

# British Cactus & Succulent Society

## Southampton & District Branch Newsletter

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## Editorial

Not a great deal to say today – it's too warm and humid to think! Actually it's only the last two or three days that are giving us a feel for some proper summer weather. Earlier on in July, we did have decent rainfall, but the garden is beginning to look dry again.

## Announcements

Last month, the branch took part in displays at the **New Forest Show** and also the **Solent Fuchsia Society Show**. According to Ivor, both of these events went well, with plant sales running at levels similar to previous years.

Last weekend saw Reading Branch hold a convention to celebrate Gordon Rowley's 90<sup>th</sup> birthday. There were some very good talks from Graham Charles, Len Newton and Nigel Taylor, as well as an interesting montage from Gordon himself.

## Last Month's Meeting

### *Propagation of Cacti & Succulents*

Tony Roberts thanked the branch for inviting him. It was his first time speaking to our branch and he commented that it was nice to see so many faces – in some branches, attendances are down to single digits.

It was meant to be an interactive evening and he started by asking who propagates plants? More than half the audience raised their hand. What methods do you use? Various ideas were mentioned - cuttings, seed, offsets, grafting, leaves. Even single tubercles can be used with plants like Mammillarias.

Next to him at the front were some large boxes – these were some of his “Blue Peter” experiments and in the first half we'd go through these. After the break he would show some slides of different plants that had been propagated by various techniques.

He's mentioned that he was a scientist, although now retired. All scientists have a toolbox and it was time for us to see his. First were some forceps – these were to pick up Opuntias – he grows a lot of them. David Neville said he had one question about Opuntias – “Why?” Perhaps to sell them to John Gander, the Opuntia Man. Tony said he never used to grow them – he started with Mammillarias but one lady in North London Branch used to grow them, and then 15 years later he saw the light and started growing the small ones.

A knife is very useful. He uses the 18mm snap off type which gives a nice long cutting blade - and the replacement blades are only 20p each. Next were paint brushes. What are they used for? The audience shouted out pollination and mealy bugs. Pollinating mealy bugs wasn't right, but the individual answers were correct. To deal with mealy bugs he uses a cocktail stick soaked in methylated spirits - when you stab it, it shrivels up so it's a double whammy. Alice said with some plants you can't get to the mealy bugs because they are nestled deep inside crevices and so she uses a dropper to pour it on. Tony said if he had a bad infestation, he uses a jetspray/power washer to blast the mealy bugs off, but of course you can't do that with delicate plants. He also mentioned that he dipped the blade of his knife in meths every time he uses it. Most people fail with grafting because they cut some off some of the manky bits with the same blade and end up transferring bad spores to the clean part of the plant.

Tweezers are useful for taking seed pods off or removing dirt and detritus. Different sorts and sizes of spatulas are good for moving dirt and gravel around. With scissors, he has special left handed ones which the rest of his family are unlikely to pinch. Plant labels and pens and pencils are also required. Labels are best bought in large quantities to get the best prices. An alternative is to make your own, from cutting up strips from plastic containers – you could save a lot of money over the course of a

season. A little dibber is useful to dig holes into the soil in seed trays, or you can use a piece of dowel to do this. Adrian suggested that 6" nails were also good for this.

Tooth brushes are useful for cleaning rims of pots. Ivor said that he had used the bristles from a toothbrush and put these into an artist brush to make a stiff brush to get the seed out of lithops capsules. Mark suggested using an electric toothbrush to clean mould off the greenhouse glass but to most this sounded expensive. Tony said he uses the brushes to hold and support plants while repotting. His family have gone over to electric brushes so he doesn't get used one any more, but he was delighted to find some on sale in Sainsburys in Melksham at 10p for a pair, and he's stocked up on them.

He always used to use Chempak No 8 as fertiliser. However the company went into liquidation and the brand was bought by Thompson and Morgan who proceeded to make it much more expensive. He now uses Phostrogen which is not quite as good but does contain most of the same trace nutrients. His tip was to buy it in September from Wilkinsons when they are clearing out the gardening section - you might be able to get it for half price.

You will also need lots of seed trays - and a tamper to level off the soil. His had been made from a bit of aluminium section which was originally a piece of extrusion from a suspended ceiling. Yellow sulphur is useful to keep fungus off. Mike asked if there was any difference between the yellow and green forms? The answer was no. Plastic scoops can be made from cutting up old used plastic bottles. Something made from a high quality bottle like the ones used for Domestos would last a long time. Finally you need some 2 inch square pots as well.

Tony then went on to describe his method for seed raising. His usual technique is to place pairs of pots in a plastic bag. Labels are placed in the outer edge of the pots and are used to hold up the plastic, keeping the moisture off the young plants. His soil mix is two thirds John Innes seed compost and one third coarse sharp sand. He used to use Benlate as a fungicide but that is no longer available to the public so he does without. His wife has banned him from microwaving the soil after a previous accident so he doesn't do that either. He found that he doesn't have much trouble with fungus or moss. He uses ordinary tap water and doesn't boil it. Rain water is not suitable because it contains too much other stuff. His technique is to fill pots to the brim with the dry compost mix and then place the pot in trays of water. Once the water soaks right up to the top, the soil will compact and goes down to the rim.

He places the seed on top so that it is in contact with the damp soil. Cacti seed need light to germinate so don't cover the seeds and don't put the pot somewhere dark. In response to a question from the audience about top dressing, he does not use any. The plants are left in the bag for a year and if after that period he sees gaps of soil around the plants he uses a fine round grit to cover up those gaps. Jim asked whether fluoride in the water would affect things. Tony felt that it was going to be such a small amount that it shouldn't matter. Water in his area contained lots of chlorine and the plants didn't seem to mind that.

David queried the period of time the plants were left in the bags. Tony mentioned that if they are succulents, he opens the bags after a month to avoid damping off. With cacti, he doesn't open the bags at all, but just checks that there is moisture in the bags. If there is none, there may be a leak and the water may need replenishing. The trays of seedlings are left on a hot bed which maintains the temperature at 20°C. The plants are not very big in the first year, but in the following 6 months they start growing rapidly. He always used to sow seeds on Easter Sunday, so sometimes they were sown in March, and sometimes in April. This year, he was away at Easter so the seeds got sown on 10<sup>th</sup> - 11<sup>th</sup> May. He mentioned that he was not an expert, but was experienced in growing. If you're already successful, there's no need to change what you're doing.

From one of the large boxes at the front, he produced a tray of seedlings - the ones sowed on 10<sup>th</sup> - 11<sup>th</sup> May this year, so the plants were 7 weeks old. This was passed this round the audience. He was asked why he didn't sow the seeds any earlier. He said he had tried earlier sowings, but it didn't seem to make much difference and the seedlings seemed to catch up with each other. He mentioned that Richard and Wendy Edginton sow theirs in December, but then they use heat and light. For him, things grow better from March onwards. Mark Jakins said he leaves it till later in the year when sowing garden plants straight where they will grow and Tony said he grows runner beans and does the same.

A question from the audience queried why there were different coloured tags on the bags? Tony said this was a good observation - the colours identified the source of the seed, for example from the Mammillaria society, his own seed and those from the BCSS seed list and from Stirling Baker. He was also asked about the light levels that the seeds are exposed to. The seeds are grown in a greenhouse which has bubble plastic all year round. The seeds

are placed on a hot bed in unheated propagators whose lids have gone opaque. When they were new, the lids were clear and he used tissue paper to diffuse the light. After a year, the seedlings go on the bench in the same house - so they do get more light. Another tray he passed around was sown in April 2010. It depends on how well the plants have grown before you move them on to a bigger pot or seed tray. He had also brought along some of his two year old plants and these were ready to move on to pots or trays. He said there were around 300 plants in a tray, and when you move them on, you need a lot more space! These seedlings were getting too crowded and since this was his last propagation talk of the year, he would soon repot them.

In response to another question, he does not feed the seedlings at all - or sometimes he just gives them one feed until they get to 2 years. After that they are fed about every 6 weeks, like the rest of his plants. When they have filled their 2 inch pots, the seedlings need to be moved on. If there are just 3-4 plants, he uses individual pots, but if there are a good number, then he puts a grid of 8x13 or 7x11 seedlings in a seed tray. He advised against putting them too far apart and we were shown a typical tray planted with about 7x10 (70) plants. Always put a date on the labels - otherwise you'll forget what you've done. Eventually, the plants will be moved into 2.5" pots, at which decide you can decide which ones you are going to keep and which ones you'll sell or give away to friends or the raffle.

In summary, you need a system and have to be prepared to do it for several years. You have to be relatively organised and need a heck of a lot of patience - plants from offsets and cuttings do grow much more quickly.

A questioner from the audience asked "how do you make sure you have viable seed?" There are times when you will have failures, but with the Internet you can buy almost any seed from somewhere. You just need to ensure that the source is reliable, the seeds are named correctly and hopefully come from documented. You can of course grow from your own seeds. He grows gasterias and they almost always hybridise if more than one type has flowers open at the same time. He used to get seed from Doug Rowland (who has now stopped selling), the Mammillaria Society, the BCSS, Mesa Gardens (Steven Brack) and there are also some German and East European suppliers.

Adrian asked "how do you get good distribution of seeds within the pots?". Tony said the seeds could be mixed with silver sand and sprinkled onto the compost. Or you could just use your fingers. If he has only a few seeds, then he then places them

individually. Adrian said he uses a knife dipped in water and uses the surface tension to hold the seed. Tony said Mammillaria seed taken fresh from a pod is usually wet and sticky.

He doesn't grow everything from seed. One of the easiest methods is to use a plant which offsets and split it up. He showed some examples. A rebutia started off as single offset in May 2009 and it had now grown to many dozens of heads. In the spring the tray was a nice sight, with all the flowers open. Similarly with succulents - he had a really tired crassula - this was broken up into pieces and rooted. For soil for the cuttings he uses 2 parts of John Innes and 1 part of grit - this is also his standard cactus mix. If the plant is touchy, then he uses an extra amount of grit. He hasn't got into all the fancy materials like cat litter and vermiculite which are discussed on the forums.

Do you have mice asked Ian Acton? The *Lophophora williamsi* in one of the trays being passed around appeared to have been nibbled. Tony said he thought it happened when the plants were left outside and it might have been a blackbird. He was hoping that the damage to the growing point might make it do something unusual. Other people have had issues with snails or earwigs. Ivor mentioned he had lot of snails in his garden but they never seemed to touch his Sempervivums.

With Opuntias, the smaller species are very easy to grow - you just take a pad and off you go. This genus is going through a renaissance and lots of people seem to be growing them, which was good for business. A tray containing a mixture of plants was a "rescue" tray - some times people in your locality give you plants which they no longer need or want. Some of the plants are only fit for the skip but others could be propagated with some attention and this is useful to preserve plants from a long time ago. Adromischus can be grown from stem cuttings or just leaves and we saw a tray full of nice plants. One big advantage of vegetative propagation is that there was no hybridization involved and you would get exact copies of the original plant.

With gasteria, the best way to propagate is from a leaf cutting. Using *Gasteria batesiana* as an example, he had chopped off a leaf, let it dry and then placed it near compost to get the roots to start. The leaf can then be planted vertically and you will get 8-9 plants growing all around the edge of the leaf. Another one he had tried was *Gasteria armstrongii* - planted in June 2008, it had taken 3 years to grow a handful of plantlets, so this is not always fast.

He has a big tall *Cleistocactus* in his collection and sometimes the tips dry off in the winter. When this happens to the growing centre, the plant just sits there not doing anything. You can chop it up and cut it into lots of sections each a few inches long. Let these dry and then root them down and you've got a very good chance of some new plants growing. He showed examples of *Cleistocactus baumannii* ssp. *horstii* which is a delicate thin stemmed plant. For some reason, some had grown new offsets at the top and some at the bottom. Did he plant it upside down? Categorically, no! From 2 cuttings he had got 7 nice new plants.

We resumed after the break. There aren't that many books on propagation of cacti - but even general books on cacti can sometimes have some notes on growing from seed or propagation. He had got *Cacti* by Nico Vermeulen in one of the surplus book stores for a couple of pounds and this had a nice section on growing seedlings and pricking them out and grafting. It was one of the better books he'd found. *Cacti from Seed* by Edgar Lamb dated from 1959 - he was 4 at the time. The advice changes as the years go by. It said protect seeds from direct sunshine but allow a free flow of air. There was a Doug Rowland booklet on propagating choice cacti by grafting. *Cacti and Succulents from Seed* was produced in the USA by the Amateur Digest - it consisted of little articles from various authors such as Doug Rowland, Ken Burke (of Pete & Ken) on how to grow Fraileas, succulents, Ariocarpus and so on. A great Australian book was *Succulents - Propagation* by Attila Kapitany and Rudolf Schulz. This super book covered almost every genera of cacti and succulent and described the use of bulbils, offsets, divisions, headcutting, leaf prop, apical core drilling (where you take a drill and take out the plant's growing centre) seed raising, grafting and much more.

Moving on to grafting, he was given a very tall *Opuntia subulata* a couple of years. He chopped this up into little pieces and each little piece rooted and formed 2, 3 or 4 little plants. This species also makes a very good grafting stock. With *Opuntias* such as *Tephrocactus*, instead of slicing across the pad, he has tried cutting vertically down the pad and laying these on their side and this works well. If the offsets which form are taken off at regular intervals, then new ones will form in their place and you can make the plant produce many more offsets this way. He mentioned that if you graft a cactus, it has a higher propensity to offset. He didn't know why but it's just something that he had observed. He held up a floppy *Opuntia microdasys* - this had been produced by rooting a seed pod. When it comes to vegetative reproduction - just experiment - there is

no right or wrong. He was a chemist in his working life and was doing new things, some which had never been tried before - so like to do the same here.

We now switched from real plants to some pictures. Tony mentioned that quite a few of the pictures he was going to show were digital scans of slides so these were not necessarily the best quality. We started with a picture of the 4 books he had mentioned. Next was a picture of *Mamillopsis senilis*, and he explained it was difficult to buy this plant when first introduced so he raised it from seed, and we saw a 3-4 year old seedling in a 2.5" pot. His seedlings flowered well and he gave away many to friends, but not one of them managed to re-flower them. It turns out that you need to keep them cool and give them maximum sun in the winter. The nice thing about this plant is that once the spectacular red blooms form, they remain open for several days.

*Mammillaria magallanii* is one of the earliest to flower, and it does so at a time when there are hardly any insects around, so it needs some human help to pollinate the flowers. If you do that you eventually get some nice seed pods on the plant. We also saw the seed pods on *Mammillaria yaquensis* - however this plant doesn't need to be propagated from seeds - you just have to touch it and bits fall off. With *Epithelantha micromeris*, the flowers are self-fertile and every seed pod always contains exactly 12 seeds. He also got 100% germination. The plants after 6 weeks were tiny but you could begin to make out the clusters of feathery spines. We saw some one-year old seedlings which had been potted on. Sometimes a drop of water in the growing point can damage the plant and cause multiple heads to form.

We then saw a very old shot of *Opuntia robusta*, which he still has in his greenhouse. At the top of the plant were the flower buds. After the lovely yellow flowers come and go, the seed pods form. These taste like pomegranate and this year he will be harvesting around 40 fruits. The pods do each have about 500 seeds in them which you either have to spit out or digest! We saw some little *Opuntia robusta* seedlings, three months after germination. At this stage they have a stem and juvenile leaves. After several months, the stem strengthens, and it's only in the second year that the plant grows something resembling a typical *Opuntia* pad.

Some green blobs only a month old were *Mammillaria bocasana*. A couple of months later they were starting to grow some spines. We also saw *Mammillaria microcarpa* (*M. grahamii*). Again the plants were tiny but they were already beginning to grow central spines. We saw some shots of his

earlier seed-raising set up. He used to have open trays around the back wall of the house for growing the seedlings, with plastic over the top and a wire mesh. The seedlings were over-wintered in a spare bedroom or the garage, so they were only growing from March to September. When big enough, he moved them into 2.5" pots and we saw a large batch of these on the lawn, being prepared ahead of a big weekend sale event.

Now for a couple of shots of other people's collections. At Wendy Edginton's we saw the pots of young plants on a hot bed. They used fluorescent lights for 15 hours a day. Wendy didn't transplant into seed trays, so the plants were grown on and then moved into 2.5" pots when big enough, the idea being to handle them as little as possible. She also grows lots of *Mediolobivias* and we saw trays of these. Next was a mixture of tissue culture at Robert Wellens' in Holland. Robert propagates rare plants such as choice *Haworthia*, *Ardomischus* and *Aloes*, either from stem cuttings, stems of flower spikes, or little bits of a leaf. He gets an initial growth and this is divided in sterile conditions to get individual plantlets. By a special technique (involving ionisation and chemicals) he introduces variegation too. David Neville said some of the plants do revert and the offsets often tend to be normal, whereas with naturally variegated plants, depending on where the offset forms, you can get a variegated offset.

We saw a shot of a Dutch nursery growing cacti plants by the acre. He found some nice cristates of *Gymnocalycium baldianum* amongst the normal plants and was pleased to snap them up for a euro each, a week before Stuart Riley was due to visit the same nursery! The nurseries don't mind since they consider anything non-standard as a reject and often throw it out. We also saw boxes of "lollipops", each containing 120 plants of grafted coloured *Gymnos*. Imported from Korea, these are potted up in Holland and sold on.

Next was a green bodied plant which he asked the audience to identify. After suggestions of *Echinocereus* we settled on *Rebutia* and the species was identified as *senilis*. "Which variety or subspecies" was harder to answer without seeing the plant in flower. It was in fact the cultivar "Rose of York" which was found years ago as a white sport, and which comes true from seed. Next we saw *Mammillaria glassii* being grown in an effort to get different variations of plants. This was followed by *Rebutia fiebrigii* var. *densiseta* and *Rebutia perplexa* which has gorgeous lilac purple flowers. We also saw an example of *Mammillaria*

*guelzowiana*, followed by a shot of its flower – one of the showiest of all the *Mammillarias*.

Tony mentioned that he only had pictures of two more plants to show – but there would be a lot of slides. First was *Mammillaria theresae*. We saw young plants and then after another 15 months you can see the plant looking more distinctive. It grows a big tuber and then flowers. The flowers are large in comparison to the body and are usually lilac with a white centre. However, he had one clone which was almost lilac throughout. He proceeded to show the results of chopping up the plant and getting lots of offsets on the lower section and also on the top part once it was put on a stock.

Next was *Mammillaria saboe* ssp. *goldii* which was acquired as a single-headed plant (on *Trichocereus* stock) from Holly gate in 1989 for £2.50. This was the first example of this plant which he bought since previously they had cost as much as £16.

The plant grew a few offsets and he let it continue, with the plant forming 3 or 4 flowers. Next, he decided to take off all the offsets and even cut pieces off the main body on the graft. The offsets were put on their own grafts using *Trichocereus spachianus* and *Trichocereus pachanoi* as stock. The small slivers of the original body left on the original graft grew new offsets and these were allowed to develop. With the new grafts, one of the plants pushed itself off the stock but also developed roots so it could be potted up on its own roots. The pieces cut off the main body were also grafted and these also grew offsets. One of the plants went on to form 12 offsets. Soon he was producing dozens of plants and responsible for providing most of Hertfordshire's supply of *M. goldii*. The plant with 12 heads on a graft in a 2" pot bore 43 flowers and got first prize at a Capel Manor show, beating all the other grafted plants.

With grafted plants, you do have to watch for when the graft exhausts the stock, at which point re-grafting is necessary. One of the *M. goldii* plants went on to form 45 offsets, all growing at a uniform rate. One November he found this plant looking lopsided and the stock had given way. He took it into the bedroom and placed it on pure silver sand with some bottom heat. A couple of the heads did not survive, but by next spring, he had 43 plants on their own roots! He summarised by saying that one plant costing £2.50 had gone on to produce 288 plants, half of which were sold and many of the others given away. We saw a picture of his greenhouse from 13 years ago. He finished not with a sunset, but instead a picture of the greenhouses

covered with a blanket of snow during the 2009 winter.

There was time for some questions at the end. He was asked how many plants he raised in a year. He had no idea. His main collection consists of 2500 plants, but with the seedlings assuming 300 plants a tray and 10 trays, that's a lot of plants! He mentioned he had no room to do anything!

*Vinay Shah*

### Table Show Results

There were 17 entries in the July table show.

	<b>Cacti – Parodia</b>	<b>Succulents – Crassula</b>
Open	(1) T Grech Echinopsis kermesina	(1) J Burnay Aloe peglerae
	(2) T Grech Echinopsis multiplex	(2) J Roskilly Aloe erinacea
	(3) -	(3) B Turner Aloe aculeata
Intermediate	(1) T Smith Lobivia arachnacantha	(1) T Radford Aloe jucunda
	(2) J Roskilly Chamaecereus lemon/orange	(2) J Burnay Aloe africana
	(3) -	(3) B Turner Aloe aristata

*Ivor Biddlecombe*

## Next Month's Meeting

Our next meeting will be held on the 6<sup>th</sup> of September, and will feature Colin Walker, who will be talking about Agaves.

The September Table Show will consist of the **Gymnocalycium** group (cacti) and the **Mesemb** group excluding Lithops (succulents). Please note that members can submit more than one entry in any of the classes, and that points will be earned for each placed entry.

The **Gymnocalycium** Group includes *Gymnocalycium*, *Brachycalycium* and *Neowerdermannia*.

The **Mesemb** family is large and includes over 120 genera, the names of which are listed in the Handbook of Shows. Lithops are specifically excluded, but plants belonging to the *Argyroderma*, *Cheiridopsis*, *Conophytum*, *Faucaria* and *Nananthus* subgroups are allowed. Some of the more common eligible species include: *Argyroderma*, *Gibbaeum*, *Pleiospilos*, *Cheiridopsis*, *Conophytum*, *Ophthalmophyllum*, *Faucaria*, *Glottiphyllum*, *Lampranthus*, *Trichodiadema*, *Aloinopsis*, *Fenestraria*, *Frithia*, and *Titanopsis*

## Forthcoming Events

Sat 13 <sup>th</sup>	Aug	Isle of Wight	Open Evening at Robin Goodredge's
Sat 16 <sup>th</sup>	Aug	Portsmouth	No meeting
Tue 6 <sup>th</sup>	Sep	Southampton	Agaves Through the Ages - Colin Walker
Sat 10 <sup>th</sup>	Sep	Romsey	Soton Branch Display / Plant Sales @ Romsey Show
Sat 10 <sup>th</sup>	Sep	Isle of Wight	Fossils - Mrs Simpson
Sat 17 <sup>th</sup>	Sep	Portsmouth	USA 2011 - Ian Woolnough
Mon 19 <sup>th</sup>	Sep	Southampton	Branch Committee Meeting
Sat 1 <sup>th</sup>	Oct	Portsmouth	Portsmouth Autumn Show (@ Widley)
Tue 4 <sup>th</sup>	Oct	Southampton	Zone 11 Multimedia Quiz
Sat 8 <sup>th</sup>	Oct	Isle of Wight	Richtersveld Part 2 - Rodney Sims
Sat 15 <sup>th</sup>	Oct	Portsmouth	Cape Bulbs - Terry Smale

Branch website: <http://www.southampton.bcsc.org.uk>