea elephantipes*, or *Testudinaria elephantipes* as it was previously called, is well known to most members and those at the Show at Westminster in June 1969 had the opportunity of seeing a good mature specimen. However, in youth these strange plants with the tree-bark like caudex and vine-like stems are just as delightful; they can be raised from seed without too much trouble and very soon the small caudex will appear growing both under the soil and above it. From this it will be seen that it is best to plant these seeds in a container of their own a good distance apart and pressed just under the soil. This enables them to make their initial growth without being disturbed or encroaching on seedlings of any other genera and stifling them.

Among the *Crassulaceae* *Cotyledon paniculata* is worthy of mention; this plant, which occurs widely in Cape Province and South West Africa, has thick papery stems and in the autumn (in Great Britain) the fresh green leaves appear and this is when watering should commence. Being a winter grower implies that it also

needs a little more warmth at this time than dormant species and a temperature of 45°-48° F., minimum is recommended. As with the Testudinaria it is best to raise the seedlings in a pan by themselves.

Euphorbia atropurpurea comes from the Canary Isles and is hence one of the hardier species from this genus. It has fleshy branches with long pointed leaves and the inflorescence is in the form of brown-violet bracts. Euphorbia seeds are like those of sweet peas and should be gently pressed into the compost and there should be no trouble in germinating them. This also applies to the members of the *Liliaceae* on the list but in this case the seeds are papery and should be eased vertically into the compost. Of the Aloes, *A. dichotoma* is a large plant in maturity but can be very attractive when small with its green glaucous leaves with narrow edges of a buff colour. The name derives from the fact that when large the stem will divide and twin rosettes form—dichotomous branching. This species comes from South West Africa as does *A. striata*; this is not so large growing and the rosettes are almost stemless. The leaves are usually distinctly striped (hence striated) and white edged and the flowers are salmon red to coral. *Haworthia maughanii truncata* mixture really needs little explanation, and there is a good chance that some interesting hybrids may be raised. These varieties are rather susceptible to damp and it is advisable to soak from the base rather than water overhead and never allow to become too wet. The other Haworthia, *H. albicans*, which is more generally known as *H. marginata*, is another species from Cape Province. Its thick, dark green leaves are coated with a papery skin which makes them look whitish and the margins and keel have a clear white edge. This is one of the only two species in the Albicantes Section, the other being *H. uitewaaliana*.

The remainder of the items on the list are mainly Mesembryanthemums and it hardly needs mention that the seeds of most of these are very small and often dust-like; beginners are recommended to add a little fine sand to the packets and then sprinkle evenly over the surface of the compost. For those with little practice at seed raising there is no doubt that the best and quickest results can be obtained with *Faucarias*; they will often flower in two years from sowing the seed and the bright yellow flowers are very welcome in October or November. *F. longifolia* is one of the larger flowered species of the genus while *F. subintegra*, although having smaller flowers, has very attractive and clear white dots on the leaves. Another genus which should be tried by newcomers is *Pleiospilos*, and *P. magnipunctatus* with its thick fleshy leaves somewhat longer than the more usual *P. bolusii* and less "rugged" looking, produces large yellow flowers which last for some time. If you like planting a few Mesembryanthemums outdoors in the summer the two to try are *Carpobrotus muirii* and *Lampranthus franciscii*. *C. muirii* according to Jacobsen is called "sour figs" by the Africans and it is

eaten dried; the plant is of a shrubby habit and has pink-purple flowers. *L. franciscii* appears to be a new species as it cannot be traced in any reference book, but, no doubt, like others of the genus it will be worth growing for its attractive green-blue leaves and ease of flowering.

Three of the other names on the list are monotypic genera, that is, there is only this one species in each. *Antegibbaeum fissoides*, as its name implies, is a fore-runner of *Gibbaeum* but some floral characteristics separate it from this genus. It is a plant not often seen in collections and even more rarely seen with its violet-red flowers. *Bijlia cana* is another of the small-growing mesembryanthemums with almost triangular grey-green leaves; it has its yellow flowers in autumn or winter. The third is *Tischleria peersii* which somewhat resembles a *Faucaria* but is actually closely allied to *Carruanthus*. In my experience this species flowers in the early spring but the reference books seem to favour summer! Whatever time they appear the yellow flowers which stand out well from the plant are very attractive.

The name *Cheiridopsis* means sleeve-like because of the protective sheath at the base of the leaves. The three species on the list come from Little Namaqualand; *C. crassa* has neat roundish bluish-green leaves and yellow flower while *C. denticulata* has longer greyer leaves somewhat toothed on the keel from which its name derives and again the flowers are yellow. *C. purpurea*, however, has purplish flowers and more prominent pinkish sheaths. *Gibbaeums* make attractive plants with their fascinating leaf forms and *G. angulipes* with longish spreading leaves of different lengths should be no exception, particularly when the purplish flowers appear. *G. rimaria* seems almost a contradiction of terms and it will be interesting to see what results from the germination of these seeds. *Rimaria* was a genus split off from *Gibbaeum* by Dr. Brown but Jacobsen lists it as Sub-section 2 of Section III of *Gibbaeum*. When a name like this appears on a seed list it is useful for members to make their own observations and conclusions.

Lithops need little introduction to most growers but amongst the attractively marked plants that can be grown *L. insularis* with its brown and olive-green markings is unusual and *L. julii* with its pearl-grey colouring with brown markings is one of the easily distinguishable species. The *Ophthalmophyllum* mixture should not be despised. *Ophthalmophyllums* are as easy to grow as Lithops and will sometimes flower at an earlier age. The plant bodies often have an attractive pubescence and the flower colour can vary from clear white through cream to deep pink.

In conclusion I would like to wish you all good germination and good growing of your seedlings but do not be discouraged by failure; the "old hands" have losses at times.

W.F.M.

Notes From California

by Richard Russell

A FEW weeks ago I decided to try to find a few of our "Coast Barrel" Cacti for my front-yard Cactus garden. The Coast Barrel is *Ferocactus viridescens*. As far as I know, this fiercely-spined barrel is found in no other place but San Diego Country (although I would imagine that it grows south of San Diego into Mexico (we are only 15 miles north of Baha here in San Diego).

I drove out to a dry, hilly section well within the San Diego city limits, and I was disturbed to see that a number of new housing developments had extended into the territory where I had previously seen my barrel. I finally stopped at a particularly undisturbed area, got out my shovel, and plunged down a hill thick with underbrush. Not a barrel in sight I searched for half an hour and was about to give up. Then I remembered that the *Ferocactus* usually grows near the Coast *Opuntia* (*litoralis*). I located a large group of *Opuntia* within 50 feet of a housing project. Sure enough, there embedded in the stones and gravel were about two dozen *Ferocacti*.

I started digging around the roots of the first specimen, a beauty about nine inches across. The manner in which these plants are "dug" into the rocks in gravel has to be seen to be believed. It took me twenty minutes to free the plant and even so I had to cut through part of the huge, tough root system. Within a few hours I had collected six large, perfect plants. I dried them out for a few days, then planted them in sandy soil in my garden. I hope they flourish, and I pity any one who happens to step on one in the dark. They are fierce, spiny brutes, but I love them. They should produce their curious, greenish flowers in the spring.

Speaking of barrels, I guess my favourites are the rare S. Americans, Arequipas, Oroyas, Matucanas, Submatucanas, Islayas. For exotic, spiny "Cactusy" appearance, I find that there is nothing like them. I have about thirty different species of the above, most of them specimen plants around four to eight inches in diameter. Of the group, perhaps Matucanas are the most beautiful. Their spines are multi-coloured variations of black, gray and white and most of the Matucanas such as *M. Versicolor*, *blancii* and *haynei* are so thickly covered with spines that the plant body is all but visible.

Oroya borchersii is undoubtedly one of the really magnificent members of the barrel family. The plant is hidden under a mass of reddish-orange spines which shine and radiate in the sun. *Arequipa erectocylindrica* is another wonderful plant with its myriad long, gray and chalky-looking spines. The exotic Islayas are from the Atacama desert of Peru, and they hardly know what water is in their native home. However, they seem to take our California winter rains in good stride.



Specimens of *Oroyas* and *Matucanas*—R. Russell

These remarkable S. American rarities are just being introduced into the States, and I do not know whether they are available in England or not. But my advice is, if you can find them, but them. They will add an exotic touch to your collection which will be matched by few other groups of plants.

I have recently obtained a number of new *Rebutias*, and this genus is excellent for those with limited space. *Rebutias* like a very porous soil, and they will take plenty of water in the spring and summer. A few *Rebutias* which I have just added which I feel are outstanding are (1) *Rebutia nivea*, a beauty which is covered with soft, white, hair-like spines, (2) *Rebutia tiraquensis*, with spidery-looking spine clusters, (3) *Rebutia glomerata* with long, hairy-thin spines covering the tiny plant body, (4) *Rebutia weingartiana*, which has a white, almost *Mammillaria*-like appearance, and (5) *Rebutia polymorpha*, which is a little fat-bodied fellow, almost spineless and dark green.

Rebutias do not need too much sun, and I have mine planted in pots in a spot where they receive plenty of light and only late-afternoon sun. The largest *Rebutia* can usually be grown in a four-inch pot, so that a collection of perhaps twenty different *Rebutias* will take up a minimum of space.

If you like the *Cereus* family, here are a few choices of mine. *Winteria aureispina* is a pendulant plant as big around as your thumb. It sprouts like an *Aporocactus*, but it is a particularly beautiful plant. It has dense, golden spines, not yellow but really golden. A very easy plant to grow, it will take much water or little. It seems to be particularly rot-resistant and I find it grows well in part shade or full sun.

Another favourite is *Thrixanthocereus senilis*, which is still rare, but worth any effort to acquire. This plant looks much like a *Cleistocactus*, but I think it is even more beautiful. It is hidden under a mass of pure white, flexible spines, I have a single stalk of *T. senilis*, and I am anxious to see what this plant looks like in a few years.

Finally, another favourite is *Eulychnia iquiquensis*. The *Eulychnias* are completely distinctive plants with large, white-felty spine-cushions. *E. iquiquensis* has long, blackish spines about three inches in length. The plant is only two inches in thickness and it grows columnar while throwing out many branches. I have two branched specimens of *Eulychnia*, and I wouldn't trade them for their weight in gold. They are very resistant to sun, rot, insects and people who want to touch them, and in fact they have only one fault. They grow very, very slowly.

As I conclude this piece (the date is November 23)

I awoke to find a happy present, a giant *Epiphyllum* flower which has appeared totally out-of-season. I note that *Epiphyllums* have a habit of sending single flowers out at any time of the year, but their flowers are particularly appreciated during November through January. I have taken the whole plant (three feet high) and placed it on our dining room table for visitors to see. It is a salmon-pink flower, nine inches across, and I think it is the hybrid *Padre*.

Yesterday I received an air shipment from Germany, which I have been worried about because of possible freezing in November. I received the plants in perfect shape. Nine new *Parodias* and three new *Fraileas*. The prize of the shipment is *Parodia fechesi*, the usual ball-shape but covered with reddish-pink spines of a colour I have not seen on any other *Parodia*.

Well, I guess that's all from the American Southwest this quarter. Next time I hope to write something about the *Echinocereus* group.

Succulent Snippets

by Sally Cornioides

WELL, I have not been inundated with cuttings and quips yet, but at least I have had two letters and more of you may be more inclined to take up your pens rather than your plants now that winter has arrived with a bump.

The first contribution comes from Mr. W. J. Murphy in Dublin's "Fair City"; he writes:

"At a recent Flower Show (the usual mixed horticultural and homecraft exhibits) an entry for '3 Cacti in pots not exceeding 6 in.'—*Oreocereus celsianus*, *Parodia chrysacantha* and *Mammillaria geminispina* got a First but in addition was awarded the Royal Horticultural Society of Ireland miniature cup for the best exhibit in the Horticultural Section—Quite a boost for cacti!"

It certainly was, and although the Irish Horticultural Society cannot really gain the credit in this case, I feel its English Counterpart cannot escape the blame for such a short reference in the R.H.S. Journal to the two competitions our G.B. Society held in conjunction with their Shows in 1969. The June Show was dismissed in a couple of lines but the September Show, I presume, was included under "Other Specialist Societies" with no mention of names while the Heather Society with its one small section of tabling was allotted a whole paragraph of description. Those who were unable, through distance, to see our Shows may like to know that each took up a fair corner of the New Hall, at least one fifth of the total space at a guess, so the reporter could hardly miss them!

"Sitting down after the Show to digest the last few morsels of my first comfortable meal in three days, my

thoughts are still very much in gear with the whole mechanics of this annual event. The pre-show preparations, the hurly burly of the hour and now the aftermath of reflections of another season past"

"While the judges' decisions were not always viewed with equanimity there were no protestations or threats of legal proceedings. This is an atmosphere characteristic of our Show and a factor in the maintenance of the friendly relations that exist between all our competitors."

"The R.H.S. have with the years evolved a points system which, if rigidly applied by the judges, would give results which would confound the viewing public and exhibitors alike, so that what you usually get is a compromise between the points system and the experience of qualified people."

Perhaps you think these quotations apply to the Shows mentioned earlier or are from some *Cactus Journal*. Stop looking in the cactus direction; they come from articles in the August 1969 issue of the *Journal of the Daffodil Society* which I chanced to glance at recently. In reading them I was struck forcibly by how much there is in common between all types of horticultural shows. However, judging from the articles from which I have quoted there is one respect in which the *Daffodil Society* seems to serve its members better than *Cactus Societies*. This issue of the *Daffodil Society's Journal* is devoted almost entirely to various aspects of their 1969 Show and, in particular, there is much good advice for the neophyte and relatively inexperienced exhibitors. This seems wholly lacking in the cactus world. The N.C.S.S. is making commendable efforts

to improve the standard of judging, but what about advice on improving the exhibits? Some of the experienced competitors obviously know that there is more to it than just having good plants, that presentation counts. Not only is this often lacking in the novice and junior classes but one sees instances of an exhibit being let down by one particular plant and I am sure that it is not always a case of there being nothing better available. Is the provision of advice for the inexperienced exhibitor something which should be the responsibility of our Show Committee?

It is now twenty years since post-war cactus collecting really got under way again and this is a long enough period of time for the development of some specimen plants. In fact, they are to be seen in reasonable numbers on the show benches and will become increasingly more abundant and impressive as the years go by; or will they? The thought crossed my mind when I was looking at some of the fine plants entered for the two Society Shows in 1969. In other words, when does a plant reach its peak of perfection, assuming that it meets with no mishaps? I suspect there is no simple answer to this question and that a good deal depends on particular genera and species. For example, the fine specimens of *Mammillaria bombycina* and *M. hahniana* belonging to Mr. J. E. Taylor show no sign of going over the hill. On the other hand, his much smaller plant of *Leuchtenbergia principis* seems to lack that subtle fresh look which one associates with a vigorous young plant. In saying this, I am not belittling Mr. Taylor's cultural skill but merely reinforcing the point that, so far as I am concerned, older specimens of this particular plant lose their charm and the majority of imported specimens, with heavy, corky bases I find positively ugly.

Another point which must not be overlooked is the fact that some plants may prove too difficult to transport to shows when of mature size. This must be particularly true of the columnar cerei and one suspects that the three fine specimens which earned Mr. and Mrs. Maddams first prize at the September show may be lost to our envious gazes in, say, five years time when each has added another foot in height. The moral of all this is, I suppose, that the runners-up should take heart because they will not always necessarily be faced with the same rival plants.

Talking of the Maddams, Mrs. Maddams wrote to me and verified that the photograph in the German Journal was indeed Mr. Foster and not Mr. Glass. She also sent me the following:

"A few months ago I volunteered to have an open afternoon for the British Sailors' Society and suggested that "Spend an Afternoon with the Succulent Plants" be the title on the tickets. However, they were printed just with "Spend an Afternoon with the Succulents", and one day; I showed one to an elderly lady and suggested she might like to come along, "Oh, no thank

you dear," she replied, "I am afraid I cannot stand these pop groups!"

Thank you, and I hope the afternoon went well.

* * * * *

I have also received the following:

Dear Sally,

You surmised correctly! The distinguished gentleman pictured in *Kakteen U. A. Sukkulenten* is not, unfortunately, myself but my partner, Mr. Foster. That was—perhaps more unfortunately—not the only inaccuracy in the article in question: *M. saboae* was not discovered by me but by Mrs. Sabo and her son, and the plant was named for Mrs. Sabo. And the plant was not described in our Journal but in the Mexican *Cactaceas Y Suculentas Mexicanas*. Furthermore, Ed and Betty Gay were not the discoverers of *Mam. theresae*, but Theresa Bock was. Mr. Schmid corrected these errors on page 180 of the September, 1969 issue. It is lamentable that so many serious errors found their way into print.

Best wishes,

CHARLIE

These other inaccuracies had been noted but I felt they were not in context as photograph captions was the theme.

However, it is very gratifying that the Editor of the American Journal reads my column although it is written under a pseudonym!

* * * * *

I hope you and your plants are going on well through the winter, too—and don't forget the A.G.M. if you are near enough to London to make it.

The Table Shows at the Monthly Westminster Meetings in 1970

The Council considered that the 1969 Table Shows—either one cactus or one other succulent—were not very well supported and were very difficult to judge; hence a compromise is being tried in 1970. For this, members will be asked to bring along a plant of a sub-tribe of Cactaceae or a plant from one family of the other succulents. The list, which appears on Fixture Cards, is summarised with some suggestions below and it is hoped that as many as possible of those attending the Westminster meetings will make the effort to bring just the one plant along. There would then be a table show well worth seeing and more people in line competing for the yearly prizes.

March is Liliaceae when Aloes, Haworthias and Bulbines for example should be growing well.

April the cacti represented by Coryphanthanae such as Mammillarias, Escobarias and Coryphanthas.

May should be just right for Echinocereanae such as Rebutias, Lobivias and Echinocerei.

June is back to the other succulents—Asclepiadaceae which include Stapelias, Huernias and Duvalias among the many genera.

July gives a wider range with Epiphytic cactus including Rhipsalis, Hatiora and Chiapasia for example.

August is a good month for Euphorbiaceae, Jatrophas, Monadeniums and Euphorbias should have inflorescences then.

September is the obvious choice for the Mesembryanthemaceae with Gibbaeums, Fenestrarias and Conophytums for a start.

October sees a number of Echinocactanae at their peak particularly Ariocarpus, Neogomesia and Copiapos.

November is the growing season for many Crassulaceae including dwarf Crassulas, Echeverias and some Sedums.

Well, the choice is yours and even a moderate collection should have one plant worthy of entering in each of these groups, and remember a well-grown plant with buds or flowers will score over a recently imported one in poor condition. Start looking around your collection now.

Correspondence

Dear Editor,

Mr. Brewerton in his wrath neatly confirms the success of the anonymous column "Succulent Snippets".

Unless the column is written by the last of the Great Train Robbers, there can be no earthly reason for the writer hiding their identity, other than to stimulate interest and correspondence. This has certainly happened, and both writer and editor are to be congratulated on an effective piece of good journalism.

Sincerely,

W. W. Atkinson, Hastings.

Dear Editor,

I find myself both for and against Miss Hutchinson's arguments on plastic pots. Labour saving they certainly are, in that the majority of our plants can safely be potted in plastic and the frequency of watering thus drastically reduced. But it is a debatable point if only watering the stemless mesembs. Once a month is really a lazy method. I find that purposely missing out certain pots entails a considerable amount of concentration, and without wishing to start a "lazier than thou" campaign, I fully agree with Mrs. Stillwell in reverting to clay for the mesembs. An accidental dosage out of turn is thus not nearly so disastrous as would be the case in plastic.

As for the centre hole, I agree that it is not really necessary, but in fairness to Mr. Boarder, I think it should be stated that he is not likely to use it to tear up the centre of the root-ball. Rather, a crock or piece of perforated zinc to spread the pressure.

There is still a place for clay pots in our collections—in all cases where "water with care" is the maxim. I find

them also useful in seed-raising, where, partly sunk in sand or vermiculite, an adequate degree of moisture in the compost can be more effectively controlled. Labelling is also simpler, in that a reference number can be scrawled on the side of the pot with ordinary lead pencil!

Yours sincerely, Another lazy one,

W. W. Atkinson. Hastings.

Dinner

THE Society held its 38th anniversary dinner on December 4th at the Windsor Rooms, Victoria, with members and guests attending. Mr. A. Boarder was in the chair and proposed the toast of the Society, to which Mr. Ivor Newman replied. The visitors were toasted by Mr. Stanley Young and this was acknowledged by Mr. F. L. Cousins. After this our President, Mrs. Shurly gave an address on the work of the Society, which proved, not unexpectedly, a fitting climax to a series of entertaining after-dinner speeches all highly appreciated by a now well-fed audience. Mr. and Mrs. W. F. Maddams concluded the evening with an illustrated account of their American journey, introducing us in a light-hearted and colourful manner to the social side of a cactus congress in the U.S.A. This was a most enjoyable evening shared by old and new members alike.

W.V.H.

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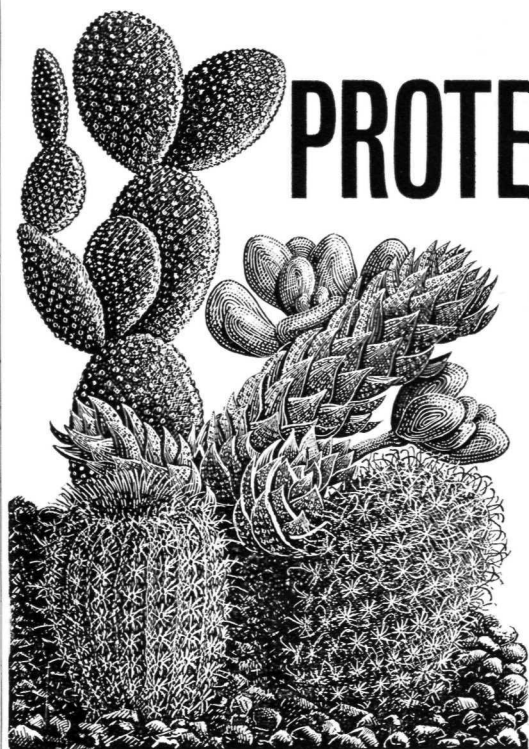
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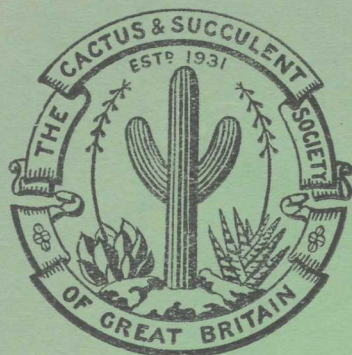
Vol. 32

MAY, 1970

No. 2



*Published Quarterly by The Cactus and Succulent Society of Great Britain
at 39, The Ridgway, Sutton, Surrey.*



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THE CACTUS AND SUCCULENT JOURNAL OF GREAT BRITAIN

Vol. 32

May 1970

No. 2

Editorial

YOU WILL NOTICE from the list of Officers on the inside front cover of this issue that certain changes were made at the A.G.M. when Mr. Reid relinquished the Treasurership in favour of Mr. D. T. Best, previously Treasurer of the North Surrey Branch, and himself took on the duties of Hon. Secretary, Mr. Clare remaining as a member of Council and Liaison Officer. In addition, Mrs. Massey and Mrs. Whicher were elected members of Council.

I was very pleased to receive recently a letter from the Secretary of the Cactus and Succulent Information Exchange in Canada, together with copies of their monthly Journal (a small duplicated booklet, well produced and containing a number of useful articles, some being particularly helpful for the less knowledgeable collector). Anyone interested should write to Mrs. N. W. Rollerson, Editor of the Bulletin, who would send a sample copy on receipt of 25 cents. Her

address is 5512 Clinton Street, Burnaby 1, B.C., Canada. From the membership list, it would appear that though many members live in British Columbia, there are also others throughout the whole Dominion, and I would think quite interesting contacts might be made.

In addition I have received news of the formation on the 1st January this year of the Sempervivum Society. Membership at one pound per calendar year is open to all, and will include a Quarterly Journal. Anyone interested should apply to Peter J. Mitchell, 49 Thornbera Road, Bishop's Stortford, Herts.

Finally, I have received the latest list from the International Succulent Institute Inc., copies of which are available from the Gt. Britain Representative, N. E. Wilbraham, 7 Marlborough Drive, Tytherington, Macclesfield, Ches. on receipt of s.a.c.

E.M.D.

Cultural Notes

Cacti—by A. Boarder

NOW IS THE time to repot any cacti which are in need of a move. The question as to whether a plant needs repotting may often be decided by the age of the plant, if it has out-grown its pot or if it is suspected that the pot soil is infested with root bug. When I had fewer plants than I have at present I used to repot all my plants every year and even twice a year for the young fast growing seedlings. However, with so many plants to deal with I have restricted my operations so that most of the adult plants are only repotted once every two years.

When a plant grows so well that it reaches the side of the pot it should be moved as it is probable that the roots have filled the pot and also it is difficult to water such a plant. Plants raised from seed will grow more quickly during their first three or four years and so it is advisable to move them every year. When plants get old they do not appear to grow as quickly and so may be left for longer periods. If, on disturbing the top soil in a pot some white fluffy matter can be seen, this is an indication that root bug is present. This plant should be repotted at once and the roots thoroughly cleaned before repotting.

Those plants which are not repotted should have a little liquid fertiliser about every fortnight. This can be any one of the types in general use. The instructions on

the bottle as to watering down should be adhered to strictly. Do not think that an extra dose or at a stronger strength will help the plant. The opposite may be the case. A weak solution now and then is far more beneficial than the giving of a very powerful dose. When giving any liquid fertiliser see that the soil in the pot is damped well first. If this is not done it is possible that much of the liquid will run out of the pot by way of the sides.

Whilst I do not believe in over-fertilising, as it could cause a plant to grow untypical, I am sure that if a plant has been growing well for at least a year the roots must have used up most of the soluble nourishment in the soil. It is then that a little extra fertiliser is necessary. When a plant becomes over-fertilised it can get very blown and instead of having an almost complete covering with spines, the inner green of the plant can show through and the skin attains a tender and fresh look. This would not be suitable for any plant which has to be exhibited. Do not add any liquid fertiliser to any plant in the first year of repotting as, if the compost had been correctly prepared, it should contain sufficient nourishment to last the plant for at least a year.

When repotting, one may wonder if a caespitose plant should be broken up. This must depend on the space available in the greenhouse or frame and also on

whether the plant is required for exhibition purposes, a well grouped plant of the type should be rewarded over one which was single or of a smaller size. Some of the Mammillarias can become very large groups after a number of years. In my own collection there are some in twelve inch pans. I am sometimes asked for some names of Mammillarias which remain single or simple. These kinds are very suitable for those with a small space in which to keep their plants, such as a table in a window or even a window sill. There are many kinds which remain single for most of their lives, but it is always rather a chance to name all of these as it is well known that after a time some of the plants which are usually single, will send out an off-set near the base or become double-headed.

The ones which usually keep single are:— *M. elegans*; *durispina*; *coronaria*; *vaupelii*; *kewensis*; *discolor*; *densispina* and *rhodantha*. However, even among these it is possible for a few to change their character. I have a number of different varieties of *M. rhodantha* which have altered in form. Some have sent out an off-set near the base, others have become double-headed and I have one with three distinct tall heads. It is usually when a plant gets old that this dividing takes place. Some of the plants mentioned are over a foot tall and over twenty-three years old from seed.

The species of Mammillarias which normally form a group are:— *M. elongata*; *camptotricha*; *bocasana*; *plumosa*; *erythrosperma* and *prolifera*.

There are very many more which behave in a similar manner. Then there is the *M. gracilis* which sends out shoots which in turn have other shoots on them so that they become like a miniature tree. Another type will practically always form divided heads. Once a plant gets a fair size the top divides and then after a time these heads divide again to give the plant four distinct heads. These may be all of the same size. The advantage of this type is that instead of getting one lot of rings of flowers one can get rings on the four heads at the same time. The species which will usually form such plants are:— *M. parkinsoni* and varieties; *M. iwerseniana*; *praelii*; *ebenacantha* and *saetigera*. A few other species will also form double heads as they get mature and I have had a plant of *M. schiedeana* become double headed.

It is interesting to look round my greenhouse and take note of the Mammillarias which I have had for many years. A few are the direct descendants of plants I had in 1905. These are *M. elongata*; *bocasana*; *prolifera* and *multiceps*. I find that many cactus growers are of the opinion that before the last war, hardly anyone grew any cacti at all. And if they did they knew very little about them. This is not so, as well before the first war in 1914, many excellent collections existed and many were keen growers of these plants. A look back over some of my old catalogues would I think, surprise many present-day growers. One I have before me now from Friedrich Adolph Haage, Jun., was published in 1931,

and on the cover is a splendid picture in full colour which would do credit to any colour photograph taken today. In this picture are a fine *Oreocereus trollei*, a *Euphorbia obesa*, a *M. spacellata* and the following are shown in flower:— *Euphorbia bupleurifolia*; *Astrophytum myrion-stigma*; *Mammillaria saffordi*; *Echinocactus bicolor*; *Gym-nocalycium leptanthus*; *Astrophytum asterias* and *Strombo-cactus turbiniformis*. The same catalogue contains the names of 82 different species and varieties of Mammil-larias. Under Echinocactus there are over 100 names, but some of these are included in Notocactus and Gym-nocalycium today. At this time, the rate of exchange was 4.20 RM to 1 U.S.A. dollar. The prices for the plants ranged from .50 to 10 RM.

Another catalogue I have by me was from Fr. de Laet, Contich, Belgium, dated 1932. This is a very full one with black and white illustrations. Prices for cactus plants range from 2 belgas upwards, according to size. A *Etus. ingens* from 2-600 belgas. At the time, the rate of exchange was 35 belgas to £1. Another list I have was from Blossfeld, Potsdam, when a RM. was worth 1/8. This list contains very many named seeds. I have several of Haage's catalogues of following years, each one being very well illustrated with colour. We do not seem to get such good ones these days.

Another pointer as to the plants grown years ago can be found in the show schedule for 1932, when in the Mammillaria class, 12 plants were asked for, and the classes were well filled. In 1921, I knew a man who had a very fine collection of cacti and other succulents in a specially built greenhouse and these plants would have done justice to any show held nowadays. This man used to go to the continent to buy plants and the late Mr. Farden also accompanied him. He also had all the journals of the Cactus Society which had by then ceased to exist.

The growing methods in force at the time I have spoken of were inclined to be under very arid conditions. Many of the growers appeared to dread giving any water to their plants at all, and in consequence they did not appear to grow and flower as well as many cacti seen today. It must always be remembered that if one wants flowers on many types of cacti, the plants must be grown well and many kinds only flower on the newer growth. Once they have flowered there they are not likely to flower again lower down on the plant, and so unless new growth is made at the top of the plant, few if any flowers can be expected. This is especially the case with many of the Mammillarias. It will also be found that unless *Astrophytums* are growing well they will not flower, as flower buds appear at every areole as they appear at the top of the plant. I notice that in the article on *Astrophytums*, the writer states that *A. ornatum* is stated to be easy to flower. I do not know where he saw this as in my opinion, and that of most other growers I have spoken to, this is the one *Astrophytum* which is not easy to flower, in fact I find that it is not likely to do

so until several years old and I consider it a shy flowering plant.

I am looking forward to the forthcoming shows of the Society, as it is then that one can compare the condition of one's own plants with those of exhibitors. I wish that more of our members would exhibit as I am sure that there are many who hide their plants away in their greenhouses and so fail to provide the rest of the members with the pleasure of seeing many species which they otherwise might never see. If some of the reluctant members do not see classes provided for the types of plants they could show, they are at liberty to send their requests to the show secretary. I am sure that their views would be taken into consideration when the schedules are being prepared. I know that some members find it difficult to get their plants to the shows, but if one is keen enough to do so there are always means of doing so. The trouble is I know, that one may have to

attend the hall on three days, and this can become a drag when one has to travel some distances. I am certain that if members who are considering exhibiting their plants could get in touch with other members in their district they would be able to make arrangements for a bulk transport. The branches could help in this matter and anyone who is not near a branch could get in touch with members living near them, by contacting the liaison officer, Mr. A. Clare, 26, Albert Street, St. Albans, Herts.

If any member has any doubts as to how to enter their plants, as to classes, or would like to know how to prepare and bench their exhibit, I shall be only too pleased to give them any necessary information if they send me a stamped self-addressed envelope for a reply. I will conclude by asking every possible member to show a few plants for the sake of the prestige of the Society.

Cultural Notes

Other Succulents—Mrs. M. Stillwell

BY THE TIME you are reading these notes, we should be enjoying some good weather. At the time of writing, there is snow on the ground and icy conditions, which rather hold up the early spring work of repotting and watering. One dare not create too much damp atmosphere under these conditions, and I do not care to disturb the plants too much. In spite of the weather a number of the early flowering *Mesembryanthemums* are giving a good show, mostly with the colourful rose or magenta coloured flowers. *Braunsia maximiliani* sometimes known as *Echenus maximiliani*, a dwarf trailing type of plant blooms early in the year with quite large rose coloured flowers. One of my favourites now in a five-inch pot and full of magenta flowers, solitary, and on stems 2-5 cm. long is *Calamophyllum cylindricum*, very easily grown and freely branching. I keep it dry through the winter until the buds appear. It must have the brightest position to flower well.

My *Pleiospilos nelii* was rather late this year and did not show its buds until the end of February. *Antegibbaeum fissoides* is just opening its bright red flowers. They seem to flower better if grown in clay pots and kept rather pot-bound. I have another plant of this which is in beautiful condition and has been potted on regularly, but which only produces the odd flower now and again. Other *Gibbaeums* out in February and March are *G. shandii*, *G. perviride* now known as *G. luteoviride* and *G. gibbosum*. *G. heathii* and species are just starting to open with promise of buds to come.

Several *Titanopsis* are in flower in February, but have to be kept on the dry side during the damp weather. *Aloinopsis malberbei* is full of buds and ready to open at

the time of writing. The attractive fan-shaped leaves make this a very worth-while plant to have; it likes a lime soil to bring out the striking white margins to the leaves. The flowers are flesh coloured to brown. Any of the *Aloinopsis* are worth having in a collection, and most of them flower freely. *A. schoonessii* with small club-shaped leaves, tight and compact has satiny flowers, yellow-red, and is one of the nicest of the genus. They have very thick root stocks and often the minimum of leaves above ground; these in some cases die back during the resting period.

I have a plant of the rather uncommon *Phyllobolus resurgens* which is in bud for the first time. This has a tuberous caudex, which shoots out in several places, forming rosettes of thin tall leaves covered in papillae. About March, these leaves start to die off and the plant remains a bare caudex for most of the summer, when it must be kept dry until about September or until it shows signs of coming into leaf. Make sure the *Echeverias* have no dead leaves under the rosettes, as this is a sure place to harbour mealy bugs, although with the new systemic insecticides a lot of these troubles are over. It is safe to water the soil thoroughly with this and not to wet the actual leaves as some succulents mark easily, and of course, *Crassulas* in particular.

My *Crassula* "*Morgan's Beauty*" has a number of flower clusters showing. It is a tight compact plant, filling a five inch pot. I kept it dry during the winter and in early February when it first showed buds it was in rather a shrunken state, but after one good watering, soon regained its former beauty. It must have full sunlight to keep that white appearance. Mine has the nice

deep pink flower, but there are some on the market today with very pale uninteresting flowers.

The Lithops this year seem to be a long time losing their outer bodies. Mine have not had any water for months, but still look as plump as ever, with the exception of the pseudo-truncatella varieties, which are always earlier than the others and are usually the first to bloom, around July. The Conophytums should be kept dry until about July-August, or until growth is evident and the papery skin can be removed. I always like to clean mine up; it gives the plant a much nicer appearance. I always water all my Conophytums thoroughly towards the end of March, after keeping them dry from the beginning of December; they are then allowed to go to rest. They should never be shown during the resting period, as they are not at their best, and although typical in that state, it makes it hard for a judge who understands this to judge them against plants in full growth. This applies in my opinion to all

stemless mesembryanthemums; it is all wrong to try to keep them watered up and growing unnaturally just for show purposes, as a good judge who has grown these plants, will certainly downpoint them if not true to type. Repot the Lithops about May, but only if they look as if they need it. They are often better if undisturbed. Remove the dead skin round the base, when really dry, but place your finger firmly on each head as you do this, as it is very easy to pull off the whole head, if you are not very careful, and so spoil the shape of a clump. If this should happen the head will soon root up again in some sandy soil. The previous year's seed can be removed when the pods are really ripe; here again, they are often firmly attached and care should be exercised. The seeds are usually quite free and should be sown lightly on the top of the pans and never covered. Fresh seed should germinate almost 100 per cent. Let us hope for another good summer with plenty of sunshine to bring out the flowers.

And so to Sonora

by B. Maddams

Part I—Mexico at last.

WHEN I STARTED writing my previous article I optimistically thought I should include our trip into the Sonoran Desert as well as the pre-Convention collecting, but those who are following our trip in the comprehensive serial form in the *Mammillaria Journal* will realise that even an almost précis account would take up some space. However, I hope that I shall be able to give a fair account of our experiences and show how different collecting succulent plants in habitat can be in various places.

There were a number of Post-Convention trips available but we had ours chosen for us by its leader, Bob Foster, Assistant Editor of the *American Cactus Society Journal*. We were somewhat dubious about our eligibility when we read in the brochure that this trip was advised for "experienced campers only", but Bob assured us that it really was not as bad as all that and, I suppose, in retrospect, it really was not, though at the time we often wondered! There was no doubt that at least we were in very good and experienced company for "The Abbey-Garden-Henry. E. Huntington-Botanical Gardens-Arizona-Sonora-Desert-Museum-Mammillaria-Society-Anglo-American-13th Biennial-Post-Convention-Tour-Cactus & Succulent Society of America-Incorporated-Guaymas-San Pedro-Sonora-Expedition" which was the full name that Bob chose to give it. The Abbey Garden members were Bob and Charles Glass, the Editor of the *American Journal*, from the Huntington Botanical Gardens there was Myron Kinnach the

Curator and when we reached Tucson we had Paul Shaw, curator of the plants at the Arizona-Sonora Desert Museum to join us. The other two lady members were Kitty Sabo, after whom *Mammillaria saboae* is named, and Mary Bellerue, a prominent member of the American Society and two more male members of the American Society completed the "American team". The other part of the "Anglo" besides us was Peter Sharp, a former member of the North Surrey Branch who is now resident in California.

Our first part of the trip down into Sonora was taken at rather rapid speed along the freeways of Southern California and apart from a few stands of Yuccas in flower we saw little in the succulent line that first evening. We stayed the night at a Motel at Yuma and were at least gratified to find in the morning that the borders surrounding the car park had an interesting array of Echeverias, Kalanchoes and Agaves—quite a number of them being in flower. However, there was no time for photographs as we were off again when the light was barely good enough to even try with a meter.

The first part of that day's journey was a little uninteresting although we passed a few small townships where irrigation gave a chance for growing date palms, nut trees and other crops. It was just reaching a point when I was spending my time trying to keep the driver awake while my husband and the other occupant dozed off when suddenly the Saguaros appeared! This was a point of great interest to us; the sudden changes of

scenery. There never seemed a gradual transition such as we get in this country; one minute you would be travelling through a greenish valley, the next you were in the hillocks with the typical Sonoran desert scenery.

Here, as we turned off the highway, there was the impressive sight of Saguaros (*Carnegiea gigantea*) like sentinels along the skyline of the hills and we soon stopped to admire them better. They were all in flower for our benefit which added greatly to their attractiveness although it was difficult to get near enough to see them at their best, not surprising when most of these specimens were upwards of twenty feet tall! There was plenty of vegetation on this rocky hillside where we clambered. By the roadside were the Palo Verde bushes with their soft yellow, laburnum-like blooms; these interesting plants (*Cercidium floridum*) have minute leaves for only a short time before the flowers appear, the remainder of the year it is the greenish bark which takes on the leaves' function and supplies the chlorophyll. After the flowers come beanlike pods some three inches long, a further sign that it is in the Leguminosae family. A little higher were the spiny brown and silver striped branches of the Ocotillo (*Fouquieria splendens*) red-tipped with their fascinating inflorescences, and everywhere, as might be expected, the Chollas with their menacing barbs.

It was only a short stop, however, as we had to continue along the road to the Arizona-Sonora Desert Museum which was a few miles from Tucson. Here we lunched and had a quick look at this interesting, mainly "live" museum where the flora and fauna of the Sonora Desert are set out in an attractive manner; here it might be noted that the Sonora Desert stretches beyond the boundaries of the Mexican State of Sonora into this Southern part of Arizona. The last member of our party, Paul Shaw, works at the Museum, and so from there we set off with him in fine style in the air-conditioned museum estate car. However, we were not more than ten miles south of Tucson itself when Paul drew off into a side road and said that this was where *Mammillaria fasciculata* and perhaps, *Coryphantha robustispina* might be found. Everyone shot out of the vehicles and were well away almost before we had gathered our bags and pick and camera, but we were not long in finding a small clump of *M. fasciculata*; they were certainly not plentiful and were mostly closely tucked under the creosote and thorn bushes. In one situation we found *M. microcarpa* as well, as identifiable by its closely woven spines and thick body as *M. fasciculata* was with its finger-like heads and long hooked central spines. It was gratifying to find that on larger plants some of these heads had dried off just as often happens to the heads of some caespitose Mammillarias in cultivation. We did not go far enough in to find *Coryphantha robustispina*, but perhaps this was all to the good because the clumps that were collected would have been embarrassingly large for us.

The Coryphanthanae were not the only cacti at this site by any means. In fact, it would have been somewhat easier if we had really been looking for the others although they would have proved difficult to collect! There was a *Carnegiea gigantea* about ten feet high, several padded Opuntias (of the *O. santarita* group, probably) and a *Ferocactus wislizenii* (I think the only one we saw anywhere on really flat ground) and the ubiquitous Chollas. The latter assumed tree-like proportions on this rather more fertile ground.

Regretfully, we had to pack away our treasures and set off on the main road again and passed through some more mountainous country before reaching the border town of Nogales. As there were Customs formalities to be organised, it was decided to stay at a Motel on the American side for the night and deal with the frontier post in the morning. In fact, it was past ten o'clock when we finally found ourselves through the archway and along the Mexican highway. At first, we passed irrigated valleys very reminiscent of England but once the other side of the town of Santa Ana, the flat, desert type country began. The short, scrubby bushes and occasional majestic peaks of *Lemaireocereus thurberi* intermingling with the soft yellows of the Palo Verdes and in places the whitish trunks of *Jatropha* species really made you think of the desert. This was even more apparent when we stopped and the warm wind hit you and sand whirled round in the exposed areas.



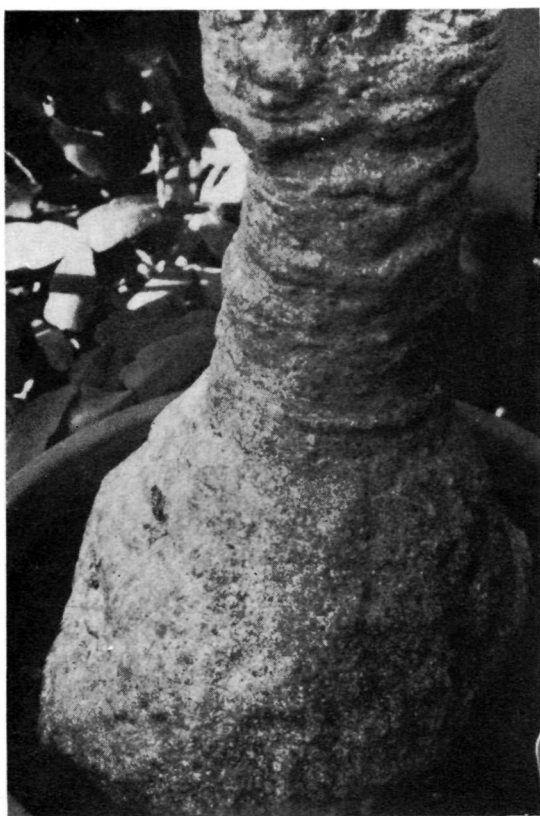
Mammillaria mainae was the object of our search

The object of our search here was *M. mainae* and, again, it was no easy job to find. The ground was dry and sandy and there had been no rain for eight or nine months and the poor plants were pulled right in. Apart from that they were almost the same brownish-beige colour as the decaying vegetation around the shrubs and could really only be distinguished by their long curving yellow spines. We did find in one obviously more fertile place under a spreading bush close to a channel where

no doubt a stream ran in the rainy season, an assortment of plants of the *M. microcarpa* type; they were all sizes and with a variety of spine colour and length. However, we were soon on our way again and had one more stop that afternoon.

This was on the other side of the road on a more sloping terrain. Here we found *M. mainae* in better condition and in rather larger clumps; In one hollow there were the rambling olive green stems of *Rathbunia alamosensis* with plenty of gay, red tubular flowers. There seemed to be more undergrowth on this hillside, mostly of a spiny nature and also, winding their way into the palo verde trees there were some *Ibervilleas* with their great thick caudices. They were very difficult to dig up with their roots entwined with those of the trees but a few of the party carried this "booty" away. Here, they were all rather large for us to have transported back to England!

Hermosillo, which is now the capital of the State of Sonora, was soon reached and here we stopped for much-needed refreshment. The roads were lined with various coloured hibiscus and bottle brush bushes, but unfortunately we did not have time to explore the town further. As it was, by the time we reached the San



A comparatively small *Ibervillea sonorae*

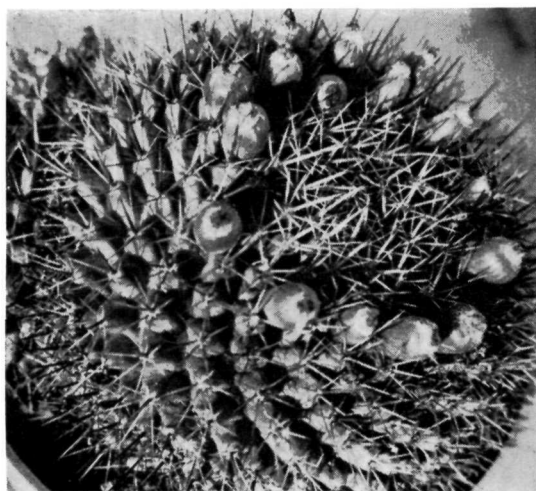
Carlos Bay area where we were to camp for the night it was already dark. There is no twilight in Mexico; a sudden darkness falls. However, even in the dim light we could see it was a beautiful place to camp with the soft sand near by and the sound of the water of the Gulf of California in our ears; and that water was beautifully warm even by starlight—several of us could not resist a dip on arrival.

There is much that could be said of our surroundings that night but we are more concerned with our collecting activities and we were soon away to follow these the next morning. We drove a mile or two up the coast with views of attractive inlets, one was a yacht club, another had mangrove trees right into the water—I had no idea mangroves grew in Northern Mexico, but then we were discovering new things all the time. Soon we turned slightly inland between steep hillsides and stopped at the foot of one of these.

The climb to the top, about five hundred feet above the road, was no easy business. Although still around ten o'clock in the morning the temperature was soaring into the 80's and was probably nearer 90°F when we reached the summit; the ground was dry and rocky and pebbly which made it very slippery in places and you had to be careful what you grabbed for support—much of the undergrowth was thorny in nature. Some of these plants were *Fouquierias* and *Jatrophas* but amongst the smaller shrubs were *Bursera microphylla* and my husband discovered a comparatively small *Ibervillea sonorae*; at least its thick caudex was only about six inches in diameter! Most of the others found were somewhat larger and more misshapen. Other things to cheer us on the difficult ascent were some small clumps of *M. inaece* and a *Hechtia* species and just before we reached the ridge at the top there were one or two large *Ferocacti*, probably *F. wislizenii*. The summit was a flattish ridge which ran some distance and was bare and rocky but with fine views of the sea.

Here, tucked in the rocks, were the small plants of *M. boolei* we were seeking; although none of them was much more than an inch high there were plenty of them to be found once you got your eye in and knew what to look for. Needless to say, the plants were very shrunkn and dry but most of the ones we collected have plumped up well since their sojourn in our greenhouse and we hope we may have the pleasure of at least one violet-pink flower this year. The other *Mammillaria* we found in smaller numbers and barely existing was *M. johnstonii*, a somewhat larger straight-spined plant.

It was a more difficult task to make our way down the steep hillside again as we were loaded by then and it was getting very hot. However, we had a brief spell by the sea at San Carlos Bay and lunch amongst great clumps of *Pachycereus pringlei* before we set off for Guaymas to buy in more stores. After that it was the road south again, across an interesting causeway with the water close to



Mammillaria bocensis (collected plant) . . . putting on a fine display of fruit

the road on both sides at Enpalme, and twenty miles or so on we turned off towards the coast again. They assured us that this dirt road was nothing to the one we should meet later on, but it certainly had its ups and downs!

At the end of this track, close to the sand dunes and the shore, was the somewhat ramshackle looking village of Guasimas and on the other side of us stretched undulating country interspersed with *Pachycereus*, low spiny bushes which were probably a *Fouquieria* species again and the occasional padded *Opuntia* of the *O. santaritae* type. These were not the objects of our search; we had other *Mammillarias* to find and soon sighted one, *M. swinglei* with its deep pink flower. The other was

easier to find and the little native boys from the village enjoyed helping us by showing where fine large clumps of *M. bocensis* full of flower spread themselves with the spiny bushes entwined. There were two problems for us, the first how to extract the *Mammillarias* from the bush growth and the second to find a plant *small* enough for us with the problem of getting it back to England. However, we succeeded and the plant rewarded us by putting on a fine display of fruit in the late autumn.

This was a spot where there was plenty to see and find, the almost unknown *Wilcoxia albiflora* was here but hard to find as was also *Peniocereus marianus*; the difficulty with both of these was that the tuberous roots were entangled in other vegetation and it was hard to get them away without being broken. The other plant which grew in great clumps, some with stems reddened by the sun and most with the typical red inflorescence of a number of the *Euphorbiaceae*, was *Pedilanthus macrocarpus* and we could not resist procuring a small cutting of this.

However, it was time to continue our trip south and we went through the irrigated region around the Yaqui river where food crops and fruit are grown, to the town of Obregon where an attractive "garden" on the road with its Agaves, Ferocacti and flowers as well would have made an unusual picture had the light not been too poor for photography. We turned eastwards at the town of Navajoa and soon ran off onto the verge above the road where we set up camp for the night. It was not until next morning we could see there were *Lophocereus schottii* and various *Opuntias* behind the usual barbed wire at the back of us and in contrast, across the road was a chicken farm—this was obvious at an early hour when the cackling started!

To be continued.

The Westminster Shows in 1970

Now a classification handbook is available there is little need to give more than encouragement to enter all the classes you can to make the Shows really successful, however, a few important class changes might be noted. There is a class for a specimen Agave and instead of a *Pachypodium* this year a *Jatropha* or *Cissus* is called for and many members should be able to show these plants. The other important alteration in both shows is the group for decorative effect; the area of this has been reduced to 18" x 18" which should give many members a chance to show off their smaller and attractive plants.

The important alteration in the Autumn Show is the class for succulents (other than cacti) from seed; they must now have been sown on or after 1st January 1969 so they cannot be more than 21 months old.

News from Branches

North Surrey

The Ladies of the Branch recently organised a buffet lunch, at the home of Mr. and Mrs. Maddams, members enjoyed looking round the greenhouses then came in for lunch provided by four of the ladies. Afterwards we continued browsing or support of the Bring and Buy stall. Enough was raised to sponsor the Tashkent Cactus and Succulent Society as an affiliate Society and the members are taking on this assignment permanently. The remainder of the money raised will go to Society funds.

Two points arise from this new enterprise—first what about other Branches sponsoring "iron curtain" Societies or members? Secondly, how about other Branches trying the same type of event or even a Cheese and Wine party which is the next project in the minds of North Surrey?

Continued on Library List iv

Cissus and Cyphostemma

A short review of succulent Vitaceae, with check-list of names of species.

by G. D. Rowley

Photographs by the author.

THE NAME *Cyphostemma* has been infiltrating seed lists and succulent collections for some time now, and since the only references are to obscure journals in foreign languages there seems to be a case for a summary of the situation in English.

Linnaeus named the two genera *Vitis* and *Cissus* in 1753-54. The former includes the grape-vine, *Vitis vinifera*; the latter came to include a number of African species of interest to succulent plant growers. Both now embrace hundreds of species and are distinguished by the form of the flowers: petals distinct and style cylindrical in *Cissus*; petals connate into a hood and stigma sessile in *Vitis*. Also there is a difference in basic chromosome

number: $n = 12, 13, 14$ or 16 in *Cissus*; $n = 19$ or 20 in *Vitis*. But *Vitis*, containing no succulents, need not concern us here except that some of the succulents were first described as species of that genus.

Since the monograph of Planchon in 1887⁶, *Cissus* has been divided into three Sections: *Eucissus* (= *Cissus*), *Cayratia* and *Cyphostemma*. *Cayratia* was raised to the rank of separate genus by Gagnepain in 1911⁴ and *Cyphostemma* by Alston in 1931¹. *Cayratia* need not detain us here. B. Descouings in 1960² resurrected the name *Cyphostemma* and put forward a good case for regarding it as a valid genus distinct from *Cissus* in the narrow sense. The criteria for distinguishing them may be tabulated thus:—

CISSUS

Leaves: Simple, entire or lobed, rarely 3-5-foliate or digitate.

Inflorescence: Opposite to a leaf.

Corolla: Ovoid or conical, not constricted in the middle.

Disc: Entire, with a ring of four lobes.

Ovary: Of two cells separated by an entire septum.

Stigma: Entire, discoid.

Seed: Clearly attenuated at the base and with two small ventral pits in the lower part.

Endosperm: With two simple pits.

CYPHOSTEMMA

Leaves: Compound pinnate or ternate, rarely 3-5-foliate or digitate.

Inflorescence: Generally pseudo-axillary or pseudo-terminal.

Corolla: Subcylindrical, always contracted in the middle.

Disc: Of four free glands.

Ovary: Of two cells separated by two narrow lateral dissepiments not forming a true, complete septum.

Stigma: Bifid.

Seed: Not attenuated at the base, without pits but with an impression and pitted streaks in the ventral part.

Endosperm: With many small pits—two parallel, median, and the others \pm lateral, interbranched.

Not enough is at present known to state whether or not there is a chromosome difference between *Cissus* and *Cyphostemma*, but from the evidence cited by Descouings there would seem to be ample reason to support generic separation. Descouings lists 200 transfers of specific epithets from *Cissus* to *Cyphostemma* (pp. 120-125), but unfortunately all are invalid under Art. 33 of the Code as he cited no places or dates of reference for the basionyms. However, full validation is given in a later paper³ so that the names can now be used.

So far as the succulent representatives are concerned, *Cissus* and *Cyphostemma* are plants of very dissimilar habit, as a glance at the illustrations will show. They

show their affinities with the grapevine in their fruits, which are borne in trusses like miniature red grapes, although unpalatable and containing little flesh (Fig. 3).

The following check-list of names is based on species listed in Jacobsen's *Handbook of Succulent Plants* Vol. 1, 1960, plus a few published later or seeming, from their descriptions, to be worthy of investigation by succulent collectors, although it is not known whether or not they are at present in cultivation. For descriptions the investigator must turn to the original references: there is at present no modern monograph of either genus and much more field study would seem to be needed before we can decide how many of the so-called species (many of which seem very much alike) are worth recognition.

CACTUS AND SUCCULENT SOCIETY OF GREAT BRITAIN LIBRARY 1970

LIST OF BOOKS, ETC. AVAILABLE FOR POSTAL LOAN

- Notes.** (1) Society pays postage to Member, Member can retain book for one month and pay postage back.
(2) Please apply to Hon. Librarian G. G. Leighton-Boyce, 220 Leigham Court Road, Streatham, London, S.W.16, quoting Membership number.
(3) (F) = text not in English.
(4) (N) = not in previous (1967) Library List.
(5) Later editions of some books listed also available.
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1. Popular Guides to Growing and/or Naming the Plants.

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|-----|-----------------------|--|
| (N) | BOARDER, A. | Starting with Cacti 1968. |
| | CAHILL, L. W. & P. J. | Cacti and Succulents 1954. |
| | PANTING | |
| | CHIDAMIAN, C. | Cacti and other Succulents 1958 |
| | CUTAK, L. | Cactus Guide 1956. |
| | DAY, H. R. | The Flowers of the Desert 1938. |
| | GREEN, G. G. | Cacti for Everyone 1957. |
| | HAAGE, W. | Cacti as House Plants 1965. |
| | HALL, H. | Common Succulents 1955. |
| | HIGGINS, V. & H. T. | Cactus Growing for Beginners 1935. |
| | MARRABLE | |
| | HIGGINS, V. | Cactus Growers Guide 1950. |
| | HUXLEY, A. J. | Cacti and Succulents 1955. |
| | HUXLEY, A. J. | C. & S. Amateur Gardening Picture Book 1960. |
| | ROAN, H. M. | Cactus & other Succulent Plants 1949. |
| | ROWLEY, G. D. | Flowering Succulents 1959. |
| | SCOTT, S. H. | Observer's Book of C. & S. 1957. |
| | SHEWELL-COOPER, W. E. | A.B.C. of C. & S. 1957. |
| | SHURLY, E. W. | Cacti 1959. |
| (N) | TEUSHER, H. & Others | Handbook on Succulent Plants, Brooklyn 1963. |

2. Older Popular Works.

CASTLE, ENDEAN, HAAGE (F), HOUGHTON, KUPPER (F), MAASZ (F), NEALE, ROEDER (F), ROTHER (F), THOMAS (F) and WATSON are available and mainly of period interest now.

3. Still Introductory but Fuller in Some Respects.

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|-----|------------------|---|
| (F) | BERTRAND, A. & | Cactées 1949. |
| | A. GUILLAUMIN | |
| | BLOOM, E. V. | Collector's Cacti 1960. |
| | HIGGINS, V. | The Study of Cacti 1933. |
| (N) | HIGGINS, V. | Succulents in Cultivation, Cacti Included 1960. |
| | GREEN, G. G. | Cacti and Succulents 1953, 1955. |
| (F) | LAREN, A. J. van | Cactusen 1931. |
| (F) | LAREN, A. J. van | Vetplanten 1932. |
| | LAREN, A. J. van | Succulents other than C. 1934. |
| | LAREN, A. J. van | Cactus 1935. |
| | HAAGE, W. | Cacti and Succulents 1963. |
| | HASELTON, S. E. | C. for the Amateur 1938. |
| | HASELTON, S. E. | S. for the Amateur 1955. |

4. More Comprehensive General Introductions.

- (F) BACKEBERG, C. Wunderwelt Kakteen 1961.
(F) BERGER, A. Kakteen 1929.
BORG, J. Cacti 1937 1951.
JACOBSEN, H. Succulent Plants 1935.
LAMB, E. & B. M. Illustrated Reference on Cacti & Other Succulents Vols. 1 to 4 1955-66.
LEESE, O. & M. Desert Plants, 1959.

5. Of Special Interest on the Aspect of Cultivation.

- BUXBAUM, F. Cactus Culture Based on Biology 1958.
JACOBSEN, H. The Cultivation of Succulents 1939.
LAMB, E. Flowering Your Cacti 1943.
LAMB, E. Cacti from Seed the Easy Way 1959.
MARSDEN, C. Grow Cacti 1955.

6. Of Particular Pictorial Interest.

- BELVIANES, M. Exotic Plants of the World 1955.
BROWN, J. R. Unusual Plants 1954.
CARLSON, R. & PROCTOR The Flowering Cactus 1954.
HIGGINS, V. Succulent Plants Illustrated 1949.
KUPPER, W. & Cacti 1960.
P. ROSHARDT

7. References on Technical Terms.

- JOHNSON, A. T. Plant Names Simplified 1931.
MARSHALL, W. T. & Glossary of Succulent Plant Terms 1945.
R. S. WOODS
ZIMMER, G. F. Botanical Names & Terms 193 ?

8. Of Special Interest from the Regional or Habitat Point of View

- BAXTER, E. M. California Cactus 1935.
BENSON, L. The Cacti of Arizona 1950.
BOISSEVAIN, C. H. & Colorado Cacti 1940.
C. DAVIDSON
(F) DINTER, K. Sukkulentforschung in Sudwestafrika 1923 & 1928.
HOWES, P. G. The Giant Cactus Forest & its World 1954.
(N) HIGGINS, E. B. Our Native Cacti, New York 1931.
SCHULZ, E. D. & Texas Cacti 1930.
R. RUNYON
SHREVE, F. The Cactus and its Home 1931.
STOCKWELL, W. P. & Arizona Cacti 1933.
L. BREAZEALE
(F) WERDERMANN, E. Brasilien and seine Säulenkakteen 1933.

9. For the Specialist in Particular Families or Genera.

- (F) BODEKER, K. Mammillarien 1933.
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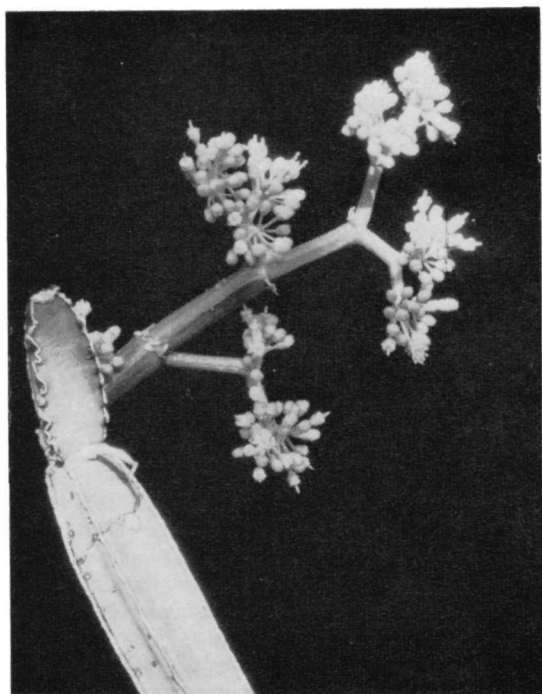


Fig 1. *Cissus quadrangularis* L. in flower.

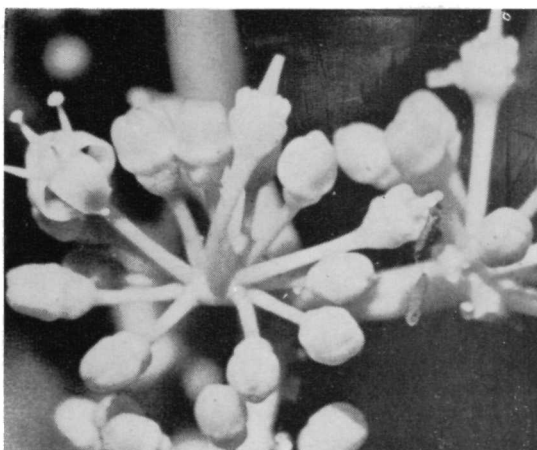


Fig 2. Flowers of *Cissus quadrangularis* L.

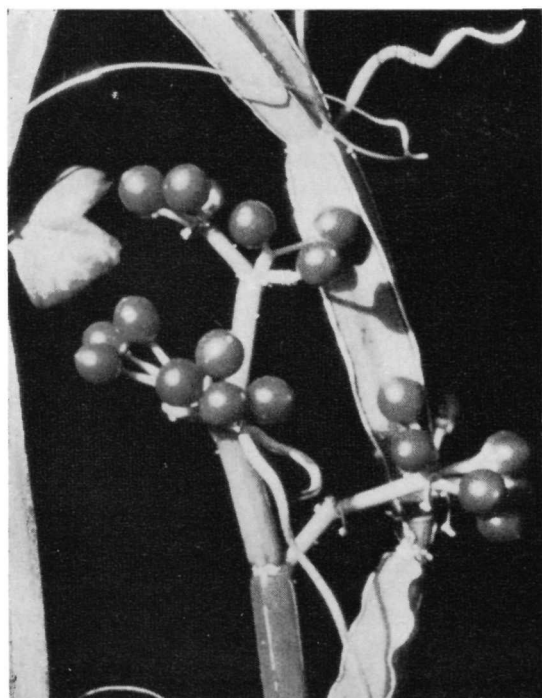


Fig 3. Fruits of *Cissus quadrangularis* L. The "grapes" are small, scarlet and with very little flesh.



Fig 4. *Cyphostemma juttae* Desc. in the collection of Mr. H. Jacobsen at Kiel Botanic Gardens. Len Newton on the left gives an idea of the size of these, probably the largest *Cyphostemmas* in Europe.

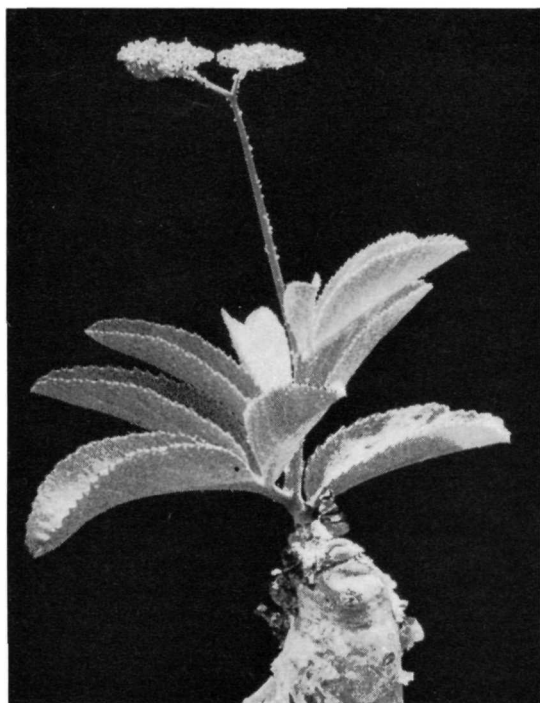


Fig 5. *Cyphostemma bainesii* Desc. in Kiel Botanic Garden.

CHECK-LIST OF NAMES OF INTEREST TO SUCCULENT COLLECTORS

1. *Cissus*

Tendrill climbers with mostly square, jointed stems; roots sometimes tuberous.

- C. nymphaeifolia* Planch. in D.C. Monogr. Phan. V: 484, 1887. Syn. *Vitis nymphaeifolia* Welw. ex Bak. in Oliver Fl. Trop. Afr. 1: 393, 1871; *C. dinteri* Schinz in Bull. Herb. Boiss. Ser. 2. VIII: 699, 1908.
C. quadrangularis L. in Mant. Pl. 1: 39, 1767. Syn. *C. cactiformis* Gilg in Engl. Pflanzenwelt Ost.-Afr. C. 258, 1895. (Figs. 1-3).
C. rotundifolia Vahl in Symb. Bot. III: 19, 1794.

2. *Cyphostemma* Caudiciform plants with tapering, non-jointed, succulent stems without tendrils.

- C. bainesii* Desc. in Nat. Monsp. XVIII: 217-230, 1967. Syn. *Cissus bainesii* Gilg & Brandt in Engl. Bot. Jahrb. XLVI: 454, 512, 1911-12; *Vitis bainesii* Hook. f. in Bot. Mag. t.5472, 1864. (Fig. 5).
C. cirrhosa Desc. in l.c.
 Syn. *Cissus cirrhosa* Willd. in Sp. Plant. 1: 657, 1798; *Vitis cirrhosa* Thunb. in Prodr. Fl. Cap. 44, 1794.

- C. cornigera* Desc. in Bull. Soc. Bot. France CXI: 174, 1964.
C. crameriana Desc. in Nat. Monsp. XVIII: 217-230, 1967.
 Syn. *Cissus crameriana* Schinz in Verh. Bot. Ver. Brand. XXX: 241, 1888.
C. elephantopus Desc. in Bull. Soc. Bot. France CIX: 270, 1962.
C. fleckii Desc. in Nat. Monsp. XVIII: 217-230, 1967.
 Syn. *Cissus fleckii* Schinz in Bull. Herb. Boiss. Ser. 2. VIII: 640, 1908.
C. juttiae Desc. in l.c.
 Syn. *Cissus juttiae* Dint. & Gilg in Engl. Bot. Jahrb. XLVI: 454, 510, 1911-12. (Fig. 4).
C. laza Desc. in Bull. Soc. Bot. France CIX: 266, 1962; also *C. laza* var. *parvifolia* Desc. in l.c. 267.
C. leucorufescens Desc. in l.c. CXI: 177, 1964.
C. macropus Desc. in Nat. Monsp. XVIII: 127-230, 1967.
 Syn. *Cissus macropus* Welw. in J. Linn. Soc. VIII: 77, 1865; *Vitis macropus* Hook. f. in Bot. Mag. t.5479, 1864.
C. migiurtinorum Desc. in l.c.
 Syn. *Cissus migiurtinorum* Chiov. in Fl. Somala 132, 1929.
C. roseiglandulosa Desc. in Bull. Soc. Bot. France CXI: 176, 1964.
C. rupicola Desc. in Nat. Monsp. XVIII: 217-230, 1967.
 Syn. *Cissus rupicola* Gilg & Brandt in Engl. Bot. Jahrb. XLVI: 454, 509, 1911-12.
C. sakalavensis Desc. in Bull. Soc. Bot. France CXI: 174, 1964.
C. seitziana Desc. in Nat. Monsp. XVIII: 217-230, 1967.
 Syn. *Cissus seitziana* Gilg & Brandt in Engl. Bot. Jahrb. XLVI: 454, 513, 1911-12.
C. uter Desc. in l.c.
 Syn. *Cissus uter* Ex. & Mend. in Bol. Soc. Brot. Ser. 2. XXVI: 231-232, 259, 1952.

I would like to thank Mr. R. D. Meikle of the Royal Botanic Gardens, Kew, for kind assistance and advice regarding nomenclature.

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Notes from San Diego

by Richard Russell

SIX MONTHS AGO I visited the famous Cox Epiphyllum Nursery in Encinitas, California, I purchased about twenty plants from the Cox's, all rooted cuttings of famous Epiphyllum hybrids. Then, two weeks ago (in February), I visited the Cox Nursery again. And although my second visit came during a month when Epiphyllums are not in bloom, it was still a most instructive and enjoyable visit.

Mr. Cox is an ex U.S. Marine, a short, out-spoken intelligent man who, with his wife, runs one of the largest Epiphyllum nurseries in the U.S. and probably the world. Actually, Mr. Cox told me that there are very few Epiphyllum nurseries left in the U.S. Therefore, I was the more interested in Cox's operation.

The nursery is situated about 20 miles north of San Diego and about a mile from the coast. Here the climate is absolutely ideal for raising all varieties of Cacti and of course Epiphyllums. Actually, the Cox Nursery is almost exactly situated where my home is, in terms of geography. I too live about a mile from the Ocean. Here both of us get some winter fog, average day temperatures of about 60 to 70 degrees and night temperatures about 10 degrees lower. We seldom if ever get a freeze, although perhaps once in five years the temperature will drop below 35 for a few hours.

Mrs. Cox, who is perhaps even more of an Epiphyllum expert than her husband, told me that they have over 1,000 varieties of Epiphyllums in their three, large "sheds". As one walks into the first screened shed one is staggered by the sheer number of plants. I have no idea, but I would guess that the larger shed contains 5,000 potted plants, arranged in row after row. The ceiling is a veritable cascade of hanging pots, each pot containing a mature, magnificent plant. On the shelves below the hanging pots are thousands of smaller containers containing rooted cuttings and smaller plants which are for sale.

One of the extraordinary things which the Cox's have developed is their colour photograph albums. Mr. Cox is quite a photographer, and utilizing his hobby he has photographed a great number of his plants in bloom, each photograph taken at exactly the same distance from the subject and in excellent colour. Then he has made up colour albums of these photos. The student or buyer can run through these beautiful albums and see exactly what each flower looks like and compare each for size (since they were all photographed at exactly the same distance).

I was enthralled by Cox's beautiful albums, and I suggested that he publish them in colour. So far, he has not been tempted, but if any reader has any ideas along these lines, I certainly think the Cox collection of

Epiphyllum flowers in colour is the finest assortment of pictures of these flowers I have ever seen.

Here in Southern California, where one can grow any kind of Cacti with ease, it seems to me that sooner or later one turns to Epiphyllums. The reasons are many. First, their flowers are absolutely unmatched in beauty. I have heard that the California hybrids are difficult to flower in Europe, and I do not know about this (perhaps some comments would be of interest), but here the hybrids bloom easily and profusely, throwing out their unbelievable flowers in a bewildering assortment of sizes, shapes and colours.

Epiphyllums are, to my mind, the easiest of the Cacti to grow. They will take some shade, full sun (although this is not too good) and some varieties such as Rhodamine, will grow and flower in full shade. They require a gritty, open soil, but they do not rot easily. They will take some drying out, and although they like some feeding, they will grow passably well without additional food. They take to hanging pots, pots on the ground, pots under trees, under the eaves, window sills, outdoor or greenhouse conditions. I find the ideal conditions for these plants is a hanging pot under a large tree. The full ventilation afforded by this method seems to produce stronger, healthier growth than any other method I know of.

One strange thing about Epiphyllums which I should mention. They hate being re-potted or having their roots tampered with. It is as easy to root a cutting as it is to restart a plant once it has been removed from its original pot. For this reason, I tend to place even small cuttings in large pots, and I do this knowing full well that most fanciers claim that Epiphyllums like to be pot-bound. They may prefer small pots, but I just don't like to re-pot them, thus I place them in a big pot to begin with. So far, it works, and within a year or so they have grown to fit the pot.

By the way, I want to bring attention to one of the Cox's Epiphyllums which they call Tele. This, they told me, is the Hawaiian word for "huge". Mrs. Cox informed me that Tele consistently produces the largest flowers she has ever seen, some of them being fourteen inches across. I have a plant of Tele which has not yet bloomed for me (although I believe it will bloom this summer) and needless to say I am excited at the prospect!

A plant related to Epiphyllums which I want to talk about (see photo) is a *Schlumbergera* hybrid which I purchased a few years ago at a local nursery. The plant is very close to Johnson's "Crimson Giant", having heavy "whiskers" at the end of each joint. But the size and blooming capabilities of my plant are unbelievable. The joints are up to three inches long and two inches wide,



Schlumbergera hybrid with 3 inch joints

and they grow fantastically well in a hanging pot. The flowers are star shaped and bright red. The plants bloom almost all winter, then around March or April they suddenly throw out flowers in earnest, becoming literally a shower of colour with as many as five (yes five) flowers at the end of each joint. Even single rooted joints will put out three or four flowers at a time. I have never seen anything in the Zygo or Schlumbergera family to match my variety, and I suppose if I decide to name it I will call it "Explosion".

Note: I enclose an article from the "San Diego Union". Since there is little written or said about Cacti in terms of Indian lore, I thought that the following piece about the Cardon was of special interest.

"The giant Cardon cactus, similar but different from Arizona's Saguaro, stands stark and lonesome, even in the middle of a corn field. The superstition is that the Cardon brings rain and to cut it down would be to invite drought. . . . There is another superstition which dates "The Pill". The back-country Indians brew a tea from Cardon. Drinking it, the women say, keeps them from becoming pregnant; they have been using it for years. . . ."

Treasurer's Report for year ending 31st December 1969

As presented to the Annual General Meeting 25-2-1970

AS CAN BE SEEN from the Statement of Income and Expenditure already circulated to paid up members the year started with a balance brought forward of £488 os. 3d. and closed with a balance of £689 9s. 6d. as near as no matter £200 more than at the same time last year.

This however can be deceiving as the subscriptions in advance for 1969 were only £33 5s. 6d. whereas for 1970 it is £294 which swallows up the £200 and indeed leaves £60 on the wrong side.

Subscriptions compare favourably £706 11s. 6d. in 1968 and £952 od. 6d. in 1969. Journal only subscriptions also rose from £39 7s. 11d. to £72 7s. 10d. Journal sales on the other hand dropped from £74 8s. 7d. to £53 13s. 6d. Advertisements were also disappointing dropping from £119 17s. 6d. to £81 5d. 6d. In this category there would however appear to be some bad debts and steps are being taken to tighten up.

Raffle and plant sales also dropped appreciably from £40 5s. 6d. to £29 11s. 4d. There was a particularly fruitful auction in 1968 however which may well account for this. Donations were static at £12 but here I wish to thank the Ladies of the N. Surrey Branch for their contribution of £10 13s. 7d. from their Coffee Morning activities.

As regards the Annual Dinner for which there is of course no comparison with 1968 please do not think

that my costing was as far out in favour of the Society as it might seem. This must be read in conjunction with the expenditure item "Other refunds" of which £16 16s. 6d. can be extracted for refunds on the annual dinner. I had also to allow 5/- per capita for a room charge. Fortunately when the account was received no such charge had been made and I am sure you would not wish me to draw their attention to the matter. It may be however that it is left to the discretion of the banqueting manager and as we dined well he came out on our side.

Having examined our income let us now look at the expenditure side. The cost of the journal printing is within £3 of 1968 and Mr. Miller seems to have saved considerably on the postages dropping from £102 10s. 7d. to £86 11s. 4d. thanks also perhaps to the G.P.O. who changed the postal rate 16.9.68.

There is an item of £200 for half the cost of reprinting the Booklet. I must again thank Mr. Miller for his generosity to the society in allowing us to spread the cost of this reprint over two years.

The cost of hiring the hall and Lecturers' fees has also dropped from £55 16s. 6d. to £47.

Due to a deliberate rundown of Stationery Stocks in 1968 there was considerably more stationery required this year to set us up again which accounts for this rising from £43 14s. 10d. to £92 8s. 6d.; this should not recur again next year.

9. For the Specialist in Particular Families or Genera. (continued)

- | | | |
|---------|-----------------------------|--|
| | LAMB, E. | Stapeliads in Cultivation 1957. |
| (N) | LEACH, L. C. &
LAVRANOS | A New Species of <i>Huernia</i> from Mozambique 1963. |
| (N) | LEACH, L. C. | <i>Euphorbia johnsonii</i> , its rediscovery 1963. |
| | LUCKHOFF, C. A. | Stapeliaceae of South Africa, 1952. |
| | MARSDEN, C. | <i>Mammillaria</i> 1957. |
| | NEL, G. C. | <i>Lithops</i> 1946. |
| | NEL, G. C. | The <i>Gibbaeum</i> Handbook 1953. |
| (N) | PUTNAM, E. W. | Synonymy of the Genus <i>Gymnocalycium</i> 1969. |
| | SCHWANTES, G. | The Cultivation of the Mesembryanthemaceae 1954. |
| | SCHWANTES, G. | Flowering Stones & Mid-day Flowers 1957. |
| (N) (F) | WERDERMANN, E. | Die aus dem Belgischen Kongo stammenden Arten der Gattung <i>Ceropegia</i> 1938. |
| | WHITE, A. &
D. L. SLOANE | The Stapeliaceae—an Introduction 1933. |

10. Periodicals.

These contain for the patient researcher original descriptions of plants and technical articles by many of the leading authorities not listed above. There are a few runs and various individual issues from the United States, Mexico, New Zealand, Australia, Japan, South Africa and of course many parts of Europe. Available for postal loan in batches usually of half a dozen.

11. Other Facilities.

A number of early works which are too rare for regular movement by post are reserved for consultation by special arrangement with the Hon. Librarian—usually at central, occasionally at branch meetings. Authors represented from 1854 to 1921 are BIGELOW, ENGELMANN, PALMER (F), LEMAIRE (F), ALLNUTT, COVILLE, COULTER, BLANC, WALTON, SCHUMANN (F), ROSE, BERGER (F), GRIFFITHS, HARE, SAFFORD, BRITTON, PURPUS, WOOTON, STANDLEY and DINTER (F). It is regretted that the same must apply to a few more recent publications which have been damaged and which it is not practicable to replace.

READERS are asked to note that advertising space is available in this Journal at the following rates:

Full Page	£5 per issue
Half page	£3 per issue
Quarter page	£1 15s. per issue

Advertising copy should be sent in as soon as possible and the following are the final dates on which notices of alterations or other instructions can be accepted:

For the February issue	1st January
For the May issue	1st April
For the August issue	1st July
For the November issue	1st October

In addition there is a SMALL ADS. column at 1/6d per line, minimum 4/6 for which copy should be received on the above dates also.

A Booklet on the Classification of Cacti and Succulents is now available from the Show Secretary. The price is 1/- each plus postage. Branch Secretaries can obtain them at 12 for 10/- plus postage. Postage is 1-8 copies 4d, 9-11 copies 6d. Postal Order or cheque, NOT stamps, please.

PRESERVE YOUR JOURNALS with a binding case, in which each issue is fixed with a wire. The case is finished in green cloth with gilt lettering on the spine. Price: 12s., post free to members.

IDENTIFY YOURSELF with the Society's lapel badge. Price 4s. 6d., post free.

OR with the Society's blazer badge. Price 10s., post free. State whether black or navy background required.

IDENTIFY YOUR PLANTS with triangular, white ivory labels, which can be read without turning the head. Price: 4s. per 100, post free.

*All the above are available from the Hon. Treasurer—
Mr. D. T. Best, 16 Ashleigh Gardens, Sutton, Surrey.*

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Forthcoming Meetings

May 20th "Bring and Buy Plant" Auction.

June 23rd SUMMER SHOW "Caudiciforms"—Mr. K.
Grantham.

July 15th "Mexican Cacti in the Field"—Mr. E. W.
Greenwood.

Aug. 12th "My Favourite Plant"—Members.

Northern Counties

The Northern Counties Show will be held on the 6th
and 7th June, 1970 in the Social Service Centre,
Whitley Bay. After the great success of the 1969
show they anticipate 1,000 entries in the 74 classes of
this year's show. Anyone passing by will be most
welcome and for those who just happen to have plants
with them on the Friday before the show, there are
30 open classes.

The sale of sundries is marginally up on last year. Sundries in this respect includes Binders, Badges and Labels.

The cost of the show was also slightly up and expenditure on seed is down by £30.

General postages compare favourably at £39 in 1969 and £44 in 1968 likewise the library postages dropped by £4 in 1969.

For those of you with longer memories who may wonder why specific mention is made in the Income column to a No. 1 Account suffice it to say that this is a means of isolating subscriptions paid direct into the Society's account and also for the payment in of items for "collection" and is an innovation for which I am particularly grateful to one of our auditors—Mr. Renshaw—to whom I would also like to place on record my appreciation for his stalwart effort and assistance to me when I first took over as Treasurer and to both the auditors for their more usual activities at the end of the year.

I had hoped to produce a proper statement of accounts for you including items of stock. There are difficulties in this connection one of which is that short of the auditors going all over the place counting items of stock it would not be reasonable for them to put their names to a statement without doing so.

However, as a guide and working on information I have received in many cases well after the turn of the year I would report that the stock situation is roughly as follows:—

Back journals up to 1968. 8,147 (dead weight not known)

Back journals up to 1969. 1,710

Society Projector estimated value £30.

"Master Addresser" Machine and supplies (unused) £31 9s. od. the actual machine being £15.

Society Duplicator. This I have put in at £3 15s. 6d. as it has since been sold for that sum.

A careful study has been made of the library and a figure of £450 valuation has been arrived at for which sum an insurance is being taken out.

The Society's cups have been valued by Mr. Collings at approximately £135.

Stocks in hand of the reprint of the Society's booklet are in the region of 3,800, 3,620 still being with Mr. Miller.

Mrs. Hodgson at 31st December holds 18 Denton Medals, 23 spoons and one small trophy, of which one Denton medal and 11 spoons are needed to cover the 1969 shows leaving us with a net 17 medals and 12 spoons actually available for 1970.

There are also 12 Binding Cases, two Blazer badges, 53 Lapel badges also in stock.

Since the new plant labels were paid for early in 1970 I am treating the stocks of these as nil.

As regards the immediate future I feel that every effort should be made to increase membership to some-

thing in excess of 1,000. I am already informed that the cost of printing the journal is rising by 12½ per cent immediately which means that about £100 has got to be allowed for to cover this increase. We have the other half of the booklets to be paid for. There have also been virtually no purchases for the library for the last two years.

It is my considered opinion that the Society would need to look closely at its finances if ever the cost of printing and posting of the journal could not be met by its income from subscriptions and to enlarge on this may I say that in 1969 you had £184 4s. 9d. on the right side but beware of that 12½ per cent increase.

Also to make your new Treasurer's life as easy as can be may I ask you all to try and get all your renewal subscriptions in well before Decimalisation Day on 15th February next.

During my short term of office I have made a real endeavour to streamline many of the aspects and jobs associated with the position and I sincerely hope that my successor will carry on with my work in this connection where I have left off. May I ask my successor to rise and receive a warm welcome to his office from those present. Ladies and Gentlemen, allow me to introduce Mr. Donald Best, your newly elected honorary treasurer.

Succulent Snippets

Sally Cornioides

FIRST, I must apologise to our Show Committee who are doing something to help would-be exhibitors after all. I hear that they are producing a useful list of sub-tribes and families in the Cacti and other Succulents at a very moderate price; in fact, this may be in your hands before this gets into print. Even if it does not give further assistance as to the size or quality of plants required, it is a useful beginning and there should not be any "Not According to Schedules" on that account any more.

However, I was accused of having too much about shows last time so I had better go on to some other topics straight away.

Like most cactophiles I am quite well acquainted with the fact that *Lophophora williamsii* contains the hallucinatory drug mescaline and that it is popularly known as the mescal button. However, my eyes have been opened by the contents of an article to which my attention has been drawn. This deals with hallucinogens of plant origin and appears in the issue of "Science" for 17th January 1969. R. E. Schultes, the author of the article has written a fascinating account covering many plant families but I was particularly interested in what he had to say about hallucinogens in other genera and species of the Cactaceae. He notes that several species of *Mammillaria* and *Echinocactus* are used by the Tarahumare Indians in place of the mescal button and that

there is circumstantial evidence of similar usage of various species of *Ariocarpus*, *Astrophytum*, *Aztekiu*, *Dolichothele*, *Obregonia*, *Pelecypora* and *Solisia*. Likewise, *Trichocereus pachanoi*, the "San Pedro" of northern Peru, forms the basis of an hallucinogenic drink imbibed by the witch doctors and it is also known that several other *Trichocereus* species contain mescaline and other alkaloids. It sounds as if the members of the Mammillaria Society are on to a good thing with the Chileans also in the running!

I am an inveterate book browser and, left to my own devices, I would spend hours working my way round the shelves of any bookshop that lies in my path. My penchant for investigating the most unlikely looking tomes has revealed to me the most unexpected pieces of information and, needless to say, cacti have figured among them. Who would believe that a book with the erudite and wholly incomprehensible title "Introductory Group Theory and its Applications to Molecular Structure" could possibly be of interest to us? Ninety-nine per cent of it consists of fearsome mathematics but the first chapter, discussing symmetry in general gives examples of symmetry in our culture and in nature, and there are illustrations of the Taj Mahal, the banded butterfly fish, the tiger swallowtail butterfly and the flower of *Cereus hexagonus*. One is so gratified that the beauty of a cactus flower has gained wider recognition that the mis-spelling of the specific name can be overlooked.

The other kind of shop I browse around is the florists or large emporia where they have a selection of cacti. I generally have to commiserate with the plants on their sad plight and apologise for not being able to give them all a reasonably sized pot, some good compost and a sunny greenhouse to live in. Sometimes I manage to pick out a gem that has somehow slipped in amongst the everlasting *Mammillaria rhodanthas*, *Cereus peruvianus* and *Opuntia* species; I have several fine looking plants now that were obtained in this way. However, more often it is the labelling that appals me; a fellow cactophile once said that he thought that the boxes these plants were transported in were probably badly packed and all the labels fell out en route and were put in at random by some unknowledgeable assistant at the shop. So often a newcomer brings a plant along for identification saying "This was the label I bought it with but I am sure it is not right" and I wonder how often a plant labelled *Mammillaria* is nurtured through the years without flowering until its owner discovers it should be labelled *Ferocactus*. The problem is what can be done about it; if you know the shopkeeper a friendly word will do the trick but who can one "attack" in a large store? The merchandise passes through so many uninterested hands. Any suggestions will be welcomed.

Several sleuths have notified me of an item which I had already spotted in a recent issue of the general science weekly "Nature". This reported that the news a Georgian scientist, Dr. Galina Kandelaki, has success-

fully pollinated wheat with pollen from a cactus need not be viewed with too much alarm. It is no exercise to set the desert blooming with prickly wheat by only an example of the phenomena of pseudogamy, in which a foreign pollen can sometimes set a seed into parthenogenetic development. (I hope you are with me so far with all these obtruse words!). Dr. Kandelaki apparently hopes that the cactus pollen will goad into fertility hybrid wheats which have so far proved sterile. This brings to mind the article published by Schutz in the December 1949 issue of the National Cactus and Succulent Journal in which the author reports experiments to stimulate the setting of seed on various species of cacti using pollen from quite unrelated species. For example, *Astrophytum ornatum* was used as a source of pollen for *Homalocephala texensis* and the progeny were true to the latter. It is surprising that this work has not been followed up as it seems to be of considerable merit.

I must say I have done a little dabbling in this line, but to no avail; I never succeeded in setting any seed pods, let alone setting the resultant seed! I wonder if any other members have tried any such schemes if so, I hope you will let us know.

This is being written at the beginning of March with a snowstorm raging outside and only two days ago the sun was shining brightly and I was busy finding all the buds coming through on the Mammillarias, *Notocactus haselbergii*, *Rebutias* and even the *Strombocactus disciformis*. How the poor plants put up with it after all the sun and lib they are used to I can hardly imagine—it's bad enough for us and we have always had it this way! All I can hope is that spring has come to stay by the time you read this and that you spring into action with some more anecdotes for next time.

Connoisseur's Corner

Jatropha Berlandieri

THE PRESENT fashion in other succulent growing is definitely towards the "wierdies"—carrots, turnips and parsnips—or more politely the caudiciform or swollen stem plants. Once these plants become of interest and more study is made of them it is evident that they can be found in a number of families in which there are succulent members. The *Euphorbiaceae*, for example, can boast *Euphorbia knuthii*, and *E. tuberosa* amongst others, *Jatropha podagrica* and of later introduction, *Jatropha berlandieri*.

This latter plant is a most attractive and desirable one for any collection and, as its home is Texas, does not require too high a temperature during the winter. Generally the round, fairly smooth greyish "tubers" are obtained when dormant and this is probably best as

they can then establish in the conditions in which they will be living. Shiny green protruberances appear on the upper caudex during March and soon the fleshy, thick, pale green stems will emerge and the soft serrated leaves appear in groups of four or five leaflets on each leaf stem.

When the stems have grown eight to ten inches the buds should come through and by mid-June the pinkish red inflorescences make a very colourful sight. Usually the florets on the one cyme will be all masculine or all feminine but sometimes both have been found to occur together. A number of flower stems will arise giving a continuity of bloom for several months. Gradually, towards the end of September or beginning of October, the foliage dies back and the plant will go into its winter dormant state.

The cultivation of *Jatropha berlandieri* does not pose many problems; it does require a well-drained soil and is found to grow well in the popular peat-sand mixes although other media can be just as successful. Some care must be taken in watering and it is best to always do this from the base to avoid the risk of rotting the caudex near the soil surface. Watering can be started as soon as the fresh green buds are observed on the caudex and should be gradually eased off when the leaves start to die. It should be kept completely dry when dormant.



Jatropha berlandieri

Book Reviews

Plant Variation and Evolution by D. Briggs and S. M. Walters. World University Library Series. 256 pp. Illus. 1969. Weidenfeld & Nicholson 18s. (Paper-back), 35s. (Boards).

Of recent years there has been a good deal of bickering between those with botanical training whose interests also cover the Cactaceae, and cactophiles, using the term to cover those people without a scientific background who are often passionately interested in the Cactaceae and who began merely by growing these plants but became more deeply involved. All too often the former group tacitly accuse the latter of meddling in matters they do not understand and the latter retort that the botanists wish to operate a closed shop and are not anxious to explain the principles of the subject in a form which the layman can assimilate. This conflict of views has been particularly unfortunate in the taxonomic field and few people would now deny that there is a superfluity of taxa in the literature relating to the Cactaceae (and the other succulents) simply because the variability of these plants has not been fully appreciated. In this context the book by Dr. Briggs and Dr. Walters is doubly important. It shows that two eminent botanists have both the desire to explain a particular aspect of their work to the intelligent layman and are clearly capable of doing so. So far as cactophiles are concerned,

it is also of considerable value that there is no mention of succulent plants because this should help them to get matters in perspective by realising that plant variation and evolution is a perfectly general phenomenon in the plant kingdom and that what commonsense and botanical training dictates is a reasonable course for plant taxonomy as a whole must also be applicable to succulent plants.

The inductive approach of this book to unfamiliar territory is admirable. We are led into the field via an historical account which shows how some of the great botanists of the past gradually came to realise that the idea of fixity of species was too rigid. They and we in turn can see that Linnaeus had over-simplified the matter when he wrote in 1747 that "All species reckon the origin of their stock in the first instance from the veritable hand of the Almighty Creator: for the Author of Nature, when He created species, imposed on his Creations an eternal law of reproduction and multiplication within the limits of their proper kinds."

Having established that variability is a common phenomenon in most morphological features, by reference to a wide range of familiar plants such as the poppy, ox-eye daisy, groundsel, evening primrose and, perhaps, rather pertinently from our point of view, the number of prickles on holly leaves, the authors consider

the statistical methods necessary to assess this variation. The use of these practical examples will be a great help to those without mathematical inclinations although it must be stressed that little more than a knowledge of arithmetic is required.

The concepts of genotype and phenotype, which determine what proportion of the variation can be ascribed to genetic and environmental effects, are then introduced and genetic variation is then considered in the light of Mendel's classic work on the crossing of garden peas and the limitation of genotypic variation arising from only two genes is clearly pointed out. It is at this stage that the discerning reader will begin to realise that the variations observed in habitat are the combined result of a number of genetic and environmental factors and what the book sets out to do is not to give him all the answers but to state clearly what the factors are and how they may differ from one situation to another. These ideas are elaborated in succeeding chapters and a certain amount of effort is needed to master them, not because of any inherent complexity, but on account of the introduction of new terms which will be unfamiliar to most readers. These are based upon the suffix -deme and in this way one obtains terms such as topodeme or, a "local population" of individuals, ecodeme which refers to a group of individuals of a specified taxon which grow in a specified kind of habitat, and gamodeme which denotes a local population of interbreeding individuals. The other concept, polyploidy or the phenomenon when the number of chromosomes is greater than normal, which will also be new to most readers, is discussed lucidly and its role in the appearance of variants is stressed.

By the time that he has reached the end of Chapter 13, the cactophile may feel that although he has been led through a fascinating array of botanical concepts with frequent references to a variety of taxa common to the flora of Europe, he does not know where to make a start in assessing variability in the Cactaceae. A final chapter on how to take the subject further, written particularly for the enthusiastic layman, will certainly help him on his way. However, he must recognise that, by and large, this will be untrodden ground and it is to be hoped that those with the requisite botanical training who belong to the various cactus organisations, particularly the specialist Societies, will encourage and guide those who wish to participate in this type of work. The field is wide open and until it has been systematically explored the useless controversies between the splitters and the lumpers will continue. However, the mere fact that this book on plant variation and evolution runs to as much as 250 pages indicates the broad scope of the subject and counsels us to make haste slowly in the sense of ensuring that whatever variational studies and breeding experiments are undertaken are meaningful. If this excellent book is used as a mentor there should be no difficulty; it may not enable the amateur to compete on equal

terms with the professional but it will enable him to assemble valuable data for the detailed attention of the botanists.

W.F.M.

A Guide to the Naming of Plants is an admirably concise, readable and inexpensive new booklet by David McClintock assisted by W. T. Stearn, J. S. L. Gilmour, P. M. Syngé, C. D. Brickell and other authorities who have ensured nomenclatural accuracy. The first half poses and answers 41 questions about names: "What is a species?" "A genus?" "A form?" "A type?" and so on; "How is the latin name of a plant composed?" and "How are new cultivar names published?" How the rules work in practice is then amply demonstrated by considering in turn the names of our hardy heathers, for the booklet is published by the Heather Society. As a handy reference to the beginner with naming problems, this is 6/6d. well spent from the Hon. Secretary, Yew Trees, Horley Row, Horley, Surrey.

G.D.R.

A Guide to the Naming of Plants: with special reference to Heathers. Written for the Heather Society by David McIntock 1969. Six shillings and sixpence post free, from The Secretary, The Heather Society, Yew Trees, Horley Row, Horley, Surrey.

There are those who maintain that specialist horticultural societies serve a very limited purpose only because the moving spirits involved in their formation rapidly find themselves completely occupied in organisational and administrative work and are unable to broach new frontiers of knowledge. To some extent this criticism is justified although it is equally true to say that the majority of the members of such Societies do not give the torchbearers a great deal of encouragement. Nevertheless, the specialist organisations are able to produce publications other than their regular Journals and one such example is provided by Mr. McIntock's commendable thirty-eight page booklet written for the Heather Society. Although it is in a field totally alien to the Cactaceae, it can be read with profit by all members of the Society.

Although Part II, which is entitled "A Commentary on the Names of our Hardy Heathers" makes interesting reading and is by no means irrelevant because it shows that naming problems also afflict this group of plants, the real value of the booklet for plant lovers in general lies in Part I. This consists of forty-one questions with crisp, concise but clear answers. These cover many of the problems which so often trouble the keen cactophile who lacks a botanical background. For example, the first question is "What is a species?" part of the answer reads "A species is the basic unit in the classification of plants and animals. No definition is logically watertight and also practical; but in general a species may

be said to be an assemblage of plants with a very large number of characters in common maintained from generation to generation, separable and distinguishable from other such groups by constant features". If this realistic definition was more widely appreciated by cactophiles life would be a good deal easier.

Other topics discussed include the definitions of subspecies, varieties, cultivars, clones, hybrids and forms and, at a higher level in the system of classification, family, genus, and series. The term taxon, which appears in the cactus literature but is little understood, is also covered. Turning to more botanical matters, there are sections dealing with the genes, chromosomes, mutants and teratological forms. Another extensive section deals with the rules which govern the naming of plants, both wild and of garden origin. Those who have been puzzled by citations such as *Mammillaria compressa* D.C. and *Ferocactus glaucescens* (D.C.) Br. et R. will find enlightenment. All in all this is a very commendable booklet which deserves a wide sale; Mr. McLintock and the Heather Society are to be congratulated in having the initiative and translating it into practice.

W.F.M.

Correspondence

To the Editor,

I understand from the representatives of the N. Surrey Branch on Council who reported back to us at our last meeting that it had been proposed to lower the age limit for seedling classes from two years to one year. The fact that serious discussion had taken place on this subject is disturbing enough to warrant a few comments even though sanity had in part prevailed in that the cacti seedling class at least is to remain at two years.

It must always be borne in mind that the shows have a two-fold purpose. The first is to provide some measure of competition for our hobby and the second is to present a show for the general public. Neither of these is fulfilled in the proposal. Certainly one can grow many types of cacti and succulents which should attain a fair size by the eighteen months as proposed, but this will in my opinion lead to seedlings of such quick-growing genera as *trichocereus*, *rebutia* and the columnar cerei being shown to the exclusion of the more interesting but slower growing ones. The chance of getting genera such as *parodia*, *frailea* or *stenocacti* sufficiently large to be worthy of exhibiting is extremely low and the possible lack of hardiness of such small plants must also be borne in mind. In the world of "other succulents" the majority of stemless mesembryanthemums would be practically excluded—aloes, stapeliads and some T.C.P.'s forming the basis of any exhibit.

One can see this could lead to one or two situations, either a display of immature cacti seedlings, all looking

very similar, having not had time to develop their particular characteristics or exhibits of the more common ones raised specially for showing.

G. Canham,
Kingswood, Surrey.

There seems to be a very real need for a reference book which takes over from Borg which would include the many varieties of cacti which have been discovered since Borg's day.

To most of us, Borg is still the most useful book of reference and, in spite of the number of books which have been published, there is not one, to the best of my knowledge which could be described as a supplement.

May I suggest that our experts consider compiling such a book which I feel sure would be of the utmost value to all cactophiles.

Yours sincerely,
J. A. Bastow,
London, W.1.

Dear Editor,

I have in my greenhouse several plants of a variegated *Echinopsis* (multiplex or a hybrid), which grows according to the area of variegation, like a columnar offset when it has large yellow areas, or the more usual globose form of a young *Echinopsis* when it is mainly green with yellow flecks on the ribs. This plant grows quite well on its own roots, but does not seem to do so well when grafted. Like the other "leutia" Cacti the pure yellow form burns on the older growth in full sun.

I have seen one other plant such as this, but the owner tells me it is now dead. As far as I know this sport arose in my greenhouse, but who knows what may have arisen elsewhere. Does anyone else have any?

Yours sincerely,
Alan E. Appleby.

On page 15 of the Journal February 1970, in the article "Notes on the 1970 Seed Distribution" it is stated that "the secretion of sugary liquid from the areoles" (of *Ferocacti*) "can lead to the formation of black mould". This black mould developed on my three *Ferocacti* in 1968 and 1969. In 1969 it also developed on *Opuntia* (*polyantha*?), *O. mammilata*, *O. pailana*, *Hamatocactus setispinus*.

Can anyone please advise me how to get rid of the black mould and how to prevent it forming?

My plants are sprayed with Fisons Kil and Murphy systemic insecticide.

I shall be most grateful for any advice that can be given.

Yours sincerely,
H. Mays, Burton Joyce, Nottingham.

Dear Editor,

In our Journal, Vol. 3, No.2, dated December, 1934, as Exchange Secretary, I asked that members send to me the special Genera in which they were interested. I had a good response but the list I still have is hopelessly out of date.

I would like to bring my lists up to date and ask all those members who specialise in any particular Genus, to send me particulars. After the list has been amended it will be of use to me so that I can put in touch with one another, members who wish to contact others with similar interests. This would help them to make exchanges and visits if necessary.

To save unnecessary work I do not want members to write to me if they have a general collection, but only those who specialise need write. After a few weeks have elapsed if anyone needs particulars of another member interested in their particular Genus they should send me a stamped addressed envelope with their needs so that I can put them in touch with other specialists.

Yours sincerely,

A. Boarder (Chairman), Ruislip.
Marsworth, 8, Mead Way, Ruislip, Middlesex.

Dear Editor,

The subject of showing and judging being close to my heart, I was interested to read Sally Cornioides' remarks about advice to exhibitors (Journal, February

1970). I do agree that such advice is most necessary. I do not think it is entirely neglected in the N.C.S.S., (nor probably elsewhere) since many of our judges are quite ready to address branches on the subject. The veteran writer, lecturer and judge, Ron Ginns, has given many talks on exhibiting (I remember hearing one at Croydon at least ten years ago). Both he and Arthur Boarder have given advice in books (Ron Ginns: "Cacti & Other Succulents", Penguin Books, 1963; Arthur Boarder: "Starting with Cacti", Collingridge, 1969).

I have given a few talks myself on this subject and have found my audiences to be extremely interested and appreciative. I am sure that any experienced exhibitor who was prepared to talk on the craft would be welcomed with open arms by many cactus society branches, whatever their affiliations.

Inexperienced members often imagine that there are deep secrets known only to the successful exhibitors. This is not so, of course. The qualities which make a plant a winner are those derived from good cultivation, cleanliness and neat and attractive presentation to the judge. Groups of plants may offer difficulties to newcomers, but if they remember that a group will be judged in its entirety and that it will gain from being varied and well-balanced they will not go far wrong.

Yours sincerely,

E. W. Putman, Hooley, Surrey.

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buchenauii, *cowperae*, *crucigera*, *denudata*,
dioica, *dumetorum*, *esperanzensis*, *fasciculata*,
glassii, *goldii*, *grahamii*, *gummifera*, *grusonii*,
haageana, *halbingeri*, *huajuapensis*, *humboldtii*,
insularis, *jalsicana*, *klissingiana*, *marnieriana*,
mercadensis, *nana*, *napina*, *nunezii*, *oliviae*,
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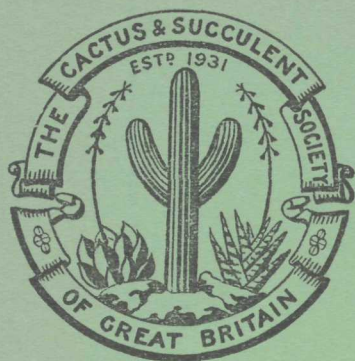
Vol. 32

AUGUST, 1970

No. 3



*Published Quarterly by The Cactus and Succulent Society of Great Britain
at 39, The Ridgway, Sutton, Surrey.*



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THE CACTUS AND SUCCULENT JOURNAL OF GREAT BRITAIN

Vol. 32

August, 1970

No. 3

Editorial

I SEE THAT Mr. Maddams in his article on the National Show at Kettering regrets the lack of reports of Cactus Shows and I hope that he will therefore be pleased to see that in this issue of the Journal, in addition to his own report on the Kettering Show, we have detailed reports on two other shows, i.e. our own June Show in the R.H.S. Hall and the local show held by the West Kent Branch in May. I did once hear the criticism that a certain member thought the Journal was not worth reading as it once devoted four pages to a report of a show, but as I personally lean to Mr. Maddams' views, I was very happy to include these reports and hope that other members will be equally interested.

A suggestion has been made that in order to enable members from outside London to attend the Annual General Meeting of the Society this should be held on a Saturday afternoon instead of a week-day evening and Council would be very glad to hear what the membership as a whole feels about this proposal.

Would members therefore just drop a line to our Secretary Mr. R. H. I. Read, whose address is on the

inside front cover of this Journal, giving their views on this point.

I would also like to call attention to the Secretary's Notes, in particular the paragraph regarding the Annual Dinner. This should be a very enjoyable evening and if some London members are willing, as suggested, to put up members from further afield this should enable members to attend who have previously been prevented from doing so, by their distance from London.

With this issue of the Journal you will receive the Schedule and Entry Form for the October Show to be held in the R.H.S. Hall. The June Show was certainly a very interesting show and there were some very fine plants there. Can we make the October one an even better effort? A very large number of the entries in June came from the North Surrey Branch and unless some other Branches make an effort it looks as if they may run away with the Branch Trophy once more. What about making a real effort to beat them this time. Branch Secretaries—stir up your members and show North Surrey what YOUR branch can do when they really try!!

E.M.D.

Cultural Notes

Cacti—by A. Boarder

THE EXCEPTIONAL amount of sunshine which we in the south of England have experienced during late April and May this year has brought out so many flowers on the cacti that on all sides one can hear of stories of wonderful displays on most members' plants. I cannot remember seeing so many flowers on my Mammillarias, but of course it must be realised that as plants develop they are likely to produce more flowers each year. This is especially so when the plants have been raised from seed as almost all of mine have. It would be a very easy task to count those plants which have not flowered this year than to list those which have flowered. Not only is it a fact that most of the plants have had more flowers than usual but some of the shy flowering ones have produced their flowers quite well.

Some growers say that the profusion of flowers on their cacti this year is the result of plenty of sunshine last year. I do not go along with this surmise as I consider that it is the actual sunshine of the current year

which has encouraged the cacti to bloom so well. I certainly do not remember as much sunshine so early in the year in 1969, and I am certain that many of my plants which have flowered were not affected by the sunshine last year. In some concrete troughs I have a number of seedlings which are from last spring's sowings. These were not raised particularly early in the year and are now, in May, only from half an inch to an inch in diameter. Yet a large number have flowered well. Now the parts of these plants which flowered were not even formed last year and so I cannot see how the sunshine last year could have encouraged these seedlings to flower so well.

By the end of May the following seedlings of a year old had flowered:— *Mammillaria leucantha*; *M. schel-hasei*; *M. monancistracantha*; *aurehamata*; *kebelianus*; *barbatus*; *mollihamata*; *M. bocasana* and *M. kunziana*. These plants had rings of flowers and most of the plants of each species flowered. Among the Mammillarias in my collection are a few which are shy to flower and

two of these are *M. bombycina* and *vaupelii* which only flower now and then, yet both plants of each species have flowered well this year.

The show of flowers on many of my grouping Mammillarias has been exceptionally good. Most of these are in pans of from eight to twelve inches across and with all the many offsets also in flower the number of blooms on each plant has run into hundreds. Two very prolific flowering ones are *M. erythrosperma* and *M. glochidiata*, the former with pale pink flowers and the latter with fine pink ones of a darker shade. The pinks in the collection vary considerably in intensity of colour, and range from the palest of pink shades into a carmine. Even in the same species it may sometimes happen that a different shade of colour is shown on the flowers. I have two fine specimens of *M. euthele* which I raised from seed some ten or more years ago, one flowers with a large pale pink flower and the other with a similarly sized bloom of a much deeper shade of pink. Among the Mammillarias are only a few with yellow flowers and one of the most outstanding of these is *M. marksiana*. In addition this plant stands out among the others as it is very pale green in colour with pale yellow spines. My *M. solisii* plants have made a grand display as their flowers are rather longer in the petal than most of the other Mams., and the colour is a deep carmine. Another rather similar plant for colour and size of flower is *M. bella*.

Another nice shade of pink is the flower of *M. guaymensis* and the flower is quite large for a Mammillaria. The plants I have in the Dolichothele group have again flowered well but I am rather disappointed with *D. gigantothele*, as there is nothing gigantic about either the tubercles or the flower. The flower is yellow like the other Dolichotheles but is very small in comparison, being no larger than the flower of *M. baumii* and not much larger than *M. surculosa*. I did find however that the plant in question flowered much earlier as a seedling than did either of my *D. uberiformis*; *longimamma*; *melaleuca* or *sphaerica*. These plants are now large and produce many large flowers each year.

Another type of Mammillaria which some growers do not find easy to flower has done very well with me this year. They are the types such as:— *M. celsiana*; *nealeana*; *potosina* and *neopotosina*. These have flowered particularly well, not that I can see very much difference in these plants except for the length of spine varying in some kinds and a slightly different colour of the spines and body. I suspect that they are all one species but slight varieties of it. These were the names of the seeds I procured from which the plants were raised and I make it a practice to keep to these names, which are all booked, until I find definite proof as to their authenticity or otherwise. After all no-one has yet been able to answer my previous question as to when a species becomes a true species and not just a variety. When one sees the number of differing types sometimes

obtained from the same seed pot, one wonders which particular type was used by the person or persons who named the plant in the first place.

During the show season it is possible for many of our members to promote the growing of cacti and other succulents by exhibiting at the various horticultural shows throughout the country. Many are supplying a class or two for cacti and those which do not may be encouraged to do so by members putting up a non-competitive display. When I have asked some members what they have done to promote the Society and obtain new members, the usual reply is that there is nothing they can do. I do not agree with this and feel sure that many members, instead of leaving all the donkey work to a few enthusiasts and officials of the Society, could do much more by encouraging more people to take up the hobby. One way would be to buy a few of the Society's booklets and give them as presents to young people or to those who have one or two cacti in a window.

These booklets are very good value and very popular. I recently gave a talk to the Middlesex Guild of Judges on how to find the main points to award in judging cacti, and all the booklets I took with me were soon snapped up and I had a further order sent on to the Secretary. These judges are very keen and although most efficient in judging flowers, fruits and vegetables they realise that to judge the cacti they often find at shows, calls for specialist knowledge. Although I could not hope to give more than a cursory talk on the subject in an hour and a half, with the aid of many slides I was able to show those types which should be rewarded if seen, and gave faults which should be down pointed.

I reported last year that I had taken a very drastic step with my old *Echinopsis*, the one I had in 1905, and which started me off with the collecting fever. I cut off a large part of the lower plant which appeared to be shrinking and which had turned very brown. It was a chance I took as I was not sure if a plant so old could send out fresh roots from the base and recover from the shock. I am happy to state that the plant has not only made fresh roots but has made plenty of fresh growth at the top. This top growth reminds me that the question of sunshine affecting plants either the previous year or the current one, I can perhaps confirm my own conviction by considering the flowers of *Astrophytum*s. I have never seen a flower produced by one of these low down on the plant at old areoles, but only at the growing centre of the plant to each areole as it appears. I fail to see how this newly produced growth could have been affected by the sunshine of the previous year.

During the warmer months of the year it is important to make sure that as much air as possible is available for the plants. There is no need at all to close up the lights of a greenhouse on any night from June to late September. Most of our plants have to stand a few degrees of frost at some time or the other and as long as ours are in a greenhouse there is no need to coddle them at all.

When going on holiday it is far better to leave all the lights open than to close up. Forty years ago I had to move house and had a large collection of plants set out in the garden for the summer whilst I built a greenhouse. The weather had been very cold and wet, and the day before I went away on holiday, the greenhouse was almost finished, apart from the staging. I therefore put all the plants, in their pots, inside the greenhouse and shut it up. On my return I found that many of the plants had become badly scorched. Of course the weather had changed as soon as I went away and almost burnt up many of the plants. Since then I have been most careful to ensure that in hot weather there is always plenty of fresh air available.

The question of how often do cacti need watering often crops up. This is impossible to answer, unless one states, 'water only when the soil has dried out'. So much depends on where the plants are kept, the amount of sunshine available, the age of the plants, the time they have been in their pots and the type of potting compost used. During the sunny weather I had to water most of my plants every day, and some of the younger ones in small pots would have grown better with twice as much. Therefore I think that if a plant is watered when the soil is dry during the growing period one cannot go far wrong. If a plant has been repotted fairly recently it is almost sure to dry out more quickly than a plant which has been in its pot for over a year. The soil in such a pot will have become impacted and hold the water longer than a pot with more open soil.

Those members who do not possess a greenhouse for their plants would do well to consider placing out of doors most of their cacti. I am sure that the plants would benefit from the chance to get more fresh air and sunshine. Some growers have told me that they keep their plants in a sunny window, but I am sure that no plant in a room, however sunny the window will thrive or flower as well as one which receives more light and sunshine all round it. Some people have complained to me that their cacti never flower and I then find that they have kept the plants indoors all the year round. If anyone has some Epiphyllums in a greenhouse I am sure that they will benefit from a spell in the open air. A splendid place for them would be hanging on the lower branches of a tree in the garden. The uninterrupted sunshine in a greenhouse could cause the plants to shrivel and after all, in nature, this type of plant is usually found growing on trees or at least in shady, humid spots.

If one has an imported plant with no roots or a plant in the collection has lost its roots, it is not always easy to get fresh ones to form. One very good way is to place the plant in a pot of soil with at least an inch of very sharp sand on the top. The pot is then stood in a shallow container and a little water is added to this occasionally. The plastic containers which hold chops and fish, as sold at supermarkets, are ideal for this purpose. Too much water should never be given, and the pot can be lifted now and then to make sure that it is not heavy with water. The dampness below will often encourage a plant to make new roots.

Cultivation Notes

Other Succulents—by Mrs. M. Stillwell

SUMMER IS ALWAYS a busy time in the succulent world. The fast growing types often require breaking up and restarting to maintain a nice-looking plant, and the hot weather is the ideal time to do this, when cuttings will root up quickly. When one is short of space a small neatly grown little plant is far more pleasing to the eye than one several years old that has become straggly and is taking up far too much room. The same applies to the common types of Haworthias. Many of these multiply quickly and have to be kept in check. One has to be ruthless to make room for the more choice plants as the more greenhouses one acquires means not only a lot of extra work but a lot of extra heating in the winter, plus general maintenance, etc. The hobby can then develop into a chore instead of a pleasure. The larger the plants become the larger the pots have to be and in the plastic field this can be quite expensive.

Summertime is the best time for breaking up large clumps and re-rooting small cuttings. When one is short of space it is often advisable to get rid of some of the

old unsightly plants that are past their prime and give the collection a new look with small cuttings taken from the old plant, which should soon root up given the right conditions. Spray cuttings frequently especially on a nice warm evening. If the greenhouse feels very hot and dry throw down one or two buckets of water when you close up for the night to create a nice steamy atmosphere; the plants love it and it also helps to prevent red spider, that only thrives in hot dry conditions. A good watering with systemic insecticide about once each six months of the year should keep the collection fairly free of pests. Plants standing on staging covered with pebbles have better drainage than those standing flat upon the staging, covering the drainage hole. It is a matter of preference what you use for staging, but I prefer corrugated asbestos covered with well washed pebbles. The grooves help the surplus water to drain away. Open slat staging often leads to pots upsetting and to my mind is not desirable. A staging with pebbles must of course have an edging all round to prevent the

pebbles falling off the edge. Do not forget to water the pebbles with a good insecticide from time to time to kill any pests that may lurk under the pots.

I use plastic for practically all of the cacti, but find that most of the succulents are quite happy in clay. The Lithops do very well planted several together in large clay pans, surrounded by matching stones. They then have plenty of root room and good drainage as the stones help to keep the surface of the soil open. I have also planted several *Ophthalmophyllums* together in pans.

I shall probably do the same with the smaller *Conophytums* that have only a few heads. They can be transferred back to separate pots when they have grown into a fair sized clump. *Conophytums* scorch easily so watch out for this when the sun gets very strong. During the months of May and June the *Conophytums*' outer skins should look quite dead, and in July, they start to burst open again showing the new growth. They can then be watered normally.

The bilobes are usually the first to start growing. This is the best time to repot them, and to remove the old dead skins if you can. It gives the plants a much cleaner appearance. Always use a very gritty open compost for

all stemless mesembryanthemums. If you have time, it pays to sift out all the dust, which will clog the soil.

Haworthias should be given slight shade during the hottest weather. They grow very little during the summer and should be watered with care when necessary. Repot about September. I prefer clay pots for a more compact growth.

A dainty little plant not too well known is *Cotyledon jacobsoniana*. It forms small clumps and has a thin flower stem and terminal flowers in deep pink and green. It likes full sun and plenty of water. *Cotyledon lady-smithiensis* is another dwarf shrub with roughened hairy leaves which drop very easily. I have never flowered it. The stems turn woody with age. Another little hairy leaved *Cotyledon* is *C. teretifolia*. The leaves are crowded and sub-erect and glisten in the sunshine. Again I find it rather shy of flowering.

A plant that is just a little different is *Bulbine alooides*: it has fleshy pale green leaves in the form of a rosette, and produces dainty stems of numerous yellow flowers all packed tight together. Several stems appear for each rosette. It should be grown compact and not watered too freely.

It looks like another good summer, and the show of flowers has been abundant.

Connoisseur's Corner

Mammillaria auriareolis

THE Schumann-Berger system for classifying the *Mammillaria* species, which is quite widely known because it was adopted by Professor Borg in dealing with these plants in his celebrated book 'Cacti', divides the genus into ten Series. These Series contain groups of plants with similar characteristics, such as milky or watery sap, many hair-like radial spines, and similar features.

One of these Series, the *Leucocephalae*, which comprises plants with milky sap and numerous slender, white radial spines contains some of the most attractive species in the genus, including ones such as *M. geminispina* and *M. parkinsonii*, which need no introduction. Of the others, the little known *M. auriareolis* is equally deserving and its beauty should be immediately apparent from the photograph. Two features can be singled out for comment. The bases of the four central spines are bright yellow-brown in colour and the specific name, which means golden areoles, is therefore very apt. This distinctive coloration appears more markedly on the older growth because the areoles on the younger tubercles are concealed by wool. There is dense wool in the axils and this makes the plant attractive at all times of the year. It flowers readily, in late April or May. The



inner petals are white to cream with a tinge of pink and the pronounced central stripe is buff, again tinged pink.

This species, which should be grown in as sunny a position as possible to promote the formation of the dense axillary wool, presents no cultural problems. As is evident from the illustration it divides dichotomously, as do most species of the Series *Leucocephalae*, but it is of somewhat slower growth than *M. parkinsonii* or *M. geminispina*. Although it was described as long ago as 1933, by Tiegel, it has never become common in cultivation. Nevertheless, seed or small plants are available from time to time for the discerning collector.

Sic Transit Gloria

by W. F. Maddams

MOST OF US experience moments when there is the urge to put pen to paper, to commit to posterity an experience which has registered on our emotions. That this is seldom done is, perhaps, a pity and the more so when it comes to matters involving cacti and the other succulents, because the circle of writers does not seem to expand to keep pace with the widening audience. The field of our activities which is least documented is, without doubt, shows and this is particularly regrettable both in view of the considerable effort put into them and their transient nature. The individual highlights of a show are, in principle, available for subsequent inspection if one has sufficient time and energy to travel around, but they are seldom collected together and when the event does occur it is fitting that there should be written and photographic records.

Some days have passed since I have received the stimulus to write in this vein but the memory of the event is an abiding one and, in some ways, it is perhaps better to write in this slightly detached mode that comes from reflection rather than as the result of immediate impressions. The discerning reader will probably already realise that I am alluding to the Show staged at Kettering on 9th May to mark the 25th Anniversary of the formation of the National Cactus and Succulent Society. I shall not attempt to write a formal account of the occasion; I understand that the N.C.S.S. has organised this type of coverage as, indeed, is its prerogative. Whatever my inclinations, I would not be in a position to do so because, although I was one of the judges, I did not have the opportunity to examine thoroughly many of the classes with which I was not involved in an official capacity. This is often the case at the larger shows and much more so in this instance, for reasons which will become evident. The comments I have to make are rather in the way of personal highlights and random reflections.

It must be said at the outset that this was an occasion, par excellence, for all cactophiles, irrespective of their particular affiliations. They were there to see fine plants and it mattered not a whit that one particular organisation was responsible for the Show. I encountered many members from the Great Britain Society and there was also opportunity for members of three of the specialist Societies to meet other members and some of the Society officers. Indeed, it seemed that almost everyone of note in cactus circles was present, although finding them was quite another matter. The attendance was of the order of 2,500 and although the venue was spacious it was packed to capacity for most of the afternoon. This is the only criticism which can

really be levelled; the event was too successful and one could not examine the exhibits in a detailed manner or in comfort.

Would an opinion poll have revealed that the majority of the 2,500 visitors considered their journey (and some came from considerable distances) rewarded? I think the answer would undoubtedly be in the affirmative, and some would have doubtless been particularly enthusiastic. Certainly, the overall quality of the exhibits in the different classes varied; none of the classes was unworthy of the occasion and some were very good, with individual exhibits rising to heights of excellence. Among the Cactaceae, various Echinocactanae were outstanding and many of the entries in the Ariocarpus class must have opened the eyes of the majority of visitors, both in respect of size and condition. Likewise, the class for one normal and one cristate cactus produced two fine specimens of cristate Ariocarpus, seemingly on their own roots.

One almost comes to expect large imported Ferocacti, particularly *F. acanthodes*, on these occasions, and some of the specimens must have taxed the strength of their owners in lifting them on to the show bench. Nevertheless, it does seem to me that the haste with which the proud owners rush these plants to shows is symptomatic of the trend towards ever-increasing size. In this respect there is a marked difference between cacti and the other succulents. With these latter, apart from the groups generally, but irreverently, known as T.C.P.'s, the fashion is for small choice specimens, as exemplified by the attractive dwarf Aloes from Madagascar. To return to the Ferocacti, the haste to join the bandwaggon results in the exhibiting of unrooted specimens and anyone who imagines that judges overlook the point is deluding himself. The first and obvious check is to push the plant; if it is rooted no harm is done and if not the owner has no right to complain. However, it must not only be rooted but be in an active state of growth and this may be a slower process from the time of importation. It is difficult to lay down rules but there will be comparatively few cases where a large specimen of *Ferocactus acanthodes* is fit for the show bench within twelve months of removal from habitat.

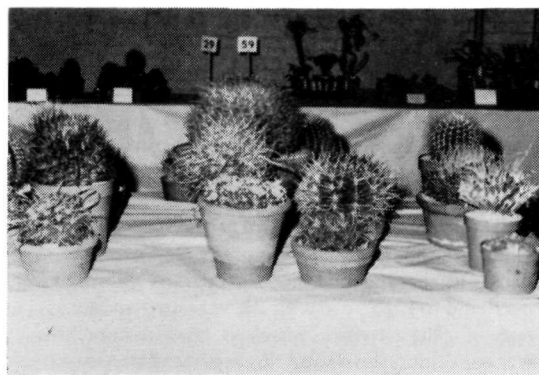
The propensity for carrying around large specimens of Echinocactanae does not extend to the columnar Cerei and this is not altogether surprising. Transporting a three foot Oreocereus is a problem both from the angle of stability and headroom in the average vehicle. Nevertheless, the columnar Cerei on view were somewhat disappointing, as was the lack of variety among them. One is tempted to ask for example, why specimens of the genus *Haageocereus* are so infrequent at shows.

It would be surprising if I were not to comment on the Mammillaria classes, which I was privileged to inspect in detail in my capacity as Judge. So far as the unrestricted class for three plants was concerned, predictably, the heavyweights carried the day. The usual species were to the fore with rather more and better plants of *M. geminispina* than usual but with *M. bombycina* not exceeding nine inches in diameter in any of the entries. I am optimistic enough to hope that I shall eventually see a first prizewinning entry consisting of largish specimens of some of the less common Mammillarias. It is by no means beyond the bounds of possibility that we should have nine or ten inch containers of species such as *M. occidentalis*, *confusa*, *winteriae*, *petersonii*, *auriarcolis* and *duoformis*.

The task of judging a class consisting of forty entries of four Mammillarias in pots four and a quarter inches in diameter may sound formidable and, certainly, it was no sinecure. However, it was made the easier, regrettably, by the fact that the majority of entries were immature plants of large growing species. The realisation that this is not the place for small but clean specimens of *M. rhodantha*, *M. halimiana* and the like seems to be slow in reaching the average competitor. The class contained a sprinkling of the dwarf gems of the genus, and a plant of *M. wrightii* was head and shoulders better than the other 160 or so specimens surrounding it, but the plants one hopes to see were all too infrequent. Although the genus Mammillaria is very popular, many of its deserving species are still little known. For example, from the number of enquiries made at the Mammillaria Society exhibit for seed or plants of *M. marksiana*, of which there were several specimens in flower in various parts of the Show, it is evident that many cactophiles had not previously encountered this attractive and distinctive species.

The class for two other Coryphanthaceae was well supported and the increasing popularity of these plants is not before time. The fact that two or three of the entries contained plants of *Mamillopsis senilis* in flower will undoubtedly encourage some of the visitors to emulate the feat but it is to be hoped that they also took due note of other interesting genera and species appearing in this class. *Ancistrocactus scheeri* is enjoying a wave of popularity at present and a considerable number of imported specimens are now in circulation. Although it now has comparatively little rarity value clean unmarked specimens in an active state of growth are not too common and count for a good deal in competitive work. As it happens, the best plant of the genus *Escobaria* was not to be found in this class but elsewhere, in one which catered for mixed cacti if I remember rightly. Certainly, it attracted much favourable comment.

I can only highlight one or two of the many fine plants in the other cactus classes deserving though the others may be. One is constantly encountering novelties these days, particularly among the other succulents and



Echinocactaceae Class

it probably needs something rather more out of the ordinary to create an impression than would have been the case a few years ago. Nevertheless, I was most impressed with a plant of *Coleocephalocereus brevicylindricus* bearing a lateral cephalium. This little known genus, from Brazil, is obviously related to *Melocactus* and with the popularity of this latter genus one imagines that *Coleocephalocereus* will become more frequent in collections. All the indications of late are that if there is a demand for a particular plant, it will find its way on to the dealers' lists. I was also much impressed by two plants among the Echinocerei, one a multi-headed specimen of *E. knippelianus* in full flower and the other a bright spiny colourful specimen of *E. engelmannii* that had clearly been imported but had settled down in its new surroundings and was growing vigorously. As I saw for myself in May 1969, this species makes large clumps of heads in habitat and it appears that it can be equally impressive in cultivation for those who do not lack space.

So far as the other succulents were concerned the schedule provided the opportunity for anything and everything to be shown, but I wonder if this all-embracing attitude is really wise in view of the range of growing seasons to be found in the wide range of plants involved. Early May is not an auspicious time for most of the stemless mesembryanthemums and one has the alternative of showing semi-dormant plants or plumping them up artificially before they are ready and to their detriment. The class for one Testudinaria also illustrated this difficulty, in a more intractable way. Some of the plants on show were in active growth and some were not; the latter were completely passed over and, in all fairness, I must admit that it is difficult to distinguish between dormancy and demise in specimens of the genus out of season. I am intrigued by the fact that some of these plants were in active growth at a time when, in my limited experience, I would not have expected it; did this happen by design or accident?

I had looked forward to the Show for several reasons, not least to widen my horizons so far as caudiciform plants were concerned and I was not disappointed. These plants were to be seen in great variety and some specimens were of such a size as to tax their fortunate owners' ingenuity in transporting them. It would be invidious to single out particular plants and my preferences have no real element of logic attached to them. I prefer low-growing types to columnar ones and therefore, unjustly perhaps, *Pachypodium brevicaule* appeals to me rather more than *Pachypodium geayii*. Certainly, there was a magnificent specimen of the former to be seen in one of the entries in the inter-branch class for six other succulents of six genera. In a show which reached subliminal heights at times it was, perhaps, a relief to see the frailty of human nature in that not only was this particular magnificent entry not according to schedule, because it contained two *Pachypodiums* but also in the fact that this was not appreciated until the Show was in progress and it suffered the indignity of losing its first prize card.

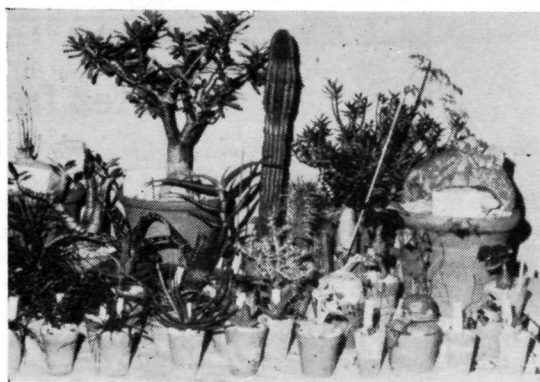


Caudiciforms

Impressive though the caudiciform plants were, they did not overshadow a variety of very good exhibits in the other succulent classes. The outstanding plant, not surprisingly, was a *Pseudolithos* and I was not aware that this rarity was in cultivation in England. Not far behind, in my estimation, must come the specimen of *Calibanus hookeri*; in this case I had seen a plant previously, a large specimen at the display mounted by the American Cactus Society at its 40th Anniversary Convention at Pasadena, in May 1969. Turning to the more familiar genera, the classes for various Liliaceae produced some excellent plants. Needless to say, the dwarf Aloes were not lacking and I can well understand why they have become so popular in a relatively short space of time. However, pride of place among the Liliaceae must go to a magnificent specimen of *Haworthia truncata*, filling a pan about ten inches in diameter. As it happens the plant which had graced the show benches at Westminster on a number of occasions, and earned much commendation, was also present at the Kettering Show

and it does no injustice to its owner to say that it was overshadowed by its peer.

I am unable to ascertain what proportion of my collection consists of plants I have raised from seed but it must be substantial. Quite apart from the fact that I now have some fine specimens by this method and they have cost me very little, I am firmly of the opinion that the satisfaction of raising and flowering plants from seed cannot be surpassed. I am therefore unhappy at the increasing tendency to avoid seedling classes at the major N.C.S.S. Shows, and Kettering came into this category. I am aware that there are instances where the judges have had reason to doubt that some competitors have observed the age restriction but it should be possible to stamp out this sort of malpractice, particularly if the officials of the Branches keep their eyes and ears open. I have never had reasons to suspect that cheating was taking place in the seedling classes at our Society Shows in the R.H.S. Hall and, strapping though some of the seedlings may have been from time to time, what we have seen is simply a reflection on the ability of some of the members to grow seedlings well.



Mortimer/Howard Display

Last, but certainly not least, I turn to the very fine non-competitive display staged by Dr. Mortimer and Mr. Horwood. Not surprisingly, this was a centre of attraction all afternoon and it was only a few minutes prior to the closing of the show that I was able to inspect it, all too briefly, without having to elbow my way past others, some of whom, I am sure, stood in wonderment. I have always been of the opinion that good non-competitive groups of plants are an integral part of a show, if they can be staged, and I hope that more cactophiles will now come around to this opinion. Dr. Mortimer and Mr. Horwood were not concerned with an outsize piece of one-upmanship; it is true that most of us coveted a good many plants in the display but we realised that its object was to educate us, not to prompt us to go off on an immediate search for many of the treasures in the group. The educational aspect was covered by neatly typed mini-essays placed adjacent to many of the plants. Thus, not only did we have the opportunity to see

Hydnophytum formicarium but we were told how its name derives, habitat details and what one must do to succeed with this rather tricky plant in cultivation. Merely to append a list of the plants in the group would serve little purpose. Some idea of its scope can be gained if I mention that it contained Melocacti with cephalia, Discocacti, *Coleocephalocereus brevicylindricus*, Madagascanian succulents in profusion, caudiciform plants in all shapes and sizes and complementary to the *Hydnophytum*, a plant of *Myrmecodia*.

It happened that I was still busy taking in the details of this feast of succulent plants when six o'clock arrived and, metaphorically, it was a case of "seconds out" for the clearing up process. Perhaps this accounts for the strong feeling which came to me that so much effort should be expended in bringing together an outstanding array of plants for the fleeting period of four hours. I am well aware of the problems involved in organising two-day shows but it must surely be worth the effort from time to time, for a variety of reasons,



Mortimer/Howard Display

not least to give cactophiles the opportunity to see top quality plants under less hectic conditions. For me, six o'clock on the evening of 9th May came all too soon and I could only murmur "Sic transit gloria".

Notes from California

By Richard Russell

AS I WRITE THIS it's May in San Diego. We have had our usual semi-arid winter. Winter is the rainy season in California, and although we get an average of only 10 inches of rain a year in San Diego, the greatest part of that rain comes during the winter. Now, with May here, I realise that the rain has been rather lacking in 1970. We have had only two real rainfalls. From July to November San Diego will probably not see a day of rain. This all must sound strange to those of you in Britain, but the American Southwest is dry, even on the Coast. It may also give you some idea of the type of climate Cacti grow in.

I have been looking for years for the elusive Coast "Pincushion Cactus", *Mammillaria dioca*. This pretty little hook-spined plant is native to San Diego Country and Baja, Mexico, but only once did I find a few plants. That was a few years ago about 10 miles south of the Border near the cliffs overhanging the sea. Aside from my single victory in Mexico, I have not seen another specimen.

Then last month my family and I took a picnic on the beach about a mile from my home. We decided to climb up the cliffs to get back, instead of walking along the beach. As we struggled up the steep cliffs an amazing sight greeted me. There, hanging on the edge of the bone-dry cliffs 500 feet over the ocean was *Mammillaria dioca*. Not just a few plants, but thousands of specimens. Growing among them were *Ferocactus viridescens* and

Opuntia littoralis. I couldn't believe my eyes. I have never seen so many *Mammillarias* growing in one area before. The property is part of that owned by the University of California at San Diego, and it is both inaccessible and remote. Here, bathed by the night fogs and baked by the day sun, the *M. diocas* abound in numbers beyond count.

Most of the plants were in bloom, and I was surprised at the size of the larger specimens. A few were a foot high! In general, the plants were in beautiful shape, unscarred, and made up of single specimens with a few extra heads, to giant specimens of 50 heads and more.

I collected two large specimens for my garden, then rejoined my family who as usual decided that "I must be crazy to take my life in my hands collecting more Cacti on the edge of a cliff when I already had thousands of plants". Such is the fate of the Cactus-lover. We are in our own world, but we love it.

This reminds me that I want to collect a plant of *Bergerocactus emeroi*. This is another San Diego original, although the species (there is only one species in *Bergerocactus*) is now almost extinct in San Diego. To find *Bergerocactus*, I must go down about 50 miles south of the Mexican border where in the hills thousands of plants of this magnificent cereus may be found. Their golden-spined stems are to me one of the most outstanding sights in the Cactus world. My single small plant of *Bergerocactus* died last year. It never was a

healthy specimen, and I have been meaning to find another. I was hoping that a stray plant or two might be growing among the *M. dioca* but no such luck.

I have been reaching some interesting conclusions on growing Cacti in pots v. growing them outdoors in my garden: The conclusion, they grow outdoors faster, better, healthier, more resistant and much, much bigger.

I used to buy two specimens of plants I particularly liked. I would plant one in a pot in the back of my house and one in the ground in my front garden. This year I noticed the difference. The ground-planted specimens surpassed the potted specimens in every way. So, I have been enlarging my front garden and transferring plants from pots into the ground. In so doing, I feel almost guilty. No soil mixture to worry about, no watering to worry about. Just take them out of their pots, dig a hole and plop!



Matucana versicolor in bloom

Now here is another unusual observation. I notice that there seems to be little or no attack from rot or mealy bugs or anything else among plants that are in the garden. Yet those in pots are constantly subject to mealy bugs and occasionally rot. My conclusion is that plants grown in the ground have much, much sturdier roots. Also, the even temperature of the ground plus the fact that the plants seem to grow more surface roots in the ground prevents rot. In pots, the roots have nowhere to go but down. In the ground the roots tend to stay near the surface, often extending for a foot or two on every side of the plant. In this area, after a heavy rain, the soil dries out very quickly, often in a day. Thus Nature sees that Cacti do not rot in the ground in San Diego.

I also note that the ants seem to like mealy bugs and aphids, and seem to control them, although I do not



The rare Matucana breviflora in bloom

know how. All I do know is that I never see a plant with mealy bugs in the front garden. Something in Nature kills the mealy bugs, and my suspicion is that it is the ants (maybe some reader has a theory on this).

I wrote quite a bit about the magnificently flowered Epiphyllum hybrids in my last article. Last week three of my most outstanding hybrids (of the giant type) sent out their spectacular flowers. These were Blazon, Conway's Giant and Pegasus, all old reliables. For those readers who have never seen the giant-type Epiphyllums, I can tell you that it is quite a sight. The flowers are nine to 11 inches across and mostly in blazing, iridescent colours of purple, red and deep pink. In size, intensity and drama they equal or surpass anything in the plant world.

Few collectors stop to think about the parents of the Epiphyllum hybrids. These are the actual (in all cases white) Epiphyllum species, plus Heliocereus, Chiapasia, Hylocereus, Selenicereus. I own only one species of the magnificent Heliocereus, and this is the orange-flowered *H. elegantissimus*. *H. speciosus* used to be obtainable in the States, but I have not seen it for sale in years, and I am trying to obtain a plant. Many of the best Epiphyllum hybrids have *H. speciosus* in their blood, and the famous *E. Peacockii* is one of the most outstanding. If you can find a plant of *Peacockii*, buy one. It is fast growing, looks quite a bit like *H. speciosus*, and throws out purple-red iridescent flowers the size of dinner plates. And speaking of dinner, I have to have mine now, so I guess that does it until next time.

Growing Cacti in the U.S.A.

by Robert D. Swan

THIS IS ONE PERSON'S WAY of growing cacti and a few other succulents. It may differ in some ways from your methods as it does from the methods of some other cactophiles in this country. At the present time my main method of growing cacti is a greenhouse, but I also make use of fluorescent light gardening inside my home.

My greenhouse measures 8' 10" wide by 11' 1" long and is now about a year old. It came in kit form and consists of an all aluminium frame which is connected to a base of oak. The ground is covered with pea-size gravel which is both inexpensive and well-drained. The wooden base and gravel are used because the greenhouse may need to be disassembled and moved in the future if the need arises for me to relocate. Double strength glass extends all the way to the ground so that the space underneath the benches may be utilized for plants requiring less light and seedlings. Ventilation is provided by a roof vent that extends all the way across a quarter of the greenhouse roof and is manually operated. In addition, the door has jalousie glass which is adjustable to increase or decrease ventilation.

The benches are framed of wood which is covered with quarter-inch mesh hardware cloth. Heat is supplied by a second-hand kerosene (paraffin) furnace. An electric thermostat regulates the furnace and thus keeps the temperature within a desired range. A 50 degree minimum was kept during this first winter. In addition, polyethylene was taped with paper masking-tape to each section of the greenhouse aluminium on the inside, for the purpose of creating a dead-air space which is an excellent insulator. Using this method of insulating, my heating cost was cut down to half of its previous level. Being vented to the outside, the furnace does not create a lot of unneeded moisture in the greenhouse. By next winter I plan to have a small section near the furnace for plants requiring a minimum temperature of 55 degrees so that the temperature in the rest of the greenhouse can be lowered to 40 degrees. In the summer even with the ventilators wide open, the temperature often rises to between 100 to 130 degrees when the sun is shining.

For potting an already prepared artificial soil mix is purchased, but as the number of plants increases, it costs too much to continue purchasing this mix. Therefore I decided to begin using a University of California soil mix composed primarily of sphagnum peatmoss and perlite and a little charcoal and fertilizers, with limestone added to bring the acidity up to the desired level of 6.5. Only time will tell how well this mix will work but the mix that I have been buying was similar. Plastic pots mostly of the 2½" square size are used except for a few larger plants which are in clay pots which are sturdier and less likely to be upset or over-watered.

Anything that I have learned about cacti has been largely through experience and reading because of the lack of other cactophiles in this area. It seems that the number of people interested in cacti here is quite small, at least in the eastern part of the U.S. The nearest cactophiles live over 100 miles away.

My collection of cacti is still small and general. As it expands there will arise the necessity of limiting the collection and beginning to specialize. A random and unassembled collection could be enjoyable but for ease of care and cultivation the plants should be assembled in some kind of order, whether by cultural requirements or by genera. Only if the cacti are arranged in some kind of order can I begin to learn about them and see particular patterns of reactions and characteristics having to do with flowers, spines, growth, etc.

During the wintertime while nearly everything in the greenhouse is resting, I rely on my fluorescent light garden inside the house to satisfy my craving for growing plants. In a dim corner of one room is a setup consisting of four shelves vertically arranged. Over each shelf is a fluorescent light fixture with two 40 watt bulbs, suspended by adjustable chains in order to vary the intensity of light, which varies with the square of the distance from the plants. The lights are regulated by an automatic timer for a 16 hour day. Each shelf is constructed of wood with an aluminium liner to catch water from the pots. Seeds are sown on pure sphagnum peatmoss in small square pots, each of which is placed in a polyethylene bag and sealed to prevent rapid loss of moisture, although moisture very slowly passes through the bag into the drier atmosphere of the room. The seedlings only rarely need watering, once every few weeks at most, and the moisture assists germination. The temperature inside the house is about 75 degrees which encourages good germination. It is a real pleasure to have seeds germinating during the winter doldrums and thus gain a head start on the beginning of the next growing season in the greenhouse. Another use of the indoor light garden is to root cuttings under nearly ideal conditions when otherwise they would have to wait some time until the next Spring when they may have lost some of their vigour. The intensity of light provided by the special plant growth lamps is only in the area of several hundred foot-candles and thus does not compare with the light provided by the sun. However, the light is adequate for seedlings. By limiting and otherwise regulating their cultural needs, such as water and fertilizer, etiolation can easily be prevented. Some growers who have no access to sunlight for their plants raise beautiful cacti and flower them entirely under artificial light. There is even the "Indoor Light Garden Society" which is devoted to the growing of all kinds of plants by means of artificial light.

Cristation caused by Insects and Fungi?

From *CACTUS COMMENTS*, the Monthly News Letter of the New York Cactus & Succulent Society Inc., being a condensation and translation by Lester Rothenstein of a paper by Harry Blossfeld.

MANY PLANTS besides cacti form crests. The weed, "shepherd's purse", *Capsella bursa pastoris*, has a high frequency of crested tips. It is the major host of a parasitic fungus called "white rust", *Castopus candidus*, which is highly damaging to carnations. Efforts are being made in Brazil to produce cristation in *Vernonia nudiflora*, a Composite, by means of two fungi which apparently cause creting in the wild plants, *Alternaria* and *Fusarium* species. There are crests of willow, *Sedum*, *Echeveria*, *Stapelia*, *Euphorbia*, and even cycad. In sum, creting is not rare; its cause might be more easily discovered by experimenting with non-succulents.

If fungi cause creting, then many phenomena become explicable. Cactophagous beetles could spread the fungus, but it could also spread itself, through the host's growing tip or areoles. It could infect an embryonic flower bud, thus producing a crested bloom on a normal plant. And fasciated flowers can be produced in species where the flowers are terminally affixed, such as an *Opuntia cylindrica* f. *cristata*.

It appears that fasciation is triggered by chemicals produced by the fungus and which, during the dry period, osmotically emerge from the hyphae (filaments) of the fungus and enter the host's sap. This disturbs regular cell division, making it rapid and dichotomous, and soon the growing point becomes linear and a crest results.

Significantly, true dichotomous branching is a rule in the lower plants and becomes rarer in more highly developed plants. Above the club mosses, dichotomous branching is the exception and, also, such higher plants have more than a single cell at their growing tip, which is the only arrangement permitting fasciation to occur. Thus there are no crests in algae, mosses, and ferns, but they can occur in cycads.

Fungus infection can explain a concentration of crests in one habitat. The cotton-like substance in the *T. pascana* crest could have been fungus filaments. The softness of the crest's pulp could be caused by auxin from the fungus which causes such rapid cell growth that the host hasn't time to form protective tissue. Of course, most of the auxins tested didn't cause accelerated cell division, but merely greater cell enlargement. But it's still possible that, among several chemicals known as meristines, there are some which, in sufficient doses, could produce not only accelerated cell division but also abnormal division, including crest formation. It is

already known that synthetic stimulants can produce not only abnormal growth, but also retard flowering. And we know that cactus crests seldom bloom.

A newly-forming crest, even in the wild, grows very fast at first, which could be the immediate reaction to a fungus infection. Then growth slows down, either because of a lack of nutrition or because of the host's defence mechanism. If the crest is then grafted, the nourishment supplied by the stock helps the crest conquer the parasite, the fungus disappears but its effect on the meristem is irreversible, so they keep creting.

It's true that "dormant eyes" on a crest can start producing normal stems, but these come from the periblem of the growing point and not from the perom, which is its very heart. Apparently the periblem isn't affected by the growth chemical. This explains why, when grafting a crest, a portion of the actual tip or edge of the crest must be used, for side cuttings will only produce normal growth.

In crests in the wild, the fungus filaments grow so vigorously that they even invade the vascular bundles and stop them up. This leads to cessation of crest growth and increase of the normal growth below the stoppage point. Sometimes the filaments even reach the cactus side branches simply by following the vascular bundles. In this case, the side stems will also crest, forming the impressive specimens where many or even all of the stems are crested.

The hypothesis that cristation may be caused by fungi thus seems highly probable. Even seedlings that suddenly crest by themselves could well show traces of fungus if dissected and microscopically examined. To test the hypothesis, we must infect cacti artificially with fungus. The trouble is we don't know which fungus, so it will take some time before the hypothesis is provable.

The author adds that, after writing the article favouring fungus as a probable cause of cristation, he learned that an experimenter in California had succeeded in producing cristation and abnormal growth in a chrysanthemum by bacteria!!! Even here, hormonal stimulants were recognised as triggering factors.

Forthcoming Meetings

Sept. 23	"I also grow Cacti"	Mrs. H. Hodgson
Oct. 13	AUTUMN SHOW "Science and Commonsense"	E. W. Putnam
Nov. 18	"The Genus Ariocarpus"	Dr. C. J. Hardy

And so to Sonora

by Betty Maddams

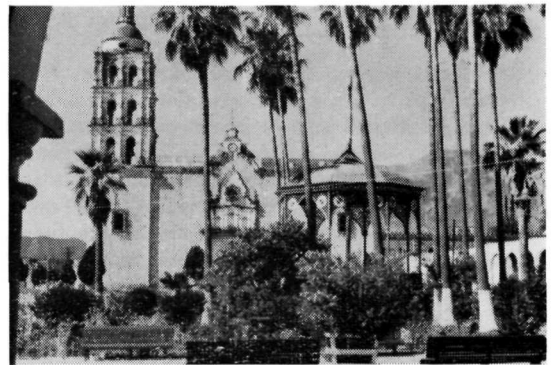
Part 2—Alamos and the dirt roads

WE LEFT THE Navajoa area at a fairly early hour and were soon off on the Alamos road. Although the journey took less than half an hour the scenery underwent some dramatic changes in that short distance. We soon left the poultry farms and the irrigated fields of alfalfa and other food crops and were back into the semi-desert type of vegetation. Thorn bushes and ironwood bordered the road and the occasional white-grey bark of a *Jatropha* species stood out or the even more attractive white of the fluffy heads of *Cephalocereus leucocephalus* shone out among the lower vegetation and there was an occasional blue flash in front of us as a parrot flew by. We were climbing all the time and soon the bare-looking pinkish-brown slopes of the foothills of the Sierra Madre Occidentale rose ahead and we drove into the cobbled streets of Alamos.

Alamos is a town of the past; about two centuries ago it was the capital of the State of Sonora and the thriving centre of the silver mining area, but now most of the mines are exhausted and the city has become a national monument and tourist centre. The houses are mainly in Spanish style and washed in pastel colours, their arched entrances leading to colourful gardens beyond. The squares are decked with plants of all kinds from very English roses and lilies to Bougainvilleas and palms and at one side of the main square is the large and impressive church which has a white and gold interior similar to some of the Wren churches in London. However, after a welcome drink, we were off again and after one false turn which landed us in a cemetery we managed to set off on the dirt road for San Pedro.

At first, it was certainly a little road-like though rather dusty and narrow and we passed a school where the children waved and some houses (polite term) which looked like true daub and plaster buildings. We forded a small stream which we were told could be a torrent in the rainy season, and were soon in the open country with succulent *Ipomoeas* bordering the road and other types of arid vegetation. The road was becoming less road-like all the time, great boulders and, when we reached the summit of hills, often just solid rock, were a good test for any shock absorbers and something we had to get acclimatised to for the next twenty or so miles. We did get a break sooner than we had anticipated, for after about five miles the vehicles drew off to the side when we reached the brow of a small hill.

Here, it was open to the left with just low shrubs and then another more copse-like part as the ground rose steeply again. We did not have to look far for plants,



“the large and impressive church”

in fact, there seemed to be more under the spiny bushes just by the side of the road than there were farther back in the scrub. The plants we saw, however, were enough to set us thinking about nomenclature for a long time afterwards; under several of these bushes, no doubt trying to find some small protection from the intense heat of the sun, were a selection of small *Mammillarias*. To give some idea, in one such site about two foot square we saw a plant with long, dark purplish hooked spines, another with more open body and white hooked spines, yet another with short straight centrals and one with hardly any centrals at all. Our preliminary conclusions are that the first was *M. microcarpa* and the others in the complex leading to *M. guirocobensis* at the other extreme. We proceeded to the rising ground which some of the others had already scaled but apart from a large sized *Ferocactus alamosanus* which was nearly as tall as I am, there seemed nothing much in the cactus line there. Later Bob and Charlie came back with a slightly smaller sized *Ferocactus* of the same species but even that would have been somewhat too large to ship back here.

Not far from this spot we saw some majestic columns of *Pachycereus pecten-aboriginum* near the road looking very gay with their round, fluffy golden seed pods. After some rather poor aims we at last succeeded in knocking one of these down and it really looked just like a golden spined *Parodia* at first sight. This was sent home with our plants and we placed it on a pot where it fooled quite a few people until it split one day to reveal a host of black shiny seeds.

We travelled about another five miles and then crossed the dried bed of the Rio Cuchujaqui; this consisted of a layer of white boulders which did not

exactly prove comfortable to travel over and the river bed was some ten yards wide at that point! We drew up once more in the shade of a beautiful flowering tree on the other river bank, but everyone was out and across the river bed and making their way through the rather denser undergrowth on the river bank without stopping to admire the scenery. The hillside rose up quite steeply and there were tiny bushes and at first the more majestic trunks of an Ilex variety and the white Cypress (*Taxodium mucronatum*) with its light green fern-like foliage. For once, we were first to sight the plants we were looking for and they were certainly large enough to see though not very many in number; these were almost vertical clumps of *M. sonorensis* almost a foot across at the brow of the hill. With some difficulty I photographed one and then my husband collected it; once he had straddled himself on the cliffside it was only a matter of levering the rocks around the plant and the roots were loosened and out it came, a fairly short-spined specimen with about twenty heads.

Descending the stony, slippery hillside with this prize was no joke, particularly as my husband had a pick in the other hand and I could not help much as I had the camera to cope with, but we managed somehow half-sliding and clinging to trees as we went. Everyone gathered for lunch under the flowering tree which we discovered was a 'Frangipanni' (*Plumiera*) and there were large butterflies and humming-birds to watch as they frequented the white panicles of flowers. There were also some rather skinny looking cows looking over the barbed wire fence behind us and I could not resist encouraging cannibalism by giving them a few remainders of our corned beef.

Our stop was not long and soon we were bumping our way along the track, never knowing what was round the next bend or the direction we might turn to get round looming heights ahead. This is where trouble started with our camper and increased with every ascent we met. Sufficient to say that at about the third stoppage a council of war was held over cans of cold beer. However, instead of acting on the results everyone except us shot off into the vegetation once more, much to our surprise. I just stayed near at hand and found an interesting form of *M. sonorensis* with woollier areoles and longer spines nestling by a *M. microcarpa* and not far away could not resist collecting another *M. sonorensis* with long golden coloured spines. The others came back with a *Cissus* species and I was sorry not to have found one of these as I am very fascinated by this genus. It appeared the decision had been made to go on and stay the night at San Pedro and, in case of further camper trouble Charlie came in to join Bob with me and Bill went back to Kitty's car.

The somewhat tricky journey continued with the navigation of hairpin bends, one we had to back to get round, and rocky bumpy ascents. Once or twice the camper gave up again and one or both of them crawled

underneath to tie things up. Now and then where by the green of the shrubs we saw there was some kind of water or spring, we came across some habitation which almost gave the impression that we were in the heart of Africa not Mexico. The huts had roofs of woven palms and palisades surrounded the dwellings, needless to say, the inmates rushed out to wave to us. We had just managed to mount another hill and were going along with sheer rock on one side when we spied something growing in it. This was quite a small plant of *Echinocereus subinermis* with two flowers just finishing; there it was perched on the rock face with no other plant for some distance and hardly a sign of soil around it. I got a bunk up so that I could take a photograph and then Charlie clambered up with bare feet to procure the plant for me and off we set again. Near here, as we rounded another bend we had an unexpected view of a beautiful canyon some 200 feet below with dark green water at its feet and the typical mountains with their almost vertical escarpment just before the summit looming up above.

We finally reached San Pedro at about five o'clock; it was hardly a village in any sense of the word, just a few scattered palm-roofed huts each surrounded by loose stone walls or a stockade. Judging by the dogs, pigs and other animals straying round these latter served little purpose. My two companions were anxious to go off collecting at once but, needless to say, I wanted to wait for the other vehicles to arrive which they finally did about twenty minutes later. Kitty had got a puncture at a difficult point and the others had mustered around to assist.

As daylight was getting short, the journey up the canyon started almost at once. It was very pleasant as the light green braches of the swamp cypresses gave some shade and mingling on their boughs were various Bromeliads, *Epidendron* species, some with small but attractive yellow flowers. We knocked a few down with the aid of some of the small white boulders which formed the base of the canyon amongst the much larger and sometimes quite flat stones and continued up the valley where we could already hear exclamations from some of the party. We were not surprised when we drew nearer, for there, on the steep overhanging rock were the largest clumps of *Mammillaria* we had ever seen. This was *Mammillaria hertrichiana*, each clump with a large number of heads and the woolly areoles that enhance the appearance of this species standing out, or perhaps more accurately pouring down, from the almost vertical bank. Bill's first attempt to collect a few heads from a plant caused him some agony; in his efforts to scale the steep rock he put his hand onto a ledge above and met an *Opuntia*! A good job I was the only person around to hear his comments! However, he managed to extract himself in a rather dangerous way and brought down a plant at last. By then I had sighted the grandmother of them all, a clump about four

feet across a little higher up and my passing the camera up to him when he had reached a reasonably secure foothold, enabled us to record this astounding plant. We made our way back through the canyon after that although some of the others did not return until long after darkness had fallen.

The events of the rest of that night would make a story in themselves, but hardly relevant to cactus collecting. The next morning some of them set off up another part of the canyon but we and a few others stayed behind to get some of our plants cleaned up and rest for a while under the cypress by the trickling river where lower down the stream some of the village women were busy with their washing. They dipped it in the stream and then stretched it out on a rock to beat it, dipped it again and then stretched it on another rock to dry. It was past midday when the rest of the party gradually returned in dribs and drabs and all that most of them had for their efforts were some very distorted and corky plants of *Echinocereus subinermis*.

The trip back along the dirt road was much less eventful, apart from a stop to collect a *Cephalocereus* crest we went straight through with Paul Shaw in the rather superior Desert Museum estate car. Collecting this crest was an interesting operation to watch; one of the party mounted a rock and with a meat-cleaver type of knife sawed away at it, while two others waited underneath holding a large brown bag well open. The unfortunate thing was that the crest fell a different way and missed the bag but was retrieved with a pair of kitchen tongs instead.

At last we were back at Alamos and had some welcome

soft drinks under the trees in one of the squares. Ah, we shall be back on the good tarmac roads now, thought I, but I was wrong, not many minutes later we were off the main road again, but this time the track was a little wider and more open and wound into the silver mining area around Aduana. It was nearing sunset, but nothing would daunt our enthusiasts and when we finally stopped at Minas Nuevas, where mining is still carried on (there was actually a roof fall in the pit that day which accounted for all the locals rushing in the same direction as us), everyone rushed off up the hill. At first we found a few small semi-succulents which we presumed, rightly, to be *Jatrophas* (*J. cuneata* and *J. platanifolia* they were named afterwards) and some more greyish stems with swollen bases which were small *Ipomoea arborescens* of which there were also large plants about with plenty of seed for the reaching.

Charlie and I spotted the main object of our search almost at the same point. A smallish plant of *M. standleyi* tucked away in a shady spot. Later a number of the party scaled a rather precarious hill slope and found some larger clumping specimens, but we stayed down below and as we slowly retraced the track in Paul's car we spied some small *Mammillarias* perched on the rocky side of the track. These were close white spined plants with very short, stubby central spines, probably identifiable as *M. pseudo alamosensis*.

This really concluded our collecting in Mexico, as that night we rushed the 150 miles or so back to Guaymas and stayed at the Hotel Playa de Cortez for two nights before setting off back to the border, but there was a little more collecting around Tucson which must be recalled at another time.

The Society's June Show at the R.H.S. Hall

ON JUNE 23rd and 24th, the Society held its summer show at the R.H.S. Hall and this was perhaps one of the best in recent years, maybe partly due to the fine weather bringing many plants into bloom at the right moment.

This year, instead of two tables side by side the staging was in two sections end to end with a break half-way along. This, I think, gave the show a more breathtaking appearance, for whichever way you looked you saw a wonderful collection of Cacti and Succulents that anyone would envy as a private collection. Certainly I did. Standing at one end of the display looking straight along the two tables it was most impressive. I was glad to see more *Copiapoa*s in the show this year including four *Copiapoa cinerea*.

Going round the tables:

Class 1 Six Cacti was again won by Mr. L. Jeffries, thus gaining him the Ibbotson Cup for the second year running. Three plants I thought were outstanding in this group were first a *Notocactus leninghausii* which had five heads surrounding a central head, all of which were growing rather straight, then a *Wigginsia erinaceus* which

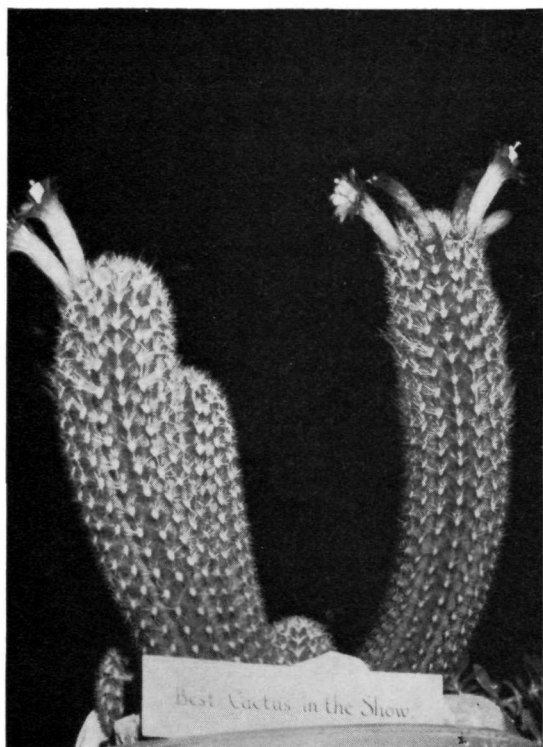
was about five inches across and a *Pseudoboliva kermesina* with two heads some eight inches across.

Second in this class came Mr. & Mrs. Maddams, and their group included a plant which I think came a close second as best Cactus in the show, making its debut at the Westminster show, and which was collected by them on their Sonora trip—*Ferocactus acanthodes*, which I see has flowered for them this year. The spine colouring of this plant has to be seen to be believed.

Class 2 Three Cacti for members who had not previous won a First Prize in any Cactus Class. One plant that stood out in this class was an *Astrophytum nuda*, which I think helped Mrs. Hodgson gain a well deserved first in this class.

Class 3 was won by Mr. L. Jeffries with three fine *Rebutias*, one of which was at least 10 inches in size and had a large number of well-developed heads.

Class 4 Three Mammillarias. There were four or five entries in this class but the plants were so large that they appeared rather cramped for lack of space. It is very difficult for the Show Secretary to estimate the amount of



"Best Cactus in the Show" — *Setocereus Icosagonus* belonging to Mr. L. Jeffries.

space needed for each class when members turn up with such magnificent plants. The winner was not surprisingly Mr J. E. Taylor with the familiar specimens known to many of us as *Mam. bombycina*, at least 13 inches across and *Mam. Hahniana* 12 inches. Another plant that caught the eye was a *Mam. Picta* belonging to Mr. & Mrs. Maddams, who were placed second.

Class 5 Six Mammillarias in pots not exceeding 4¼". This class was well supported with (as intended) some very good specimens of naturally small-growing plants, not small plants of larger growing species. Two of the plants which stood out in this class were the *Mam. saboae* belonging respectively to the Maddams and to Mrs. Finch.

Class 6 Three Opuntiae. I feel this class was not very well supported as it only had four entries. This is a pity as, while we cannot expect members to transport the larger Opuntias to a show, there are a number of very interesting smaller species; nevertheless the plants entered were of a high standard.

Class 7 Three Echinocactanae. This was one of the best supported classes with 10 entries which were all very good plants. One that took my eye particularly was a rather nice *Copiapoa cinerea* belonging to Mrs. Hodgson.

Class 8 for Juniors (Three cacti) had unfortunately only two entries. This was rather disappointing as I feel sure the Society has more than two junior members and they

should enjoy competing for the Shield. First in this class went to Andrew Rivett with *Ariocarpus trigonus*, *Lophophora williamsii* and *Parodia aurispina*, all fine plants for a junior and good clean plants. J. Meldrum gained second in this class.

Class 9 Three Gymnocalyciums. This class had six entries all of which were very good plants, one in bloom and a number of others well in bud.

Class 10 Three Echinocereus. This was another poorly supported class with only four entries. Surely more members could muster three Echinocereus worthy of showing. The notable plants in this class were *Echinocereus knipplianus*, belonging to Mr. Read, *Echinocereus subinermis* from Mr. David Brewerton and Mr. & Mrs. Maddams' *Echinocereus rigidissimus*.

Class 11 One Mam. geminispina. This was won by Mr. Knight with a plant some nine inches across, with Mr. & Mrs. Maddams gaining second place. I would have thought that larger plants of this species should have been available for the show as most of them were only four to six inches in size.

Class 12 One Cactus. This class included the plant which gained the award for the best Cactus in the Show—a fine specimen of *Setocereus icosagonus* in bloom, which was placed first in this class and once again was the property of Mr. L. Jeffries. This plant certainly had a lot of admirers together with its neighbour in Class 11, a *Haworthia truncata* belonging to Mrs. Hodgson which gained the award for the best Succulent in the Show.

In **Class 13, Cactus from Seed**, Mr. and Mrs. Maddams had a well deserved first, with Mr. Canham a good second.

I shall not attempt to describe the Succulent Classes in detail as I have not had enough experience with these plants in the short time I have been growing cacti and succulents, but I was interested in the plants in the class for three Euphorbiaceae and also in the stemless Mesembryanthemums. However I must mention the fine *Agave americana* belonging to Mr. Read which won Class 14, though the two *Agave stricta* entered were also beautiful plants.

G.B. Summer Show 1970—Cactus Classes



In Class 23 for *One Cactus and one other Succulent*, it was unfortunate that the large *Testudinaria* was dormant, as indeed it should be at this time of year, as it was impossible to tell whether it was alive or not. It is perhaps better not to show these plants in June.

The *Miniature bowl garden* (Class 24) was won by Dr. & Mrs. Randall with a very attractive entry with its stepping stones in the form of *Lithops*.

Class 25 Group of Cacti. I feel that now that this group has been reduced in size to 18" x 18" it could be much better supported, as many members should have sufficient plants to make a group this size. There were only two entries (an increase of 100% on last year!) but this is still very poor and I am sure Mr. & Mrs. Maddams would welcome more competition in this class. Mr. Knight was given a third for his group, while the Maddams received a first. Their group consisted of 22

plants of which all but two had flowers or buds and most of them were in full flower. Great interest was shown in this group by many visitors to the show, some of whom were to be seen making notes of the names of many of the plants.

When we come to the Autumn show in October, I hope we shall see many more plants than in this show. Having seen the Southern Area show of the National Society, I feel we should support our own show better than we do, as many members live in the South-East, which makes London at the most 60 miles away. So in October let's see if we can outdo our rivals!

Talking about shows, don't forget the show that the North Surrey Branch is putting on at the Carshalton Show on the 5th September, details of which appear elsewhere in this Journal.

D.A.K.

Echinobivia

by Margaret J. Martin

ECHINOOPSIS and *Lobivia* are very closely related. In fact, some botanists would go as far as uniting *Lobivia* with the genus *Echinopsis*. Whether this view will be accepted only time will tell. One thing that is certain is that *Echinopsis* and *Lobivia* are sufficiently closely related to form inter-generic hybrids, which are known as *Echinobivia* or *Lobiviopsis*. These are usually listed in catalogues as *Echinopsis*. The *Echinobivia* have the large flowers of their *Echinopsis* parent combined with the bright colours of their *Lobivia* parent.

The first *Echinobivia* that I came across was produced by Howard Gates, *E. "Green Gold"*. Shortly afterwards, I bought his other hybrid, *E. "Golden Dream"*. These both have buttercup yellow flowers somewhat smaller than those of the species *Echinopsis*. *E. "Green Gold"* is short spined and freely off-setting. *E. "Golden Dream"* has longer spines and few "Pups". The flowers are



Red Paramount

slightly scented and start to open in the evening but do not finish opening until early the next morning. This seems to be characteristic of many *Echinobivia*, the flowers are ready to be admired at breakfast time.

My third *Echinobivia* was Johnson's Paramount hybrid "*Peach Monarch*". Paramount is a town in California where Mr. Johnson had his cactus nursery. I believe he has recently moved. It was some time before I found a catalogue listing "*Peach Monarch*". Now that I have owned the plant for several years, I understand why. It forms very few off-sets and some of these dry up on the plant. "*Peach Monarch*" has longish spines and satiny Peach flowers.

Since, no more named hybrids seemed to be available in this country, I imported a selection of named hybrids from Johnson's nursery. These were all flowering-



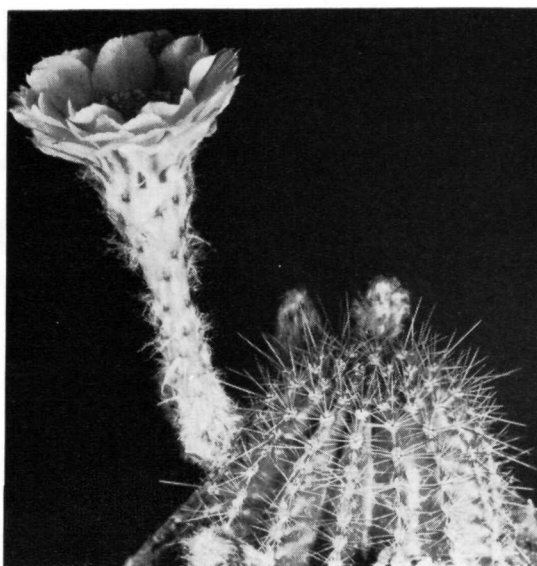
Terracotta

sized plants. Although they arrived from California in the middle of a cold, dull autumn, they settled down as easily as if they had been propagated in England. It is interesting that the spines on the growth formed in this country are the same as those on the old growth. All of them have flowered freely with me. But they have one snag with the exception of *Terracotta* they form few if any off-sets. However, they can be "persuaded". You behead the plant leaving about an inch at the base. The top is re-rooted and the base will soon sprout.

My favourite plant is "*Terracotta*". This is a short spined plant of the *E. cyriesii* type. The pink heavily scented flowers are about six inches across and open fully in the evening.

Other good varieties are "*Aurora*" which is a short spined version of "*Peach Monarch*" and "*Tangerine*". "*Tangerine*" produces large numbers of small orange flowers. Another plant with smallish flowers is *Red Paramount* whose flowers have red and yellow petals.

I have found that Echinobivia are hardy if kept dry during the winter. In the summer, plenty of water and full sun ensures vigorous growth and many flowers.



Tangerine

Succulent Snippets

by Sally Cornioides

LAST TIME I WROTE I was complaining of the snow and the cold, this time if I complain of anything it should be the sun and the heat; it is an interesting point that the temperature at present is probably forty degrees (F.) higher than when the last notes were penned. From all reports it looks like a bumper year for flowering but at the moment a bumper year for watering as well! I just wonder how many gallons of water have been carted down to my greenhouse already this year, but if the plants reward us with plenty of growth and plenty of flowers it is well worth it.

Talking of flowers, I am surprised I have not had some comments written in about the new range "Flowers of the Desert" that a well-known firm have introduced. I must say there were a few remarks passed about them at Chelsea. You may have difficulty in guessing that a plant named 'Mexican Fireball' was none other than our friend *Rebutia marsoneri* (it had Country of Origin: Argentine, below as well) but you might discover the identity of 'Hairy Mary' more easily. Other plants in this range, mostly in three and half inch pots by the way, include *Notocactus leninghausii* where they claim the flower colour is unknown and a *Ferocactus*—let us hope only youngsters buy the latter if they want to see the flower!

My brief mention of Chelsea reminds me that we must congratulate the Essex Branch on their production of the display for the Society this year. It was very tastefully arranged and eyecatching. The only comment I heard voiced was that the Haworthias tended to make

too large a dark green mass at one corner, on the darker side of the stand, too. A number of stalwarts kept the stand well-manned all the time and it was necessary, too, with all the questions being asked.

Needless to say, there were a few of the usual comments heard such as "I think they have just stuck those flowers round the tops of the plants, mine never bloom" and "Of course, they are easy to grow, you only water them once a year"! However, I had two other anecdotes reported to me which were a little different.

The first was from two ladies admiring the group of columnar *Cerei* and particularly an especially woolly *Espostoa* and a somewhat balder plant next door to it. One lady said to the other, "Well, isn't that a pity, people have been rubbing that plant so much with their fingers that all its nice wool has come off!"

The other comment was from some G.P.O. workers passing by when one said to the other, "D'you know when I was in the forces abroad during the war one of my pals had special leave to go home and see his old man's cactus that was coming into flower!"

Fourteen years ago, in a moment of inspiration, Gordon Rowley coined the word *caconym* to cover long and unpronounceable succulent plant names. He was able to show that not only are the names gradually becoming longer but that there is also a definite trend towards tongue twisters. He gave an assortment of gems to support his argument and among these, *Austrocylindropuntia*, *Aloe hlangapies*, *Euphorbia tsimbozaze* and *Aloe chimanimaniensis* are good examples.

I was reminded of this plea for sanity when looking through a dealer's list recently. He was offering *Sesamothamnus lugardii*, a little known member of the *Pedaliacea*, and although I am aware of the logic of the name, in that it means "a shrubby Sesam", I still find it a mouthful and would prefer something easier. While I am on this matter two points occur to me. Not having five pounds to spare I cannot make the first hand acquaintance of this rare species but I hope I shall see it in another collection sooner or later, because my curiosity is aroused. Secondly, an article in a specialist Journal last year described the genus as monotypic whereas Jacobsen lists four species: where do we stand?

Reference to dealers brings to mind another thought that I have had recently. This is the great increase in those advertising cacti for sale in the gardening press. At one time it was quite unusual to see any advertisement of a cactus nursery but looking through one of the gardening monthlies the other day I saw there were no less than five advertising cacti and succulents generally and two more just Epiphyllums. What really surprised me are where are all the plants coming from—are they imports or seedlings? And who are the folk buying them all? They must all be potential Society members, I hope our Publicity Officer is on the ball.

Well, if you can spare time from your watering and reporting just drop me a line with your comments or advice.

West Kent Branch Show 1970

How does a small Branch manage to put on a 12 class show? The answer at Beckenham Old Town Hall on 8th May seemed to be, pretty well. Where few members have many mature plants to draw upon, to hold the average entry to near eight a class it is not wise to "waste" an experienced exhibitor as judge: so get an "outsider" if you can. We were lucky to have Mr. Austin Smith of the N.C.S.S. Eltham Branch to provide both experience and objectivity. He genially gave us a lot of his time, and very gallantly too, as he had nearly lost his voice! The result was probably the best show the Branch has put on in 21 years' existence.

It was perhaps the time of year that made quality more striking among the cacti than the other succulents. The unlimited class for one cactus was won by a *Gymnocalycium multiflorum* at least eight inches across and very vigorous (Mrs. Dobson) from a seven inch *Parodia chrysacanthion* in flower (Weightman) and a good *P. aurhamata* (Parker). The one cactus n.e. five inch pot went to Parker's finely presented *Thelocactus hexidrophorus* from a strong *Gymnocalycium hossei* (T. Jones) with a *Strombocactus disciformis* (Weightman) a close third. Best of all in the writer's view was the three cactus class, where the judge really had to work. First, *Arequipa rettigii*, *Oroya borchersii*, *Matucana herzogiana* (Mrs. Dobson). Second, *Escobaria strobiliformis*, *Ancistrocactus scheeri*, *Mammillaria hemisphaerica*

(Parker). Both outstandingly fresh and well balanced trios of relatively uncommon species. Third came Mrs. D. Jones with a Copiapoa *Echinofossulocactus Gymnocalycium* set which just had to yield on age. By contrast, the *Opuntia* class was more routine (1. Leighton-Boyce, 2. Weightman, 3. Mrs. D. Jones) though good enough to leave an old *rauhii* among the cardless, and the *Echinopsis*, *Lobivia* or *Rebutia* class showed a pretty predictable sequence of goodish *Rebutias* (1. Parker's *R. marsoneri*, 2. Reynold's *xanthocarpa*, 3. T. Jones). The class for one *Mammillaria* was stronger and produced something of a surprise, because Parker's *zeilmanniana* with over 20 heads all in bud was pegged back to second by Mrs. Dobson's very typical *M. bombycina* in full flower—a more difficult species. Both excellently grown as was the third, Weightman's *M. hahniana* full of years and buds. This class probably just tipped the balance and gave Mrs. Dobson the Cactus Cup, but it must have been a close thing.

The new Janet Maxwell Cup for other succulents went by a wider margin to Parker. In the pair class, he won with a superb yellow *Euphorbia millii splendens* and *Aeonium spathulatum* from Weightman's *E. dentonii* and *obesa* and Mrs. D. Jones' *Echeverias*. In the single class, his *Pachyphytum rosulatum* triumphed over a very good *Crassula portulacaeae variegata* (Mrs. D. Jones)—still labelled *argentea* like many others after all Vera Higgins' efforts to put the record straight. Third was Weightman's well grown *Kalanchoe tomentosa*. The two Mesemb. class went to a nice pair of *Frithia pulchra* supported by a healthy *Lithops insularis* (Mrs. Dobson), followed closely by Parker's *Lithops otzeniana* and *Ophthalmophyllum herrei* and Mrs. Bull's *Conophytum scitulum* and a *Rhombophyllum*. The *Aloe* *Haworthia* or *Gasteria* class went to Parker's *G. batesiana*, with a very typical flowering *G. liliputana* second (Mrs. D. Jones) and T. Jones' *H. margaretfifera* third. In the *Crassulaceae* the common place came to the fore on sheer condition and presentation. It must be very rare for those old favourites *Graptopetalum weinbergii* and *Pachyprytm oviferum* to collect the red card (Weightman) but there they were, flowering for all they were worth and as clean as could be. T. Jones was second with *C. lycopodioides* in one of its many forms and what the writer believes to be a variety of *alpestris*. Third was a much choicer pair from Mrs. Bull, not perhaps as well on, *C. tecta* and *grisea*. The *Euphorbiaceae* were as popular as ever with Mrs. Dobson's splendid *E. loricata* just ahead of Reynolds' grand *obesa*, and Parker's *E. caput-medusae* a third which many members would like to have taken home!

At least three plants that could well get into the money at the Society's main shows at the R.H.S. (in fact the writer knows that some have) went away unhonoured on this occasion. It is very understandable that exhibitors are more willing to produce their more

precious plants for just a few hours in their own locality than they are to leave them for two days in Central London. So if you want to see the strength of the Society, it is worth a trip to such of the Branch

shows as you can manage—even the small ones where you can have a friendly chat and a cup of tea while you go around.

G. G. Leighton-Boyce.

Mutomo Plant Sanctuary

by C. A. Renny

IT IS INTERESTING and cheering to note that a plant sanctuary for the preservation of the desert and semi-desert flora of East Africa, comprising approximately 12 acres, has been set aside by the County Council of Kitui and will shortly be operating under the aegis of the Kutui County Council and the Kenya Horticultural Society, with generous financial support from the World Wildlife Fund.

A lodge, comprising two bandas is being built together with a small kitchen and wash place, and it is hoped that these facilities will enable the botanist, lover of succulents, and also the tourist, to view and study succulents in their native habitat and also to enjoy the magnificent scenery which abounds in Kitui District.

The sanctuary consists of a mass of rounded gneiss rocks and boulders and is exceedingly rich in succulent plant life, a short provisional list of which is attached. Mutomo itself is a small Administrative and Trading Centre which lies on the main trunk road route between Thika, Kitui and Kibwezi, and then on to Mombasa and the Coast. It is approximately 160 miles from Nairobi and 40 miles from Kibwezi and the main Mombasa/Nairobi road. It is situated at the foot of a long ridge of Granitoid Gneiss which arises from the surrounding peneplain and which by its nature is unsuitable for any form of agriculture.

Throughout East Africa the population explosion is threatening large areas of land which was formerly the preserve of wild animals and plants. While animals can be conserved in natural surroundings by the creation of National Parks and Reserves, to which they may be transported, the fate of plants, and especially of plants which are endemic to the more arid regions, is given insufficient attention. Such plants are being increasingly exposed to destruction by grass fires, both accidental and intentional, as well as other risks, and in many parts of the country they have already almost disappeared. The aim of the sanctuary is to preserve those plants which are already endemic to the area and by selective clearing of grass and scrub to make them more easily approachable by the visitor, without disturbing their setting or habitat. A second aim would be to import other species notably of succulents, from the remoter regions of the East African territories which are not normally within the reach of the tourist, and

thus to build up a collection representative of a much larger area in a location which is within easy reach of Nairobi and the general tourist traffic.

The flora of the arid and semi-arid areas of East Africa contains many species of xerophytic and succulent plants which are new to science and are as yet undescribed. Most are unknown outside those institutions which specialise in identification and taxonomy, e.g., Kew, Geneva, Heidelberg, and are poorly represented in private collections.

The Sanctuary is the first of its kind in East Africa and it is the hope of the originators, Mr. George A. Classen, M.B.E., A.I.M.M., F.G.S., and Mr. P. R. O. Bally, F.L.S., that the example of the Kitui County Council will be followed by other local authorities.

Succulents

Adenia globosa
Adenia Venenata
Adenia Schefflerii
Adenium obesum
Aloe ukambensis
Aloe secundiflora
Aloe sp. nova
Caralluma gracilipes
Coleus spp.
Crassula volkensii
Dorstenia crista
Dorstenia sp. nova
Dorstenia Hildebrandtii
Edithcolea grandis
Euphorbia quinquecostata
Euphorbia nyikae
Euphorbia kibweziensis
Euphorbia uhligiana
Euphorbia saxorum
Euphorbia pseudo Grantii
Euphorbia tirucalli
Euphorbia gossipina

Euphorbia sp. nubica (?)
Gerardanthus macrorrhizus
Huernia aspera
Hibiscus greenwayii
Jatropha spp.
Kalanchoe spp.
Momordica rostrata
Monadenium angustum
Plectranthus spp.
Pyrenacantha malvifolia
Sarcostemma amoena
Sansiviera ehrenbergii
Sansiviera cylindrifolia
Sansiviera thyrsoiflora
Sansiviera sp. nova
Synadenium grantii
Tradescantia spp.
Vellozia aequatorialis

Orchids

Microcoelia smithii
Polystachia tayloriana

S.O.S.

WILL any Member interested in forming a Branch in Middlesex, e.g. Hanworth, Feltham, Hounslow, Twickenham, Bedfont etc., please contact Hugh Miller, 7, Lincoln Road, Hanworth, Middx. 01-894 2778.

Chelsea Show 1970

MOST of the members who visited the Show already know of the outstanding elegance and attractiveness shown by the magnificent effort of the Essex Branch, who this year undertook to stage the Exhibit on behalf of the Society, the individual contributions of members being blended into an harmonious whole by Mrs. Taylor, the wife of the Branch Chairman. Round the edges were groups of smaller cacti, many in full flower, Rebutias, Mammillarias, etc., as well as small succulents, and rising in the centre to the taller cacti and succulents and forming as a whole a really eye-catching display.

Contributory also, was the much more central position of our stand and the extra width given us by the R.H.S. Show authorities.

The judges too, evidently appreciated the work done and awarded a Silver Flora Medal.

Much interest was shown by members of the public and, as a result, six new members joined us there and then. It is known that one or two of the many enquiries made at the stand have now metamorphosed into concrete applications for membership.

Booklet and Journal sales were lower than in the previous year, but still showed a pleasing result.

As was to be expected, we were again popular with the photographers, outstanding amongst whom were the team from the West German T.V. who spent an hour and much film, taking close-ups in colour aided by continuous artificial light. One visitor who was greatly welcomed was our President, Mrs. D. Shurly, who, after viewing the stand, held an impromptu reception.

As your co-ordinator of this event, I would like to place on record, on behalf of all, my sincere thanks to Essex for their co-operation at all levels, as well as my thanks and appreciation to that gallant group of volunteers who again staffed the stand and faced the public's barrage of questions.

ALAN CLARE

Correspondence

To the Editor,

Would all interested in forming an Epiphyllum Society of Great Britain on similar lines to the Epiphyllum Society of America please write to me with a S.A.E. please.

I am trying to form a Society for the appreciation of the Epiphyllum and associated genera. I have written to the R.H.S. who hinted that they would assist if requested.

A. J. Sheldon, F.R.H.S.,
22 Sherwood Crescent,
Longford Gardens,
Market Drayton, Salop.

To the Editor,

On page 15 of the Journal, February 1970, in the article "Notes on the 1970 Seed Distribution" it is stated that "the secretion of sugary liquid from the areols (of Ferocacti) can lead to the formation of black mould". This black mould developed on my three Ferocacti in 1968 and 1969. In 1969 it also developed on *Opuntia (polyantha?)*, *O. mammilata*, *O. pailana* and *Hamatocactus setispinus*.

Can anyone please advise me how to get rid of the black mould and how to prevent it forming.

My plants are sprayed with Fisonskil and Murphy Systemic Insecticide.

I should be most grateful for any advice that can be given.

Yours sincerely,

H. Mays,
42 Padleys Lane, Burton Joyce,
Nottingham, NG14 5BW.

(The answer to this would no doubt be of interest to other readers, so the Editor would like to receive some suggestions for publication in the Journal. *Ed.*)

To the Editor,

In a recent 'Succulent Snippets' there was a letter referring to the success gained by a cactus at an Irish Horticultural Society Show, I have much pleasure in recording two more such successes of a rather similar nature at our local Horticultural Society Shows this year.

In the Spring Show, in the pot plant class we entered our *Aporocactus flagelliformis* which was at its height of flowering and not only gained first prize against Azaleas and other such plants but also the Blue Ribbon for the best exhibit in the show. In the recent Late Spring Show there was also a pot plant class and this time of the six entries in the class four were Epiphyllums in flower, one a *Chamaecereus silvestrii* in full flower, the remaining plant, a fuchsia, was rather left out. In fact, first, second and third prizes went to Epiphyllums, quite a record for a class of that kind, I should think. Perhaps it will encourage our H.S. Committee to add to the classes for cacti which already occur at some of the other shows, there is obviously a possibility of entries.

(As the Society is affiliated they will probably read this and maybe, I hope, act upon it!)

Betty Maddams,
26 Glenfield Road,
Banstead, Surrey.

Notes and News

A Challenge to all Members

At the Annual General Meeting, according to the new Rules the post of Publicity Officer had to be filled and I am the person who was elected to this post. To my mind publicity works in two ways, the public way by notices and reports in the local, national and gardening press and, perhaps more important, the private way, by members spreading the news to others they see taking an interest, however small, in the hobby. The first way is more of my concern, the second way is every member's concern and this is where you can really help by making sure that everyone, whether private individual or nurseryman, with whom you come into contact and who you know has some interest in cacti does know about the Society and the benefits of belonging. This applies also to local Horticultural Societies who can apply for affiliate membership.

Therefore, although I shall be contacting all Branch Secretaries in time and have already spoken to the folk at the Westminster Meetings, I am sure I should get through to all members by the medium of the Journal, so please excuse me if you have heard it all before and be sure you are doing something about it. Always have a Society booklet at hand for a start.

My challenge to all members is to bring in at least one new member by this time next year. What better 40th Anniversary present could the Society have?

BETTY MADDAMS

The First Open Show of the North Surrey Branch

This is to be held in conjunction with the London Borough of Sutton's Carshalton Show on September 5th, 1970 at Carshalton Park, Ruskin Road, Carshalton, Surrey. Any non-North Surrey Branch Society members who would like Schedules please apply to the Show Secretary, Dr. T. C. Smale, 5 Avenue Close, The Avenue, Tadworth, Surrey, as soon as possible.

Cacti for Sale?

It has been suggested that the Society might, with the help of members, compile a list of the names and addresses of the many people who deal in Cacti and Succulents, both professional dealers and also private growers having surplus plants for disposal.

The list, when completed, would be made available to members on application, and the idea is that it should include if possible 'phone numbers, and days and hours when 'phone calls could be accepted, and also mention any particular specialities.

Would firms and members interested in appearing on this list please send the requisite information to Mr. A. Clare, 26 Albert Street, St. Albans, Herts. who, as the Society Liaison Officer, has kindly agreed to compile the list from the information received.

From our Hon. Librarian

Two additions to the Library since the List published in the May issue:

Class 1 Popular Guides

(N) Lamb, E. Cactus Like Succulents 1950 (1950).

Class 9 For the Specialist in Particular Families

(N) Higgins, V. Crassulas in Cultivation, 1964

The Hon. Librarian needs, in order to complete a set of the Society's Journal, a copy of volume 12 part 4 with index (1950) and various parts of earlier volumes. Will anyone prepared to sell any or all of these or donate them to the Society please write to him, with details of parts available and price required.

A spare run of volumes 21 to 30 inclusive loose as issued is for sale to the best offer received within two months of the appearance of this announcement. Offers in writing to the Hon. Librarian, 220 Leigham Court Road, Streatham, London, S.W.16.

Secretary's Notes

CHELSEA SHOW

Elsewhere in this Journal is a report by Mr. Clare on the society's exhibit at the Chelsea Flower Show. I must heartily endorse his congratulations to the members of the Essex Branch for the very attractive and creditable exhibit which they staged and add Council's appreciation for bringing home a Silver Flora Medal. Well done Essex! The occasion must not however be forgotten without a few words of praise for Mr. Clare and his friend and helper Mr. Hurley both of whom gave up a week of their holiday so as to ensure that the exhibit was stewarded at all times to say nothing of their stalwart efforts in assisting the Essex Members in both setting up and dismantling.

ANNUAL DINNER

Those of you who were not present at the last meeting in Westminster will be pleased to know that arrangements are once again in hand for the Annual Dinner. This year it will take place on Thursday NOVEMBER 26TH at THE WINDSOR, Vauxhall Bridge Road, S.W.1. at which venue the event took place for the first time last year. Some very complimentary remarks were made of this new venue after that event and I feel sure that we may look forward with confidence to another very happy evening. In order to ensure that we do not have to pay a Room Charge in addition to the price of the dinner I shall be aiming at an attendance this year of somewhere in excess of 80 people so please make

a Diary Note of the event NOW so that you cannot possibly say you cannot come because you have something else booked on that date. Fuller details in October Journal.

For any members who feel they live too far away to attend the dinner but would like to do so, it is hoped that accommodation for the night can be arranged with members living in the London area, so please mention on your application form if you wish to have accommodation arranged. On the other hand would members in the London area prepared to accommodate members for the night please advise Mr. Read of how many they could put up.

SHOWS

Looking round the June Show at the R.H.S. Hall, I could not help but wonder what had happened to some of our exhibitors. Whilst the quality of the plants which were there could only be described as of a very high standard when the addresses on the cards were examined one observed that a very large number indeed were coming from an area which was covered by one particular branch of the society and I do not propose for the purpose of these notes to identify it.

I would nevertheless like to know whether there is some fundamental reason why more entries are not forthcoming at these shows from other branches especially those in the London and Home Counties areas. Correspondence on this topic is cordially invited.

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dioica, *dumetorum*, *esperanzensis*, *fasciculata*,
glassii, *goldii*, *grahamii*, *gummifera*, *grusonii*,
haageana, *halbingeri*, *huajuapensis*, *humboldtii*,
insularis, *jaliscana*, *klissingiana*, *marnieriana*,
mercadensis, *nana*, *napina*, *nunezii*, *oliviae*,
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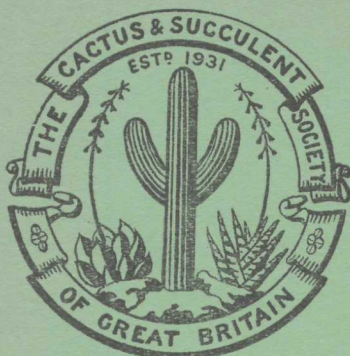
Vol. 32

NOVEMBER, 1970

No. 4



*Published Quarterly by The Cactus and Succulent Society of Great Britain
at 57, The Ridgway, Sutton, Surrey.*



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THE CACTUS AND SUCCULENT JOURNAL OF GREAT BRITAIN

Vol. 32

November, 1970

No. 4

Editorial

WELL, this will be the last time I shall be writing the Editorial in this Journal as I am now relinquishing the post of Editor after four and a half years. I originally stepped into the breach, much against my better judgment, when Len Newton left hurriedly to take up an appointment in Ghana, and in the hope that at the end of his three-year term he would return to England and again take over the production of the Journal. However, Len likes life in Ghana and hopes to stay there for some time yet and I have come to the decision that in view of my many other commitments I would prefer to be relieved of this job. We have been fortunate in securing the services of Dr. W. Victor Harris, O.B.E., D.Sc., of Courtlands Lodge, Banstead, Surrey to take over the Editorship, and I am sure he will do it most successfully.

Before I finish I would like to thank all those who have contributed regular articles to the Journal and in

particular Bill and Betty Maddams, without whom I fear the Journal would sometimes have been somewhat empty. I am sure you will all give the new Editor the same support as I have received and I hope some more members will be inspired to take up their pens and send along some contributions. After all, as I have said previously, an Editor can only edit what he (or she) receives, and can hardly be expected to write the Journal himself.

One thing I shall miss on giving up the Editorship is the contact I have had with members in many parts of the world and I hope that some of those who have sent me articles will continue to keep in touch with me and should any overseas members be visiting this country I shall be very happy to see them if they are in the London area. Due to a renumbering of the houses in my road, my address is now 57, The Ridgway, Sutton, Surrey.
Vale. E.M.D.

Annual General Meeting

IN ACCORDANCE WITH Rule 6, I give notice that an Annual General Meeting of the Cactus and Succulent Society of Great Britain will be held on 24th March, 1971 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 members is drawn to Rule 5, sections (d) and (e) which define the procedures to be followed in the election of Officers and Council. This Rule requires that the President and the several Vice-Presidents be elected annually by a show of hands at the Annual General Meeting. The Chairman, Hon. Secretary, Hon. Treasurer and members of Council to fill the vacancies resulting from the retirement of members who have completed their three year term of office will be elected by postal ballot in the event of the number of nominations exceeding the number of vacancies.

Nominations are therefore invited for the offices of Chairman, Hon. Secretary, Hon. Treasurer and three members of Council. These nominations must be in writing and must bear the signatures of a proposer and seconder and be accompanied by the written and signed consent of the person nominated. Such nominations must be in the hands of the Hon. Secretary not less than nine weeks prior to the Annual General Meeting, that is, not later than 20th January, 1971.

The following are due to retire and are eligible for re-nomination:—

Chairman	Mr. A. Boarder.
Honorary Secretary	Mr. R. H. I. Read
Honorary Treasurer	Mr. D. T. Best
Members of Council	Mesdames H. Hodgson & S. G. Sharman
	Mr. W. F. Maddams

In the event of the number of nominations exceeding the number of vacancies a ballot paper will be circulated to members not less than six weeks prior to the Annual General Meeting.

R. H. I. READ
Hon. Secretary

Cultural Notes

Cacti—by A. Boarder

THE SUMMER of 1970 appears to have been a very good one for the growing of cacti. On all sides one hears of many flowers and good growth. I am writing near the end of August, and see that I have some 100 *Mammillarias* in flower and scores of colourful fruits already formed. What with the flowers, fruits and coloured spines, these plants make a very fine show in the greenhouse. If one has a good collection of *Mammillarias* there is never a lack of interest and attractive hues.

I have experimented with some of the soil-less composts this year and have found one or two points which may be of interest to other growers. I had pricked out a number of seedlings from the 1969 sowing into some of the small concrete troughs which I stand on the brick walls surrounding my greenhouse path. One trough was filled with J. Arthur Bowers compost, another with Levington compost and several in my own mixture which I use for all my adult plants. This latter compost is made up as follows:—Two parts loam, one part peat and one part coarse grit and to each bushel I add:—Three oz. hoof and horn grist, three oz. superphosphate, one and a half oz. ground chalk and one and a half oz. sulphate of potash.

I noticed that the seedlings in the soil-less compost were growing slightly faster than those in my own mixture. On examination I found that the reason was not what was in the compost but the amount of water which it held. The soil-less types seemed to be almost always wet whereas the soil in the other troughs soon dried out. I then started watering these much more heavily and soon found that they caught up with the others. I have now found that providing I water my own mixture well, the seedlings grow just as fast and, even more important, they appear to make stouter growth than those grown in the soil-less composts. When moving a plant from the latter type I noticed that plenty of roots had been made and the compost was quite damp. This mixture retains the water much longer than does my own compost but as long as mine is watered sufficiently, the plants grow just as well. I have had to move all the seedlings from the troughs to larger concrete boxes and they are now in my unshaded garden frame. They have made very good growth and many have flowered. Some of them have made groups already and the following sizes will give some indication as to how they have grown. They were sown in February, 1969, and now in August, 1970, are as follows:—*Mammillaria aurichamata* 2½ in. x 2¼ in.; *M. barbata*, 3 in. x 2½ in.; *M. leucantha*, 2¼ in. x 2¼ in.; *M. pringlei*, 2½ x 2¼ in.; *M. monacistracantha*, 2¼ in. x 2 in.; *M. densispina*, 2 in. x 1½ in.; *M. knebelliana*, 2¼ in. x 2 in.; and *M. auriecoma*, 2½ in. x 2 in. Many flowers have appeared on

three of these species and some are making up into groups.

It was all very easy to water my collection when it was a small one but now it is very difficult indeed to give all the plants the amount of water they require. In the warm weather I used to water every day, just filling up each pot, but apparently this was not enough. This was brought home to me very plainly when I noticed that some of my *Lithops* were growing better than the others. I know that Mrs. Stillwell will forgive me for butting in on her province to illustrate my point. The row of *Lithops* had fattened out and were much healthier looking and then I saw that their soil was quite damp. I had, as I thought, been watering them all adequately, but I noticed that a pane of glass in the roof had slipped down an inch, and so allowed a quantity of rain to fall on this row of pots.

To carry my inspection further I removed one of the larger *Lithops* from its pot and found that the soil was dust dry. Not only was the soil so dry but the plant I removed had only desiccated roots like coco-nut fibre. This I could hardly believe as all my *Lithops* are in plastic pots. However, on checking I found that not all my *Lithops* had been repotted since 1966, so I immediately repotted all of them and already they look better. I had wondered why very few of them had made extra pairs of leaves but feel that the lack of repotting was one cause and insufficient watering another. I have heard so many people say that *Lithops* should not be in plastic pots as they could be over watered but as I have said before it does not matter what pot a plant is in it can still be over watered as well as being under watered. I have 76 *Lithops* in plastic pots from 3 in. to 7 in. half pots, and I have come to the conclusion that they need repotting every two years, and not left as I had done this time for four years. No wonder they had not increased in group size.

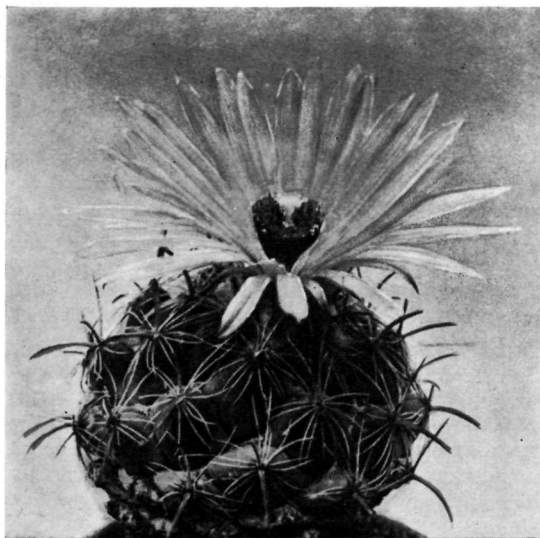
There is no doubt that the watering question is the most important one as regards growing cacti. When I wrote my book, "Starting with Cacti", the publishers thought that I should not use a separate chapter for watering alone, but I convinced them that this was so important that the subject deserved a special chapter, and this was agreed upon. Whilst I think of other succulents I must report a strange happening. I have three rather young *Euphorbia obesa*, and when a female plant flowered early in the year I had no male plant out in flower and so lost the chance of seed. Later one of the other plants flowered and it was a male. The pollen was used to fertilise the first plant. Later on this male plant suddenly produced female flowers and as my third plant turned out to be a male I fertilised the plant which had already produced male flowers and was now pro-

ducing female ones. I remember years ago that the late Vera Higgins told me that she had one of these plants which bore both male and female flowers at the same time.

The *Coryphanthas* have flowered very well this year. There is a marked difference between the shapes of some of these plants. Whilst some are of a simple roundish form, others grow quite tall. Again another type may make many off-sets and become large groups. Their flowers are mostly yellow, fairly large, but the taller types have smaller flowers. The flowers of *C. elephantidens* are pink. This species is also one of the simple types. Most of the *Coryphanthas* need to be fairly old before they flower well but once a plant flowers it usually does so each year.

There still appears to be a number of members who use a different type of potting compost for each genus, but I am sure that this will only tend to confuse some growers. It is quite possible to grow all one's cacti in one compost although I admit that some genera particularly the Epiphytes can take a much more richly prepared potting compost. However, I have flowered these quite well over the years by using the one mixture.

It will be found that most of these cacti appreciate a spell in the open air away from the intense sunshine which they would get in an unshaded greenhouse. If a tree is available plants could be hung on the branches during the summer months. If sufficient rain water cannot reach the pots, they can be watered occasionally during a dry spell. The Epiphyllums can have careful pruning after they have flowered. As is well known, a plant will not flower again at an areole which has once



Coryphantha cornifera.

produced a bloom. Some of the stems get tough and brownish and if they are three or more years old and have flowered fairly well, it is a good plan to cut out much of this old wood. This will encourage the plant to send out fresh shoots which usually flower better than the old ones.

It seems strange to be writing in August for the journal which will not come out until November, which can be a dull month but there will be plenty of work if one has a greenhouse. All the plants should be looked over carefully and "put to bed" for the winter. This may be the first time in the year when one can find time to really examine all the plants. In my own case I find it quite impossible to handle my plants during the other months of the year as there is so much work to do in the garden apart from other commitments.

I have been painting my greenhouse once again and it does not seem to matter how good a job I do this task must be repeated every two years. The differing temperatures in the greenhouse and the weather outside make it imperative to see that all chances of a leak are prevented as far as one can foresee. I usually rub down with glass paper all woodwork and then give a good undercoat. The next task is to go over all joints at the sides of the glass with putty stopping any cracks. For the top coat I use an aluminium paint which puts a slight metal coat over all the woodwork. I find that this lasts as long or longer than ordinary paint. If a crack is found in a pane of glass I rub in a little putty or else some thick paint.

Owners of cedar wood greenhouses have no need to use paint but the timber should be occasionally treated with an oil preservative. The roof should be



Coryphantha elephantidens

carefully inspected as any leaks during the winter can be dangerous, especially if they are not discovered before much water has dripped onto a plant. The inside of the greenhouse may need some attention although it will be found that this need only be repainted every three years. The heating apparatus for the winter must be put in order. If a paraffin type of heater is used then the wick should be inspected before the lamp is lit, and if it appears to be disintegrating then it should be changed for a new one. When fitting a new wick to a blue-flame type of lamp it is essential that it is thoroughly dried before being put in the lamp. A level top to the wick must also be made and this is best done before any paraffin is put in the reservoir. Do not use any oil which has remained in the lamp since last being lit. Fresh paraffin will be less likely to give off any harmful fumes. I am often asked if the fumes can do any harm. Providing the oil is fresh and a good type used I do not think that any harm can come to any cacti through using paraffin oil heating.

If electricity is used for heating make sure that any thermostat is in good working order. It is sometimes found that spiders have got into one and made a nest or the contact points need cleaning. If there are any plug connections to cable heaters it is advisable to cover these connections with insulating tape as if any wetness gets onto these plugs it is possible for "frying" to take place; a slight form of leaking electricity which can affect television or radio in the house. One should never use electricity for heating in a greenhouse without a thermostat to control the temperature as to keep this on all the time would be very costly.

The necessary temperature for most cacti is a minimum of 40° F., and I have found that I can get by quite

well if this can be generally maintained. However, I do not mind if it drops down to nearly freezing point at times. As long as the air in the greenhouse is fairly dry and the plants have not been watered this low temperature does no harm. The provision of air is most important and I find that when using paraffin heating it is essential to provide fresh air to enable the lamp to function properly. At the same time this fresh air keeps the plants more healthy and goes a long way to preventing the formation of moulds. There are few days during winter when some air cannot be provided and I am sure that the plants will benefit from this.

There is usually a warm place in a greenhouse where any young seedlings may be placed. Some growers like to keep their greenhouse at about 50° F., if they have some other succulents, such as Euphorbias. However, I think that, with care in air provision and freedom from dampness, a lower temperature is quite possible for such plants. I have heard some growers complain that moulds form on their Stapelias during the winter but I think that this is due more to dampness in the air than to the cold.

Some members have been bothered by the leaf-cutting bee which makes holes in the soil of some pots. This bee cuts pieces of leaf and takes them into a pot and makes a kind of tube, like a miniature cigar. An egg is laid in this tube and the larva when it hatches out feeds on the leaves. I do not think that much harm to a plant is likely to occur. I have found that these bees are very fond of Levington compost for their purpose as the material is so soft and open that they have no difficulty in making holes in it. I found six tubes in one small trough of the compost.

Cultural Notes

Other Succulents—Mrs. M. Stillwell

ON WRITING these notes in the middle of September, I look out to my greenhouse, where the stemless mesembryanthemums are giving such a fine show of colour. I have just had a new red cedar greenhouse 15 ft. by 10 ft. to replace my other old houses which according to my husband were getting beyond repair. This is a dutch light type with very large panes of glass right to the ground. The first big operation was the pulling down of the largest old house, to make room to get the new one in. It took quite a time to accommodate all the plants including the mesembryanthemums into the other two houses, which were already bursting at the seams. There was hardly room to step inside and watering was almost impossible. I had, of course, to dispense with a lot of the common plants, as there would be no room for them in the new home.

After the house had been selected at Chelsea Show and duly ordered several weeks went by before it finally

arrived, and we were able to start erecting it on a new concrete base, which I think with our plants is a necessity. I did not order staging, as I prefer our own method. This is 6 ft. sheets of corrugated asbestos which fit into wooden frames with a 2-inch edging all round. All the joins and the edges of the asbestos where it meets the wood is lined with aluminium cooking foil. This can be moulded into the corners as desired to stop the water seeping through on to the plants beneath the staging. On this was placed a layer of shingle, saved from the other house and carefully washed with the aid of a sieve and a large bath of hot water. The shelves above were made in the same principle but with a wooden base complete with edging, and fully lined with the aluminium foil and then a fairly thick layer of coarse cornish grit. All the staging and shelving being of white wood was given a coating of aluminium paint and really looks quite smart. Just inside the door I have a small working

surface made of a plain sheet of asbestos. On the floor are plastic trays lined with coarse sand and here are housed the Haworthias, Gasterias, Aloes, Agaves, etc., while the other side will be Epiphyllums, when I get the time to transfer them.



Mrs. Stillwell in old greenhouse.

Every plant is examined and repotted if required, and given a new label where needed, and top dressed with coarse aquarium gravel in the natural shade. This I purchase in small sacks from the local pet shop. One does not realize how these plants accumulate over the years, until a move is indicated. It has been a tremendous operation with still quite a bit to do. I have a small kitchen step-stool with fold-away legs for reaching the top shelves in comfort, and find it very useful also as a seat at the workbench. With plenty of unrestricted light all the plants seem to be growing well. I have only one complaint at the moment, which I shall have to watch carefully in the winter, and that is that there seems rather more condensation when I open up in the mornings than I have had previously in the old houses.

I have had to break up one or two clumps of conophytums which seemed to have ceased to grow and the heads had got smaller and smaller. When this happens every head must be rooted separately by detaching from the clump and removing all the old dead skins and woody stems at the base and just leaving a very small

fresh green stem at the base of the head. Pack all the heads into a small plastic pot, just touching one another. Spray every few days if the weather is right, and they should soon root up again. The ideal time to do this is in July when the plants are just starting their season's growth. Pleiospilos often require the same treatment, and this year I also broke up some of the larger Glottiphyllums which with age become rather unsightly although they flower well. It is a good thing in the autumn to water all the plants with a good insecticide as during the winter when we do not inspect the plants quite so frequently, many things breed, but do be sure to read carefully the directions given on the bottle, as many succulents resent certain types containing rogal or malathion ingredients. It is always better, if you are in doubt, to water the soil around the plant and to keep it off the actual body. Watch any drips from plants above on to those below, and also never use these preparations when the sun is on the house, or you may get burning. It is possible to have plenty of flowers on the succulents during the winter, especially among the Crassulas, Sedums, Echeverias, Gibbacums and many other mesembryanthemums, so do keep a careful eye on everything during the winter months as these are the ones that will possibly need some water from time to time.

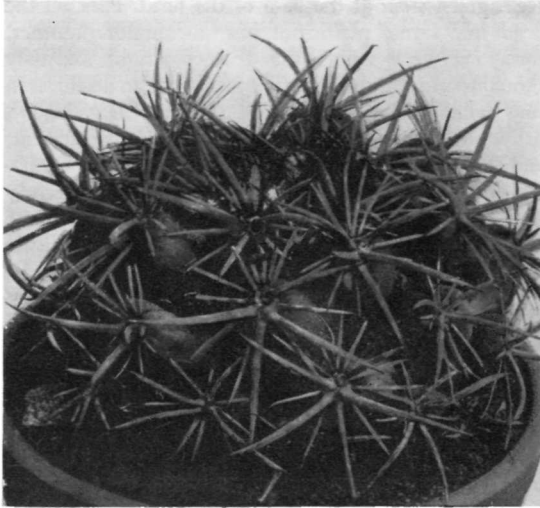
Fortieth Anniversary Arrangements

THE fortieth Anniversary of the Society falls in 1971 and Council is considering ways of celebrating this event. It has therefore appointed a sub-Committee and delegated to it the task of preparing detailed proposals; this sub-Committee is under the chairmanship of W. F. Maddams.

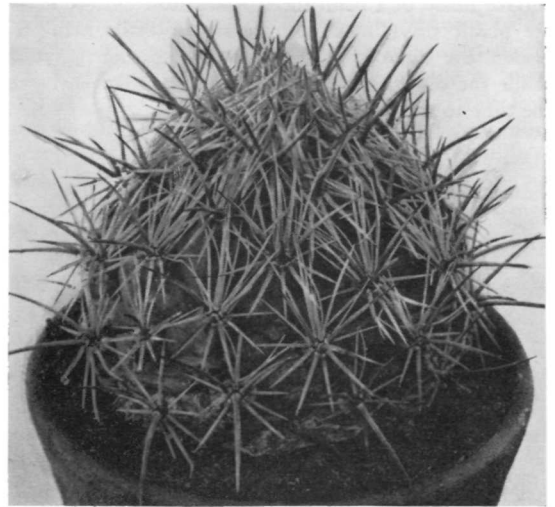
One event that has already been settled is a weekend to be held at Knuston Hall, Irchester, Northamptonshire—a fairly central venue which is easily accessible from all parts of the country—from Friday 22nd to Sunday 24th October, 1971. Further details will appear in the next issue of the Journal.

It is suggested that plans for publicity of the event at local level may be made as soon as possible. An approach to the local Parks Department may gain the chance of a set bed for next summer of a special planting of succulents in a park or greenhouse or display at a district Show. The local libraries might also assist by loaning a showcase for a display of Society literature for a week or longer preferably around the actual Anniversary in November next year.

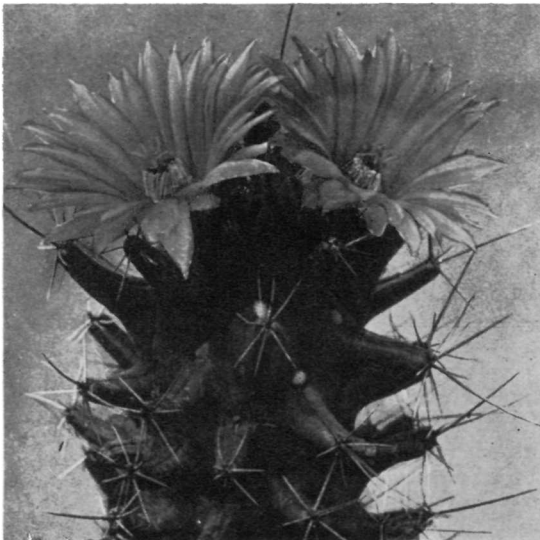
If you have any further suggestions to make, please contact the chairman of the sub-Committee as soon as possible.



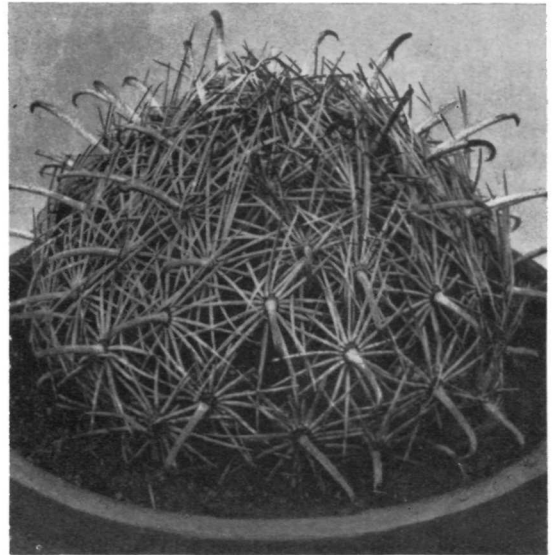
Coryphantha pycnanantha.



Coryphantha difficilis.



Coryphantha clava.



Coryphantha palmeri.

In view of Mr. Boarder's mention of Coryphanthas, we are reproducing on this page photographs of some other species of this genus. All these photos as well as those illustrating his article are from old coloured postcards by O. Stoye.

And so to Sonora

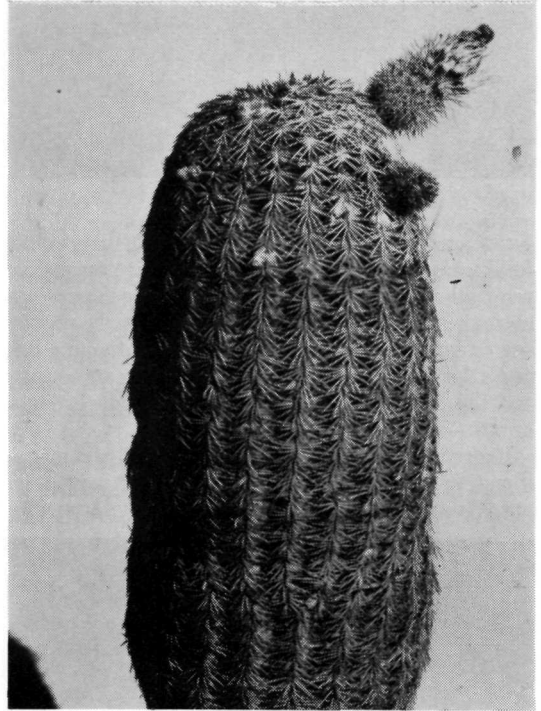
by Betty Maddams

Final Part—Arizona Again

OUR TRIP back from Guaymas certainly started off at a good pace, and we had only one stop for refreshment at Hermosillo before reaching Santa Ana. Here there was a longer hold up as the other camper had gashed one of its tyres and a replacement had to be fitted. This unexpected delay meant that we reached Nogales later than intended and the Plant Inspection Station was closed for the night. However, all the plants were piled, in their various bags, into the two campers and everyone's personal luggage loaded into the two estate cars plus the 11 of us! So the citizens of Nogales had the pleasure of seeing two American cars with people and baggage piled inside them and more people clinging to the backboards as we made our way to the Motel where we had stayed on the way. After a Mexican meal—a farewell party in our room—and a good night's sleep, we all made our way back to the fumigation department the next morning. Here, we said our adieus to Bob, Charlie and Kitty who were to see the plants through the fumigation as they as they were on good terms with the officer in charge. We set off again in Paul Shaw's car closely followed by four others in Earl's camper; we were due to leave Tucson airport in the late afternoon but Paul had offered a little extra trip in the mountains between Nogales and Tucson and, needless to say, we jumped at the idea.

We set off on the freeway northwards but soon turned away to the west onto a B class road which gradually deteriorated into a rather narrow sandy track. However, after the dirt road out of Alamos, this was as good as an English country lane; we soon left the tourist area with its car parks and notices and were winding along the sides of the sandy coloured mountains which were bare above us but with gradually increasing chaparral type vegetation on the lower slopes. On some of the hillsides there were also stands of tall, old *Ferocacti*, probably *F. wislizenii* all neatly dispersed down the hillsides at seemingly regular intervals.

It was when we were winding our way up a particularly narrow part of the road with an almost sheer drop to our left that Paul suddenly stopped and jumped out to pick up something from the road. I quickly spied that it was a snake but was somewhat alarmed to say the least of it when he brought it round to the car door to show us. He explained that it was an "Arizona Runner" and quite harmless; in fact it had bitten him as he coiled it up his arm and he seemed none the worse for it. He put it in a jar at the back of the vehicle—another specimen for the Museum. A little farther on we stopped again,



"... were *Echinocereus rigidissimus specimens*".

this time to look at some large and untidy clumps of *Agave parviflora*. They certainly did not resemble in any way the attractive rosettes seen in collections over here but were large and straggling and obviously marked by weathering. We decided to preserve our remaining space in the hope of better things and we feel we did the right thing.

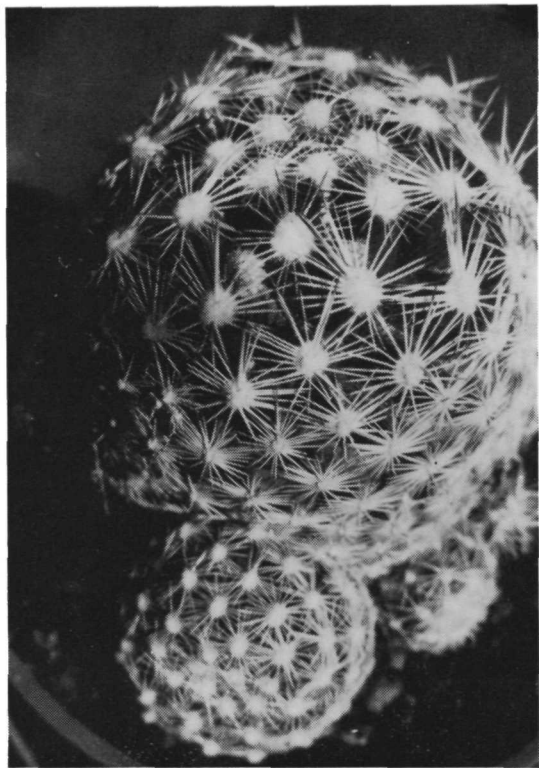
Some miles farther on we descended a steep hill and were off the track altogether and into what was called Ruby Canyon. A short walk across the parched grass of the hill slopes took us to a sight I shall long remember—straddled up the hillside were *Echinocereus rigidissimus* specimens of all sizes, some in flower or bud and all with the beautiful pink crowns by which the species is so well known. At first sight most of the plants seemed to be prize-standard specimens, but closer examination showed that often the bases were curled as the roots and plant had grown under the shelter of rocks or large stones where welcome moisture was to be preserved. Bill found a tall and straight one after much searching, which some of you may have already seen at the June



"great clumps of *Coryphantha recurvata*".

Show, and we collected a couple of particularly colourful ones as well. Looking across from this slope we saw some other cacti, great clumps of *Coryphantha recurvata*, on the opposite side of a small ravine. Here the problem was to find a small clump but we finally found a large single head with very attractive golden curved spines and this has settled down well and already produced offsets.

Regrettably we had to be on our way again and we found more mountain roads with sometimes a gay purple splash of *Echinocerei* by the side and sometimes



"identified as *Coryphantha aggregata*".



"*Agave palmeri* and *Mammillaria macdougalii*".

the yellow flowers of some padded *Opuntias*, but we did not stop until we reached Warsaw Canyon. At the main stop here we were lucky because being the first folks out of a car we spied a gay purple flower under a spreading bush and found it was a small white-spined plant later identified as *Coryphantha aggregata*. This was close by the road but it would have been very difficult to see without its flower. The real object of our search at this stop was much easier to see, in fact we had to be careful not to trip over the fine specimens of *Mammillaria macdougalii*. Many of these fine plants with their flattish globular bodies and strong spines had attractive rings of quite large cream to yellow flowers while on others, much to our surprise, fresh green fruits were beginning to protrude. These fruits seemed too near the crown of the plant to be from the previous year's flowers and we could only suspect that for some reason these plants had flowered earlier than their neighbours. With some difficulty we found a plant small enough to be included in our luggage and then looked around at the other plants growing in the vicinity.

Most striking were some fairly large *Agaves* with bluish leaves having strongly toothed black edges which we found afterwards were *Agave palmeri*. Unfortunately, there were no small ones around so we had no chance to collect this species, but we found some more small and very colourful *Echinocereus rigidissimus* tucked along by the wire fence behind us and these fitted into small spaces in our packages. With regret we noticed that time was passing all too fast and we had to wish the others a hurried goodbye, and leave them to look for *M. oliviae* while Paul drove us off rather rapidly and bumpily towards Tucson.

The approach to the airport was an attractively laid out cactus garden which we should have liked to have inspected more closely and photographed but, alas, we had neither time nor film! So ended our trip to the Sonoran Desert, an expedition we shall never forget, and we hope that most of the beautiful plants we collected will be with us for many years to keep the memories fresh in our minds.

Essay Review

by W. F. Maddams, M.Sc., A.Inst.P.

The Cacti of Arizona by Professor Lyman Benson; 3rd Edition, The University of Arizona Press, Tucson, Arizona; 1969. 218 pp. plus xvii, coloured frontispiece, 18 tables and 167 illustrations, comprising coloured and black and white photographs and line drawings. \$6.95.

BOOK REVIEWS are usually written in a detached impersonal way and, generally, this approach is preferable. That I have elected to do otherwise in the present instance will require some justification but I am confident that this will be forthcoming below. I acquired a copy of the second edition of this work some years ago when I was busy building up my library and it seemed a good thing to have a more detailed account of the Cactaceae of a particular region of the U.S.A. Until recently I had not referred to it with any great frequency; my abiding impression was that it was not a book to read as such but a work of reference. Because of my insular outlook the frequent references in it to a host of localities such as Yuma County, Gila Bend, Santa Catalina Mountains, Maricopa County and the like conveyed no more to me than would mention of Rutland, the River Nene or the Mendips to the average resident of the U.S.A. Furthermore, at the time I was rather out of sympathy with the decidedly conservative taxonomic outlook of Professor Benson.

The change in my attitude has been gradual and has its origins in two very differing directions. I have become steadily aware that the ultra-liberal attitude to the classification of the Cactaceae, which one hopes has reached its zenith in the Backeberg system, simply did not fall into line with what is generally being practised elsewhere in the plant kingdom. Although I have no formal botanical training I feel that this is no disadvantage as far as this point is concerned; I can take a detached view of the situation. This has led me to pose the problem in terms of analogies. For example, if we have a column of marching men and one is out of step who is right and who is wrong? For this and like reasons I am now out of sympathy with the extreme "splitters", although this does not mean that I have thrown in my lot with the "lumpers". I have simply developed a respect for the point of view expressed by Professor Benson.

The other factor which has led me to refer more frequently of late to the second edition of "The Cacti of Arizona" is that, in having had the good fortune to traverse much of north and south Arizona in May 1969 I am now better acquainted both with a number of the endemic species and some of the geographical localities. I have seen *Opuntia basilaris*, *Echinocereus engelmannii* and various other species in habitat, an advantage which is difficult to put into words but which will be understood

by others equally fortunate, and I have visited such diverse localities as Snowflake, Kingman, Yuma and Ruby Canyon. For me, therefore, the second edition of Dr. Benson's book has assumed a reality that transcends cold print but I realise that the majority of cactophiles in Great Britain would view it much as I did a decade ago.

The situation has now been transformed by the appearance of the third edition which, as the author remarks in his preface, is almost wholly new as it is based on much information which has accumulated since 1950. The new text is altogether wider in its appeal, for a variety of reasons. Among the most important of these is the expansion of the introduction which is subdivided into sections covering the structure of cacti, juvenile forms, how to identify cacti, problems in classifying and naming cacti, the geographical distribution of cacti and the natural vegetation of Arizona. This last section is new and the comments on classification are much expanded in the light of developments since 1950. This introduction should be mandatory for all serious cactophiles because it gives a very clear picture of the problems which arise in the classification of cacti in general. Although Professor Benson openly adopts a conservative attitude in this matter he does not pour scorn on those who do not share his views and, having had the pleasure of meeting him at the American Cactus Convention last year I can understand this because he is a modest individual. He makes the telling point that if one adopted the "liberal" attitude of Britton and Rose towards the Cactaceae in the plant kingdom as a whole it would require at least one million name changes and if one went farther and based plant taxonomy in general on more recent systems for the Cactaceae (the name of Backeberg is discreetly not mentioned), it would require a computer to cope with the resulting changes.

Another addition to the book, by comparison with the previous edition, is the chapter on new taxa and nomenclatural recombinations. This presents the results of Professor Benson's lengthy study of the Arizona genera and species and he has turned his attentions particularly to sundry species which are reduced to varietal status. However, he demonstrates his impartiality and willingness to recognise good taxa, within his criteria, by establishing two species novae, *Opuntia wigginsii* and *Mammillaria oresteria*. The fact that it is still possible to discover a good new *Mammillaria* species in Arizona will doubtless gladden the hearts of *Mammillaria* enthusiasts who are always looking for something novel to add to their collections.

The most interesting item in the section devoted to new taxa and combinations revolves around the unfortunate but well-known plant bearing the name *Navajoa fickeisenii*. The name was published by Backe-

berg in this Journal in 1960 and, as always, Backeberg did not preserve a type specimen; it seemed that he declined as a matter of principle rather than as an act of carelessness or ignorance. The name is therefore invalidly published but as it is widely used one should face the problem of rectifying the situation in a logical way. Unfortunately, this is usually not done with this particular plant and a considerable number of other *nomen nuda* relating to well-known plants; there is a deplorable tendency on the part of botanists not to want to know about them and to sweep the matter under the nearest carpet.

To his credit, Professor Benson faces the issue fairly and squarely. He recognises that although *Navajoa fickeisenii* is an invalid name there are in circulation, from a defined geographical area, a substantial number of essentially similar plants to which this epithet attaches. He therefore concludes that the best course of action is to give it valid publication as new and to anchor it securely to a type specimen so that its identity will be established for all time. This is a considerable step forward and it is to be hoped that this remedy will be applied speedily to other comparable situations. Having done this, Professor Benson then complicates the issue slightly. In his opinion the genus *Navajoa* should be merged with *Pediocactus* and he regards *N. fickeisenii* as a variety of *P. peeblesianus*. Consequently he establishes the taxon *Pediocactus peeblesianus* v. *fickeisenii* to cover this plant; however, it is an established and valid taxon and an important point of principle has been made.

The major part of the book is devoted to a detailed treatment of the various members of the Cactaceae indigenous to Arizona; their number may well surprise many cactophiles. Twenty six *Opuntias* are listed and an appreciable number of others reduced to varietal status; for example, *O. santa-rita* is regarded as a variety

of *O. violacea*. Under the heading of *Cereus* some cactophiles will be horrified to find *Carnegiea gigantea*, *Lemaireocereus thurberi*, *Lophocereus schottii* and *Peniocereus greggii* referred to as *C. gigantea*, *C. thurberi*, *C. shottii* and *C. greggii*. However, this is in line with his attempt to afford a uniform treatment of the cactaceae as a whole. Other genera represented in the Arizona flora include *Echinocereus*, *Mammillaria*, *Ferocactus*, *Echinocactus*, *Sclerocactus*, *Pediocactus*, *Epithelantha*, *Neolloydia* and *Coryphantha*.

The various Arizona taxa are all carefully described and the book is well supplied with photographs, some in colour, and line drawings. The quality of these is uniformly good and they will be of real assistance to those who find it difficult to visualise a plant from a written description. The distribution of each plant is thoroughly documented and the maps are a vast improvement over their illegible predecessors of the second edition. No doubt the increase in the page size has been of assistance in this direction. The book concludes with an account of the culture and care of Arizona cacti and this section may well be its least useful feature so far as readers in Great Britain are concerned. It is now rather widely recognised that one should not necessarily attempt to imitate habitat conditions in greenhouse cultivation in the damp English climate. The growing periods for these plants should not be wholly disregarded but one should follow whatever conditions they seem to appreciate.

By way of summary, this is an excellent book which will provide profitable reading for all cactophiles. In the section on new taxa and nomenclatural combinations Professor Benson writes that he has almost completed the manuscript for a longer and more inclusive and technical work "The Cacti of the United States and Canada". On the basis of his present effort we can look forward to this with considerable anticipation.

Notes from San Diego

by Richard Russell

LAST WEEK (mid-August) I drove out to see my friend Bob Taylor, of El Cajon, California. Bob is an adventurous gentleman of about 75 years, and he has one of the outstanding cactus collections in this area. The collection has been growing on the side of a hill (on about three acres) for the past 25 years. One is staggered as one drives up the steep hill (which was originally, and still is, an orange grove) and comes upon his cactus "forest". There one sees many *Cereus* in the 15 to 30 feet class, thousands of mounds of *Mammillarias*, tree-like *Opuntias* and *Ferocacti* three feet across.

I told Bob that I was going into a *Mammillaria* phase (I now have about 250-300 species), and I asked him if I could look around his. Bob has done a great deal of exploring in Mexico, and anyone who wanders through

his place, had better be prepared to be "on his own" to some extent when it comes to naming plants. Many of Bob's *Mammillarias* are his own discoveries, and it was these that I was most interested in. He gave me a large cutting of one which was covered with beige-coloured spines (top pink-tipped), and I have never seen anything like this plant. It looks more than anything else like a rotund *Echinocereus sciurus*. He also gave me cuttings of a hook-spined fellow with red central hooks and white radials. The plant vaguely resembles *M. microcarpa*, but here again I have never seen anything like it. A *M. guelzowiana* five inches across, a graft, caught my eye. This giant "snowball" was one of the prettiest things I have ever seen. It was grafted on *T. spachianus*, a stock which has a habit of blowing plants up to heroic sizes.

Bob is an expert grafter, and thousands of grafted plants on his property attest to his skill. He took a "pup" of *M. guelzowiana*, neatly spliced off the bottom, sliced the top of a fat *T. spachianus*, twisted a single rubber band criss-cross across the top of the Mammillaria, and it was done. Next he grafted a *M. humboldtii* for me, as this latter is a plant which is rather difficult (at least outdoors) on its own roots.

Next, I was delighted to see several huge grafts of *M. saboe*, each one made up of perhaps 50 to 100 heads. Bob gave me about a dozen heads, and I will root these and start my own little patches of *M. saboe*. This tiny plant grows to a large size (two inches across) on a graft, but on its own roots it is a true miniature (and of course it has an outstandingly large (for a Mammillaria) flower.

Finally, I asked Bob for a cut of a giant *Opuntia* which he has had for years but which nobody has ever named. The plant has huge, perfectly circular branches of a pretty bluish colour, with dark-gray spines (about two or three to a cluster). This plant grows up to eight feet high, and it is one of the loveliest, eye-catching *Opuntias* that I have seen.

The giant-type *Opuntias* are usually feared by growers. Because they expand so fast one has the feeling of having a "monster" in his yard. But I like them, and if they grow too fast I simply chop off a few of the offending pads and keep the whole works down to a manageable size. After all, who's boss, me or the prickly bear?

I feel like writing a little about fabulous plants that I have. One, to my mind, is *Parodia superba*, which I recently received from Uhlig in Germany. This magnificent *Parodia* must have been collected in South America, sent to Germany, then sent to me on a return trip to the Americas. A very travelled plant and a beauty, perhaps the most dramatic looking of the *Parodias*. I have about 40 different *Parodias* so I feel I am entitled to make that statement. At any rate, *P. superba* is densely covered with whitish, very long, straw-like spines so that it looks like a little "mop-head" sitting on the ground. I was astounded when I first saw it, and I love this plant dearly.

My other recent treasure (actually I have a pair of them) is a true *Echinocereus longisetus*. I have never seen the true plant before, and it looks very much like a miniature *Cephalocereus senilis*, since it is completely blanketed in long, white, flexible spines. I have several nursery plants which claim to be *E. longisetus*, but I now know they are not. They are probably in the *E. dubius* or *mohavensis* group, but they are surely not the fabulous *longisetus*. Speaking of *Echinocereus*, which I feel is one of the best and most neglected groups. *E. sciurus* is another prize. *Sciurus* means squirrel, and this devil surely does look like a squirrel's tail as it nestles near the ground and clusters.

Ah, while I am on a fabulous plant kick, I must tell about the *Rebutia* group. I have perhaps 50 different

species of assorted *Rebutias*, *Sulcorebutias*, etc. Recently I received a *Sulco. steinbachii* var. *gracilior*, and this tiny plant is entirely different from anything else in the group. The thin little stems are about half the thickness of a pencil, and they form an extraordinary group, standing erect like a mound of tiny trees. Another favourite of mine is *Sulco. glomerspina*. This is a fast-growing, globular plant which is covered with thin, yellow brown spines on a light green body. The spines are all "up-swept" and the whole effect is different from any other plant in the group. Finally, I want to mention the new *Rebutia nivea*, another gem with harmless white hair-like spines covering the entire body of the plant. This little fellow has orange flowers which stayed open for me longer than any other *Rebutia*, about five days in half-sun.

Yesterday I spoke to Gilbert Voss, a young ecology and Cactus expert who has written for the Mammillaria Journal. Gil has done much exploration in Baja and Mexico, and has had a great opportunity to study Cacti in their native environment. He agrees with me that the whole Mammillaria "scene" is being done to absurdity with varieties, varieties of varieties, *ad nauseum*. Personally, I suspect that a great number of the new varieties and "species" are redundant and useless, and I am hoping that some day a great Mammillaria handbook will be published, showing all the actual species and their varieties. I suspect, if this ever happens, that there will be less than 300 species (although by 1984 this could double).

Well, that's about all for this quarter except to say that a few days ago I went down to Mexico and collected about 10 cuttings of one of my favourite plants, *Bergerocactus emoryi*. I collected them about 15 miles south of Tijuana, just off the highway, where they were growing in a dense thicket. It is always a thrill for me when I see this beautiful, golden-spined cereus, the only plant in the group (there are no other *Bergerocacti*). *Bergerocactus* has the unusual habit of throwing up new stems while many of the older stems die. Each year's new growth provides another joint on the end of the previous year's growth. It grows very easily here in San Diego, but I suspect it could be a difficult pot plant. I have grown large plants in very small pots. It can take lots of water or very little. It does not rot easily, but will also withstand a whole summer of drought. Will also take half shade or full burning sun. I read little about "Bergie" in the British journals, and would like to know how this plant does overseas. It's a *Cereus* which should be in every collection, in my opinion.

Don't forget your SUBSCRIPTION is due on January 1st, 1971.

£1 5s. (£1.25 p)

Juniors 15/- (75 p)

Succulent Snippets

by Sally Cornioides

REGRETTABLY, cold weather will be just around the corner by the time that these jottings appear and it will not seem out of place to read about greenhouse heating. I have just been perusing a booklet on this topic written by an alleged expert but, apart from having an inherent distrust of what is said or written by anyone bearing such a title (a pity the Trade Descriptions Act does not apply to persons) I certainly do not believe all that this gentleman has written. He states quite categorically that the so-called fumeless free-standing paraffin heaters, which discharge their products of combustion in the greenhouse are not recommended under any circumstances.

Now, even allowing for the fact that this so-called expert was writing for a firm who specialise in oil and coke fired boilers of the old-fashioned type, with hot water pipes, I find it difficult to believe that he can be so biased or misinformed. I suspect that the majority of the members of the Society use paraffin heaters to supply part or all of their heat, and find them eminently satisfactory. I am given to understand that there are two combustion products of the blue flame paraffin heater, carbon dioxide and water. I also believe that the former is now considered beneficial, to the extent, for example, that the tomato growers in Guernsey burn propane to enrich the greenhouse atmosphere with carbon dioxide. As for water, at worst it condenses on the greenhouse roof during cold weather and if one wishes to avoid this it can be collected in jars by a simple device which Mr. Boarder has described.

I would go so far as to say that the widespread use of blue flame paraffin heaters has been one of the major advances of the last decade. Another must surely be the use of systemic insecticides. When I was drawn into this fascinating hobby of ours one hoped and prayed that one would not be smitten with the various plagues, mealy bugs above and below ground, red spider and the like. I do not think I do folk injustice if I say that it was rather unusual to find a collection wholly free from such pests in the 1950's. Now the situation has changed; it is unusual to find a mealy bug and anyone who provides a home for these pests has only himself or herself to blame. What, if any, have been the other major advances in recent years; perhaps readers will let me have their ideas. I doubt if greenhouse design will be among them but that is a major topic which I had better leave for another occasion.

* * *

Retrogressive Step?

From the ASPS Journal March-April 1970:— "Gordon Rowley . . . was employed at the JI Institute from 1948 until 1961".

And I always thought he was such a forward looking person!

Overenthusiasm

I am told that coming from the June Show on the Tuesday and seeing a cinema near Victoria billing the film "Cactus Flower" our Publicity Officer had to be restrained from rushing across with her felt pen and writing below "See much better ones at the R.H.S. Hall tomorrow"! *

Autumn may be well upon us, but to all the pessimists who complain they have not got much colour amongst their cacti I can only say there could not have been much earlier on either—or else they are purists who wrench the poor flowers off as soon as they show signs of dying. A visitor to my collection last autumn commented "Well, really, the fruits are more colourful than the flowers; do they last?" I had pleasure in assuring them that some of the beautiful red coronets on the *Mammillarias* and the candle-like orange knobs on the *Neochilenias*, for example, would provide colour all the winter. Mr. Boarder has often mentioned the fruit of *Mammillarias* and how different it can be, but there are other fruits equally gay.

Those who have indulged in the purchase of a *Melocactus* (and there are some South American and Mexican ones that do not require so much extra heat in winter as do those from the West Indies) will have been fascinated by the way the fruit pops up almost as you watch it. Sometimes the fruit is red and sometimes, as in the case of *Melocactus violaceus*, a charming small growing species, an attractive pink which gives the cephalium-topped plant a real birthday cake look. Another pink fruit, but this time fluffier, is that of the *Wigginsia* (or as I much prefer *Malacocarpus*), again the fruit has to push through soft white wool. Perhaps the spiny fruits are not quite so colourful but they are still attractive and interesting.

Very little investigation into fruit and seed has really been made and there is ample opportunity for someone to take a closer look in this field. Have you noticed how long it takes a fruit to form, for example? An interesting addenda to descriptions could be furnished from this type of data and also how long before the seed matures and what is it that sets off the mechanism for the pods to split? This year seems to have been a particularly good year for seed production both among the cacti and the other succulents. However, tempting though it is for those with larger collections to packet up their ripened pods and give them away or even sell them under the name of the plant from which they came, there is plenty of evidence coming to light that species of the same genera can hybridize even in habitat and how easy this must be in a greenhouse with many species in flower at the same time. I wonder if this collecting of seed from plants in greenhouses has resulted in some of the con-

fusion in recognising species and wrong nomenclature in the past. It is easy to say that a plant has been hand-pollinated, but unless the flower has been completely sealed from outside contact while the pollen was viable, other sources, particularly insects, may have pollinated as well.

* * *

By all accounts the talk given by Ed Greenwood at our meeting at the R.H.S. was a great success. There is no doubt that fine habitat shots of succulent plants give top audience appeal and when interspersed with landscape shots it gives a much better insight into how our plants really grow in the wild. There are a number of speakers who can inspire us with shots of Mexico now, but South America and South Africa seem to be lacking—has

anyone good contacts in these parts or has anyone been there themselves?

* * *

This is our last issue under the present Editor and I must take this opportunity of thanking her for bearing with me and congratulating her on the varied and interesting reading her Journals have supplied always providing something for the newcomers and old hands alike. I should also like to welcome her successor, Dr. Harris, and hope that he will bear with me for a time at any rate. For those who do not know, Dr. Harris is really an entomologist who has written amongst other things a book on termites—I hope he will not think writing on cacti is an ANTiclimax!

Notes on three Caudiciform Plants

by D. R. Powell

CAUDICIFORM plants, or T.C.Ps as they are now widely but irreverently known, may bring to mind the impression of succulence in the extreme and consequently, of a corresponding difficulty in their cultivation. In my experience this is certainly not so, if one pays due regard to the temperature, ventilation, light and watering. I would hesitate to pick out the most important of these but the temperature is certainly of consequence. If one can provide a minimum of 50° F (10° C) there should be no problem, except for a very few which have tropical habitats.

On the question of water, despite their swollen stems these plants do need ample water during their growing seasons and I would go so far as to say that they should not be allowed to become really dry when at rest. My experience is that these plants prefer a certain amount of respite from the sun for at least part of the day and this is particularly true when they are dormant. There should always be adequate ventilation as, indeed, should be the case for all succulent plants. For preference the air should be dry although this is often difficult to ensure during the English winter.

The first plant I wish to mention is one that is now rather freely available; I refer to *Kedrostis africana*. The imported specimens which are to be had usually have a long tap root and may well need the type of deep pot which is called a "long tom". The caudex of my plant soon threw out vine-like growths which I trained around the greenhouse. These vines produce leaves which are rather reminiscent of those found on the Passion flower. The vine grows quickly and eight feet of growth in three months is quite typical. During this period of growth it should be watered freely.

My next caudiciform plant, *Cussonia paniculata*, is less well known; indeed it is not to be found in Jacobsen's three volume Handbook on succulent plants,

although this is also true of a number of better known caudiciform plants such as *Jatropha berlandieri*. It makes a tall succulent tree with a caudiciform trunk. The leaves are thinnish and pinnate, an inch to an inch and a half wide and some five inches long. It requires ample water during its growing season.

My final choice is *Adenia glauca*, a member of the Passifloraceae and thus botanically related to the Passion flower. Large plants in the dormant season resemble large stones or small boulders but when they come into growth numerous thin twig-like stems appear and transform the appearance. As with the other two plants I have discussed, *Adenia glauca* needs ample moisture when in growth. The other species sometimes encountered in cultivation is *A. digitata* which comes from the Pretoria area of Transvaal, unlike *A. glauca* whose home is at the foot of Mount Kilimanjaro in Tanzania.

CACTI SEED FOR SALE from large private collection. All from 1969/70 flowering. Usually germinates like grass. Lists December S.A.E. Cross pollination unusual.
Winter, Twyford, Nr. Ambrose, Redruth, Cornwall.

COLLECTOR reducing cacti collection would like to exchange perfect cacti plants for large perfect Conophytums, Lithops and choice large pots Mesemb.
Mrs. J. Brown, The Wrens Nest, Hatton, Warks.

Results of the June Show 1970

Judges

Cacti: Mr. K. W. Grantham.

Succulents: Mr. C. G. Brown.

Class 1 Six Cacti. 6 entries.

- 1st Mr. L. Jeffries. *Notocactus leninghausii*, *N. scopa* v *ruberrima*, *Pseudolobivia kermesina*, *Wigginsia erinaceus*, *Lobivia famatimensis leucomalla*, *Hamatocactus hamatocanthus*.
- 2nd Mr. and Mrs. W. F. Maddams. *Thrixanthocereus senilis*, *Espostoa huanucensis*, *Notocactus leninghausii*, *Mammillaria species nova*, *M. plumosa*.
- 3rd Mr. J. E. Taylor. *Winteria aureilana*, *Ferocactus wislizeni*, *Coryphantha elephantidens*, *Lophophora williamsii*, *Echinocereus knippelianus*, *Notocactus ottonis*.
- C. Mr. R. H. I. Read

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). 9 entries.

- 1st Mrs. H. Hodgson. *Astrophytum myriostigma* v *nuda*, *Neoporteria horrida*, *Copiapoa humilis*.
- 2nd Mrs. D. Finch. *Oreocereus trollii*, *Notocactus scopa*, *Echinocactus grusonii*.
- 3rd Mr. and Mrs. D. Best. *Parodia mutabilis*, *P. suprema*, *P. gracilis*.

Class 3 Three Rebutias and/or Lobivas. 6 entries.

- 1st Mr. L. Jeffries. *R. marsoneri* v *sieperdiana*, *R. pseudodeminuta* v *schumanniana*, *R. pygmaea*.
- 2nd Mr. and Mrs. W. F. Maddams. *L. jajoiana*, *R. marsoneri*, *R. pseudodeminuta*.
- 3rd Mr. J. E. Taylor. *R. wessneriana*, *L. huariensis*, *R. senilis* v *iseliiana*.
- H.C. Mr. E. G. Canham

Class 4 Three Mammillarias. 5 entries.

- 1st Mr. J. E. Taylor. *M. grailia*, *M. hahniana*, *M. bombycina*.
- 2nd Mr. and Mrs. W. F. Maddams. *M. magnimamma* v *bockii*, *M. picta*, *M. compressa*.
- 3rd Mr. L. Jeffries. *M. plumosa*, *M. ocotillensis*, *M. neopotosina*.

Class 5 Six Mammillaria in pots not exceeding 4½ in. dia. 10 entries.

- 1st Mr. and Mrs. W. F. Maddams. *M. saboae*, *M. egregia*, *M. cowperae*, *M. ericantha*, *M. zephranthoides*, *M. carretii*.
- 2nd Mr. J. E. Taylor. *M. pennispinosa*, *M. plumosa*, *M. sheldoni*, *M. geminispina*, *M. albicoma*, *M. nejapensis*.
- 3rd Mrs. H. Hodgson. *M. denudata*, *M. herrerae*, *M. longiflora*, *M. lloydii*, *M. aureilana*, *M. olivaria*.
- C. Mr. C. Parker

Class 6 Three Opuntiae. 4 entries.

- 1st Mr. E. G. Canham. *O. diademata*, *O. tuna*, *Grusonia bradtiana*.
- 2nd Mr. G. G. Leighton-Boyce. *O. albiseta* v *robustior*, *O. glomerata*, *O. rauhii*.
- 3rd Mr. and Mrs. W. F. Maddams. *Tephrocactus species*, *O. fragilis*, *O. russellii*.

Class 7 Three Echinocactaneae. 10 entries.

- 1st Mr. E. G. Canham. *Ferocactus glaucescens*, *Parodia superma*, *Echinocactus grusonii*.
- 2nd Mr. J. E. Taylor. *Wigginsia pauciareolatus*, *Echinofossulocactus vaupeliani*, *Leuchtenbergia principis*.
- 3rd Mr. and Mrs. W. F. Maddams. *Horridocactus setosiflorus*, *Sulcorebutia steinbachii* v *gracilis*, *Notocactus schumannianus*.

V.H.C. Mr. L. Jeffries.
H.C. Mrs. H. Hodgson

Class 8 Three Cacti (for Juniors under 18). 2 entries.

- 1st Mr. A. Rivett. *Lophophora williamsii*, *Parodia aureispina*, *Ariocarpus trigonus*.
- 2nd Mr. J. Meldrum. *Mammillaria camptotracha*, *Schlumbergera buckleyi*, *Hamatocactus hamatocanthus*.

Class 9 Three Gymnocalyciums. 6 entries.

- 1st Mr. J. E. Taylor. *G. species*, *G. lafaldense*, *G. saglionis*.
- 2nd Mr. and Mrs. W. F. Maddams. *G. gibbosum nigrum*, *G. nidulans*, *G. curvispinum*.
- 3rd Mr. E. G. Canham. *G. mihanovichii*, *G. baldianum*, *G. curvispinum*.
- H.C. Dr. and Mrs. G. C. W. Randall.

Class 10 Three Echinocereus (for Luty Wells Cup). 4 entries.

- 1st Mr. and Mrs. W. F. Maddams. *E. berlanderi*, *E. rigidissimus*, *E. engelmannii*.
- 2nd Mr. D. V. Brewerton. *E. subinermis*, *E. fitchii*, *E. reichenbachii*.
- 3rd Mr. R. H. I. Read. *E. subinermis*, *E. pectinatus*, *E. knippelianus*.

Class 11 Mammillaria geminispinus. 5 entries.

- 1st Mr. D. A. R. Knight.
- 2nd Mr. and Mrs. W. F. Maddams.
- 3rd Mr. D. V. Brewerton.

Class 12 One Cactus. 6 entries.

- 1st Mr. L. Jeffries. *Seticereus icosagonus*.
- 2nd Mr. and Mrs. W. F. Maddams. *Copiapoa cinera*.
- 3rd Mrs. H. Hodgson. *Opuntia claveroides*.

Class 13 Cacti raised from seed by the exhibitor, sown on or after 1st January 1968, in container not exceeding 15 in. by 15 in. 5 entries.

- 1st Mr. and Mrs. W. F. Maddams.
- 2nd Mr. E. G. Canham.
- 3rd Mrs. D. Finch

Class 14 One Agave. 4 entries.

- 1st Mr. R. H. I. Read. *Agave species*.
- 2nd Mr. D. V. Brewerton. *A. stricta*.
- 3rd Mrs. H. Hodgson. *A. toumeyana*.
- H.C. Mr. E. G. Canham.

Class 15 Three Euphorbiaceae. 4 entries.

- 1st Mr. and Mrs. W. F. Maddams. *Euphorbia knuthii*, *Monadenium schubii*, *Jatropha berlandieri*.
- 2nd Mr. D. V. Brewerton. *Euphorbia suzanne*, *E. stelata*, *E. memorialis*.
- 3rd Mrs. H. Hodgson. *Euphorbia bupleurifolia*, *E. obesa*, *E. suzanne*.

Class 16 Three Liliaceae. 6 entries.

- 1st Mr. and Mrs. W. F. Maddams. *Haworthia parksiana*, *H. bolusii*, *Aloe jucunda*.
- 2nd Mrs. H. Hodgson. *Haworthia truncata*, *Gasteria batesiana*, *Aloe albiflora*.
- 3rd Mr. D. V. Brewerton. *Haworthia bolusii*, *Aloe rauhii*, *Gasteria angustata*.

Class 17 Three Asclepiadaceae. 4 entries.

- 1st Mrs. H. Hodgson. *Fockea crispa*, *Diplocyathia ciliata*, *Huernia pillansii*.
- 2nd Mr. D. V. Brewerton. *Duvalia reclinata*, *Echidnopsis dammanniana*, *Huernia species*.
- 3rd Mrs. D. Finch. *Duvalia radiata*, *Caralluma europea*, *Stapelia hirsuta*.

Class 18 Two Crassulaceae. 6 entries.

- 1st Mrs. H. Hodgson. *Echeveria shaviana*, *Adromischus* species.
 2nd Mr. D. V. Brewerton. *Adromischus umbraticolus*, *Graptopetalum filiferum*.
 3rd Mrs. D. Finch. *Crassula columella*, *C. arta*.

Class 19 Three plants not covered by Classes 14-18. 5 entries.

- 1st Mrs. H. Hodgson. *Gibbaeum album*, *Glottiphyllum oligocarpum*, *Anacampseros mererii*.
 2nd Mr. and Mrs. W. F. Maddams. *Anacampseros buderiana* v *multiramosa*, *Seyrigia humbertii*.
 3rd Mr. R. H. I. Read. *Bergeranthus* species, *Anacampseros ustulata*, *Kedrosteris africanus*.

Class 20 Three Succulents (for Juniors under 19). 2 entries.

- 1st Mr. A. Rivett.
 2nd Mr. J. Meldrum.

Class 21 One *Jatropha* or *Cissus*. 4 entries.

- 1st Mr. D. V. Brewerton. *C. hypoluca*.
 2nd Mr. C. Parker. *C. juttae*.
 3rd Mr. and Mrs. W. F. Maddams. *C. hypoluca*.

Class 22 Three Succulents in pots not exceeding 5 in. dia. (For Members who have not previously won a First Prize in any Succulent Class). 4 entries.

- 1st Dr. and Mrs. G. C. W. Randall. *Titanopsis fulleri*, *Huernia hystrix*, *Trichodiadema densum*.
 2nd Mrs. D. Finch. *Stapelia schintzii*, *Caralluma* species, *Faucaria hooleae*.
 3rd Mr. D. A. R. Knight. *Echeveria affinis*, *Adromischus cristata*, *Euphorbia meloformis*.
 H.C. Mr. G. G. Leighton-Boyce.

Class 23 One Cactus and one other Succulent. 7 entries.

- 1st Mr. and Mrs. W. F. Maddams. *Euphorbia stellaespina*, *Coryphantha clava*.
 2nd Mr. C. Parker. *Pachypodium rosulatum*, *Mammillaria bombycina*.
 3rd Dr. and Mrs. G. C. W. Randall. *Crassula argenta*, *Echinopsis rhodotricha*.

Class 24 Miniature bowl garden of cacti and/or other succulents arranged for decorative effect to cover space not exceeding 12 in. by 12 in. Natural rock or stone may be used but not ornaments (figures, animals, etc.). 2 entries.

- 1st Dr. and Mrs. G. C. W. Randall.
 2nd Mr. C. Parker.

Class 25 Group of Cacti and/or other Succulents to cover space not exceeding 18 in. by 18 in. arranged for decorative effect. 2 entries.

- 1st Mr. and Mrs. W. F. Maddams.
 2nd Mr. D. A. R. Knight.

Awards

Mrs. Luty Wells Cup for Three Cacti: Mr. and Mrs. W. F. Maddams.

The Ibbotson Cup for Six Cacti: Mr. L. Jeffries.

Sarah Cutler Memorial Cup for Specimen *Mammillaria*: Mr. D. A. R. Knight.

S. J. Pullen Cup for Miniature Garden: Dr. and Mrs. G. C. W. Randall.

Spoon for the best Cactus in the Show: Mr. L. Jeffries, *Seticereus icosagonus*.

Spoon for the best Succulent in the Show: Mrs. H. Hodgson, *Haworthai truncata*.

Book Reviews

The First Fifty Haworthias by John W. Pilbeam: The Succulent Plant Institute, 63 The Drive, Morden Surrey. Pub. June 1970. Illustrated.

IN THIS attractively produced little booklet, Mr. Pilbeam describes and illustrates 50 of his favourite *Haworthias*. After giving a few general cultural notes, he moves on to the Classification of the Genus, which he feels really needs a thorough overhaul. In the meantime, as he says, the Classification by Karl von Poellnitz, based on the earliest arrangement in sections by Berger is the only system available, and he lists both Berger's sections and Von Poellnitz's sections and the species allocated to them.

These are followed by descriptions of the 50 species and varieties dealt with in alphabetical order, calling attention to the variations in language easily understood by the non-botanist, each species being illustrated by one of Mr. Pilbeam's own delightful pen drawings. These have obviously been done with great care and close examination of his own plants and are perhaps the most important part of the book. They should help the reader very considerably in the identification of his own plants. Anyone beginning to take an interest in *Haworthias* could not fail to find this booklet fascinating and helpful, and we would like to think that it may be followed by the "Second Fifty *Haworthias*" at some future date.

EMD

From the Treasurer

Journal Binders

Unfortunately, it is necessary for me to announce an increase in the price of Journal Binders from 12/- to 15/-, which will take immediate effect. Our present stocks, which are now exhausted, have lasted for approximately four years. To replenish these after such a period of time has, not surprisingly, involved us in increased manufacturing costs which must, unavoidably, be passed on.

Whilst the Society does not set out to make a profit on the binders, it cannot, on the other hand, afford to incur any losses and it must be remembered that a considerable amount is spent on postage when despatching them.

The Council has been forced to make this decision, in the hope that members will not find the binders too expensive. However, they would still appear to be around 25% down on anything seen in retail shops of a comparable quality and must, doubtless, represent good value.

Members in Tropical regions should note that stainless steel wires will later be available at a slightly increased cost, in lieu of those fitted as standard. This will only apply to overseas members as an option. Applications should not be made until an exact price is fixed, details of which will be announced in the next issue.

D. T. Best, Honorary Treasurer.

Connoisseur's Corner

Anacampseros buderiana

WHEN ONE FIRST collects other succulents the enthusiasm is for plants which grow quickly and easily and the Telephiastrum group of *Anacampseros* are welcomed with their fast growing rosettes and pink flowers which open on sunny, summer afternoons. However, later on when space is more at a premium and there is a desire to try growing slower and more challenging plants the Avonia group of *Anacampseros* are the ones to select. The name derives from the resemblance of these plants to bird's droppings and, incidentally, the name *Anacampseros* is derived from two Greek words which mean "to bring back" and "love". According to Haage the natives in Africa use the plant as a talisman to regain a lost lover.

Anacampseros buderiana is one of the group which also includes the better-known *A. papyracea*; it has small branchlets with the small leaves covered by the silvery stipules closely pressed to the stem and in a spiral formation, the whole impression being soft and silvery.

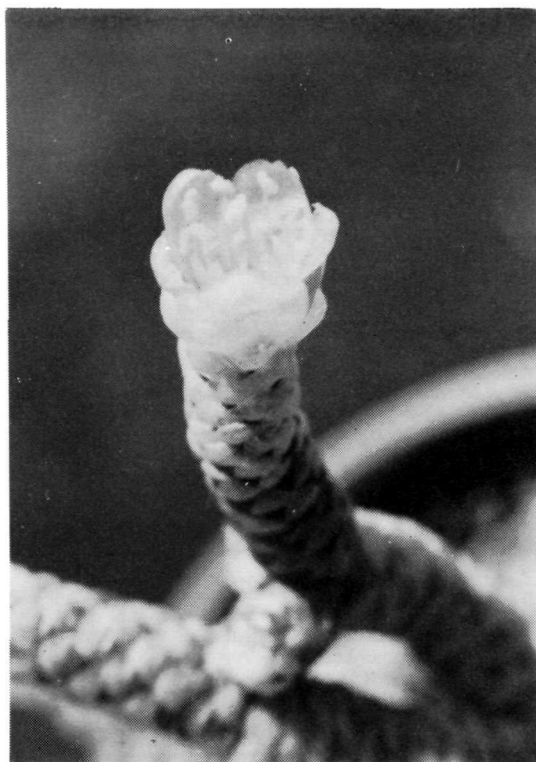
The branchlets will bud at the tips when only three to four inches in length and, on sunny afternoons the cream to white cup-shaped flowers with their yellow stamens will open. Each head may have several flowers from July to September and seed is easily set as well.

The variety *ramulosa* which is shown in the photographs differs only in that it has more numerous shoots as is implied by the varietal name. These plants need careful watering in the summer and should be in a position where they get the maximum of afternoon sun or the flowers will not open, in winter a temperature around 48° F minimum is advised and very little water at all. It can be grown from seed but growth is very slow and double-potting is advised to avoid rotting off. The main method of propagation is by cuttings and these are best rooted in a propagator.

The species comes from Little Namaqualand, South Africa.



Anacampseros Buderiana v Multiramosa



Anacampseros Buderiana v Multiramosa

"Cactus Grooming Pays for Groceries"

by Charles Hillinger

Reprinted from the Los Angeles Times of July 5th, 1970.

GILBERT H. TEGELBERG combed the long, stiff, silvery haired Old Man Cactus plants.

"Watch out for dandruff", Southern California's "Cactus King" cautioned with a grin.

"I try to keep these fellows well groomed," he said.

"It's characters like these that have kept my wife, my son and me in groceries for 50 years".

The Old Man Cactus is one of 1,500 valid species of the desert plants grown by Tegelberg in three large hot houses in the sparsely populated high desert above Lucerne Valley.

Cactophiles across the land call Tegelberg the "Cactus King" because his collection is considered one of the finest.

There are roughly 2,000 known species of cacti and the 73-year-old dean of cactus growers has grown nearly all of them.

Tegelberg is believed to have developed more hybrids than any other grower. Several cacti now

owned by collectors throughout the world carry his name—plants like the *ferobergia gil tegelberg* and the *mammillaria tegelbergiana*.

Many of his rare plants sell to collectors for \$500 and up, some for as much as \$2,000 a single plant.

"I've got a few in here I wouldn't sell for any price", he said.

Some Varieties on Display

Some will be shown at the Cactus and Succulent Society of America convention and show at the Los Angeles County Arboretum in Arcadia.

The Tegelberg family is one of less than 50 commercial cactus growers in California—which leads all other states in production of desert plants.

"You know cacti is native to the western hemisphere", said Tegelberg as he walked from table to table describing one rare plant after another.

"Most species come from the tropics of Mexico, Central and South America. That's why, even though our gardens are on the desert, we grow them in hot-houses under controlled atmospheric conditions.

"They're all so different. Look at this bishop's cap. A dead ringer for the cap bishops wear."

Tegelberg began growing cactus as a boy in his native Iowa. But he did not get down to the serious business of raising the plants until he was gassed during World War I.

Hospital Garden

"I spent three months in a hospital at Cannes, France, recovering," explained Tegelberg, showing his membership card in the American Balloon Corps Veterans Assn.

The hospital had a cactus garden that renewed his interest in the plants.

After he was discharged he started growing cactus in Inglewood—at a time when hardly anybody was growing the plants commercially.

"Cactus kept us off relief in the Depression," he said.

"We'd still be in Inglewood but smog moved us out. My lungs have always been in bad shape since the war."

The Tegelbergs homesteaded a half section—320 acres—in Lucerne Valley in 1930.

Cactophiles from around the world continue to visit the Tegelberg place on a lonely desert road 130 miles northeast of downtown Los Angeles.

Forthcoming Meetings:

Wednesday, November 18th:

The Genus *Ariocarpus* Dr. C. J. Hardy

Table Show: *Echinocactaceae*.

Wednesday, December 9th: Members Slides.

Wednesday, January 13th: Panel.

Wednesday, February 24th: Mr. Cook. Photographing Your Plants.

North Surrey's First Open Show

ON SEPTEMBER 5th 1970, the North Surrey Branch struck out with a new venture by holding an open show at the 24th Carshalton Show which is held annually in the local park at this time of the year. The invitation to participate was welcomed by the Branch and the organisers provided ample space of half a good sized marquee (the remainder of which was occupied mainly by the local Home-made Wine Society!) and also the necessary staging, publicity, etc., all of which were much appreciated.

Our organisation was capably handled by Dr. T. C. Smale and the forty open classes attracted a considerable amount of interest from the general public, which was most gratifying. At least one new member was signed up on the spot and a number of other people expressed their intention of coming along to one of the Branch meetings and we hope this will result in further new members.

The number of entries in the various classes was encouraging, averaging nearly five entries per class, many of the more popular classes having six or seven entries. The judges were Mr. K. Grantham (Cactus classes) and Mrs. H. Hodgson (Succulent classes) and they both expressed their delight at seeing such a high standard of entries. They certainly were quite an impressive sight.

The Worshipful Company of Gardeners' Diploma in Horticulture, for the best Cactus in the Show was awarded to Mr. L. Jeffries for his *Seticereus icosagonus* already familiar to visitors to the Westminster Show and a similar award for the best Succulent was won by Mr. B. P. Knight for his magnificent *Aloe plicatilis*, with its fan-shaped olive-green leaves. All three Certificates of Merit were won by Mr. & Mrs. Maddams for their prize-winning entries of *Euphorbia huanacensis*, *Ferocactus acanthodes*, one of the plants they collected in Arizona last year, and *Testudinaria paniculata*.

The Maddams "team" also won a "Garden News" Plaque of Honour for their six succulents other than cacti, a similar award going to Mr. L. Jeffries for six cacti.

In the Novice Classes Mrs. A. Whicher received a "Practical Gardening" Award of Honour for her winning entry in the cactus section—a fine plant of *Mammillaria collinsii* var. *Salina Cruz*. Also in the Novice section a very well grown *Euphorbia globosa* in full flower won a "Practical Gardening" Award of Merit for Mr. D. J. Andrews. The two Junior classes attracted five entries one of which obtained a "Garden News" Scroll of Honour for Julian Meldrum for his *Gymnocalycium mihanovichii*. Other firsts were won by Mrs. B. Read for a most attractive bowl garden and by Mr. A. Sideway.

As already mentioned the general standard of the plants shown was high and the Judges must have faced

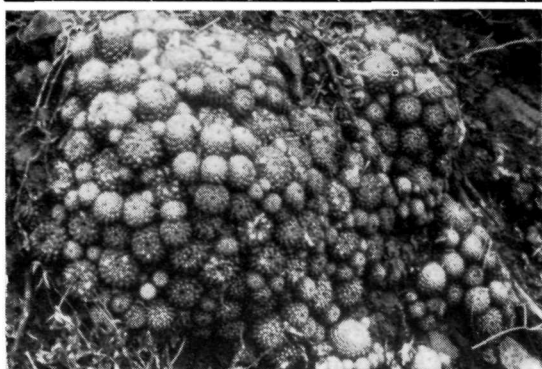
difficult decisions in many classes. As this was an open show, we would have liked rather more competition from non-members and we had hoped that other branches or societies would have competed. However, we feel that the experiment was very successful and worth the effort and as we propose repeating it next year, we hope that Branch members will have stronger outside competition to face.

L. S. W.

Branch News

North Surrey Branch

Mr. Peter Sharp, a member of the Society now resident in Los Angeles, spared time from his short vacation here in England to talk to the North Surrey Branch on August 26th about cacti *in habitat*. With the aid of a number of slides of a very high quality he described some of the hazards of desert travel in Baja California and the south-west U.S.A., and the rewards awaiting the percipient plant hunter there. Though primarily a *Mammillaria* specialist, Mr. Sharp did not disregard other succulents and showed some striking pictures of *Ferocactus*, *Cereus gigantea* and *Dudleya*. One can only envy him his opportunities of studying so many interesting plants in their natural surroundings, and his observations were greatly appreciated by his audience.



The *Mammillaria* found at San Pedro, Sonora

Unfortunately this photograph could not be included in my article in the previous Journal as we were using it in our talks at the time. It shows the largest clump of the *Mammillaria sonorensis/hertrichiana* group which we saw high up on the steep canyon wall.

When we saw it in habitat we considered it was *M. hertrichiana* but further examination of the plants we brought back and comparison with the descriptions in Craig's "The *Mammillaria* Handbook" have given us further thoughts on the matter. The main difference from the plants of *Mammillaria sonorensis* which we collected on our way along the dirt road was that these plants in the canyon had well-defined white radials which were easily distinguishable from the centrals and an amount of white wool in the axils. Further discussion of this point will be found in The *Mammillaria* Journal, October 1970 p.77.

Meeting places of the Branches

- | | |
|---------------------------|--|
| Northern Counties: | Civic Service Centre, Whitley Bay,
Third Monday in month at 7.30 p.m. |
| Berks & Bucks: | Windsor Public Library,
One Tuesday in each month, 7.45-10 p.m. |
| West Kent: | Beckenham Old Town Hall,
Second Friday in month, October to May only, 8 p.m. |
| Essex: | Cranbrook Methodist Church Hall,
The Drive, Ilford.
First Saturday in the month, 7.30 p.m. |
| North London: | Capel Manor, Waltham Cross,
Third Friday in month, 7.30 p.m. |
| Herts: | Friends Meeting House, Upper
Latimore Road, St. Albans,
Second Monday in month, 7.30 p.m. |
| North Surrey: | Adult School, Benhill Avenue,
Sutton,
First Tuesday in month, 7.45 p.m. |

Correspondence

To the Editor:

I can appreciate the concern of Mr. Mays to prevent or remove the black mould that has formed on his *Ferocacti*, *Hamatocactus setispinus* and *Opuntia* species; it is very unsightly and I suspect this is one reason for the comparative unpopularity of what Professor Borg called "this princely genus of cacti". This may also be true in the case of many of the *Coryphanthaceae* species which are similarly afflicted.

I became particularly interested in this problem for two reasons, when I visited the Southern U.S.A. and north western Mexico in May 1969. My wife and I were fortunate enough to find and collect a colourful plant of *Ferocactus acanthodes* and, naturally, we were anxious to preserve its pristine beauty. The other point which impressed me was that one does not encounter plants with black mould in habitat. The process of secretion of the sugary liquid, upon which the mould grows, is fundamental to the physiology of the plant; in botanical parlance it comes from what is known as an extra-nuptial nectary on the upper side of the areoles. If this secretion remains the growth of mould will occur sooner or later and, undoubtedly, the damp confined conditions of the average English greenhouse during the colder months encourage its formation.

However, having seen large clean specimens of *Ferocacti* in habitat it occurred to me that these plants will always receive a good wash when it rains and this is something which few of us emulate in cultivation. I have therefore liberally sprayed our collected specimen of *F. acanthodes* with warm water at regular intervals and this treatment has also been given to a rather large plant of *Coryphantha clava*. In both instances the results have been very satisfactory. I also understand that any of the proprietary liquid copper fungicides will prevent the formation of mould but here I cannot speak from personal experience.

The often quoted remark that prevention is better than cure is very apposite in the present instance and the task of dealing with a plant which has become disfigured calls for a good deal of patience. It is probably worth removing from its pot, wrapping up the roots in a polythene bag and thoroughly washing the body in warm water to which a little liquid soap has been added. The plant should then be rinsed and allowed to dry. It may be necessary to clean the spines individually; this is certainly possible with *Ferocacti* although it is rather a tedious task. The best implement for this purpose is a pipe cleaner although this should be used with care as the end of the central metal wire may protrude beyond the covering and puncture the plant body.

W. F. Maddams,
26 Glenfield Road,
Banstead,
Surrey.

Dear Sir,

I am the member of The Cactus and Succulent Society of Great Britain, Membership No. 730.

I was reading in the Journal your year's news. I should like to know, if the some members of your organization would care to exchange the cactus and succulents and experiences with me. I have grown for many years these plants, especially "Notocacti".

I hope that somebody will be interested about this hobby.

I am looking forward to good news from you.

Yours sincerely,
Professor, Jan Bouska,
Luzova 1,
Cerna Pole,
Brno,
Czechoslovakia,

Dear Editor,

Would you please include this article in the Correspondence column in the next issue of the "Cactus Journal".

Does anyone specialise in the Genus *LOBIVIA* ?
if so

The undersigned would like to hear from anyone, with knowledge and experience of this species.

Please contact: D. J. Roberts,
11 Glens Avenue,
Knowle,
Bristol.
BS4 2LB.

Secretary's Notes

ANNUAL DINNER. At the time of writing these notes—19th September—I have only received some five applications for reservations for the annual dinner. My aim is for a gathering of at least 80 members and their guests so I would urge you to send me your applications forthwith so that my task of organising this event may be made as easy as possible and any last minute rushes are avoided.

Arrangements are in hand for Gordon Rowley to give us one of his famous film shows after we have dined. From my own past experience of these occasions I have no hesitation in saying that a highly entertaining evening is assured for all who attend.

In order to keep administrative costs to a minimum no acknowledgement for reservations for the annual dinner will be sent unless specifically requested. Cheques will however be passed to the Hon. Treasurer promptly and the paid cheque can be treated as evidence of receipt by the Hon. Secretary.

ANNUAL GENERAL MEETING. Formal Notice of the forthcoming Annual General Meeting to be held on 24th March next is to be found elsewhere in this issue. I need hardly remind members of the importance

of giving due thought as to society's officers and Members of Council for the coming year and to ask that any nominations are sent in to me in good time.

Members should also note that the time of the meeting has been brought forward half an hour by comparison with previous Annual General Meetings.

DON'T FORGET THE DINNER!

Thursday, November 26th.—7 for 7.30
The Windsor, 333 Vauxhall Bridge Road, Victoria,
London, S.W.1.

NEW BRANCH

The Hatfield and District Branch held their inaugural meeting on Monday, September 28th. The Branch was honoured to have Mrs. D. Shurly in attendance.

Any member will be most welcome to attend their meetings. Held on the last Monday in every month at Hatfield Congregational Church Hall, St. Albans Road, East, Hatfield, at 7.30 p.m.

Branch Secretary—Mr. Martin Hyams, 140, Ashley Road, St. Albans, Herts.

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Obituary

Dr. A. L. Geyer

It was with great regret that we learned of the death, earlier this year, of Dr. A. L. Geyer, who was High Commissioner in London for the Union of South Africa during the early 1950's, when he was personally known to a number of our members. Dr. Geyer who was an Hon. Member of our Society specialised in Lithops and Stapelias with Lithops as "his very special love". During his period in London he gave a talk to the Society on his experiences when hunting Lithops in South and South-west Africa, and in 1967 we had the privilege of publishing an article by him on the same subject. He will be much missed as he was a keen collector of these plants and Lithops Geyeri was of course named in his honour.

Monsieur Veau

It was also with regret that we received the news of the sudden death in a chairlift accident of Monsieur Veau, who was a founding member of our French opposite number the Association Francaise des Amateurs de Cactées et Plantes Grasses. Monsieur Veau was a well known botanist and was in fact on his way to visit a famous alpine garden when the accident occurred. He will undoubtedly be much missed, in particular by the French Society.

READERS are asked to note that advertising space is available in this Journal at the following rates:

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Advertising copy should be sent in as soon as possible and the following are the final dates on which notices or alterations or other instructions can be accepted:

For the February issue 1st January
For the May issue 1st April
For the August issue 1st July
For the November issue 1st October

In addition there is a SMALL ADS. column at 1/6d per line, minimum 4/6 for which copy should be received on the above dates also.

A Booklet on the Classification of Cacti and Succulents is now available from the Show Secretary. The price is 1/- (5 p) each plus postage. Branch Secretaries can obtain them at 12 for 10/- (50 p) plus postage. Postage is 1-8 copies 4d, 9-11 copies 6d. Postal Order or cheque, NOT stamps, please.

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