



**MANCHESTER
BRANCH
NEWSLETTER**

Spring/Summer 2017



A note about the absence of the photos on the Manchester Branch Website:

For many years the photos shown on the website have been hosted by Photobucket. In their wisdom Photobucket have decided to only allow 3rd party hosting (showing an image on another site) if the owner of the account upgrades to the 500 account type. Unfortunately this would cost somewhere in the region of £300 per annum.

Needless to say we (and I am sure many other Photobucket users) have no intention of paying that amount of money out per year. Therefore all the photos are going to be hosted on the CactusMall / BCSS servers. Whilst we will have a bit of short term pain, eventually we will have a long term gain. It is going to take several months to upload them to the server and then create the HTML code to show them on the website.

Plans are also ongoing to swap the existing software that is used to create the site from Joomla to Wordpress. Hopefully by the time you are reading this we will have a new look to the pages, even if there are still no pictures there.....

The new website address is: <http://manchester.bcss.org.uk/home/>



Fig 2. Window sill full of bags of seedlings. Each bag has three 2" pots inside and the window sill is more or less east facing. There are probably nearly 70 pots on the windowsill now and around 40 on the study windowsill.

*Fig 3. Freshly germinated seeds of *Lobivia wrightiana* KK788 (2016_MESA_546.93) from the area near Rio Mantaro, Peru*



*Cover image : the stripy flowers of *Echinofossulocactus ochoterenaus*.*

Janet's *Gymnocalycium's*

Back in late 2014, when we were in the process of having the garden re-done and the new greenhouse installed, I became a lot more outgoing and talkative to work colleagues about my Cacti collection. I know I took some pictures in to show people, and some of them seemed interested in knowing what was going on with the project.

A couple of people wanted to know if I sold cacti or just grew them. I mentioned that I did sell them, but only in limited quantities, but I did grow some plants from seed to sell. Surprisingly they expressed an interest in growing some from seed themselves.

One of the colleagues was Janet, who wanted to grow some cacti from seed when she found out others were trying. Of the three people who tried Janet is the only one who has had success.

I gave them a pot each, some compost, and a food bag with the instructions how to turn everything into the baggie method. They had some *Gymnocalycium* and some *Notocactus* seeds. It seems that only the *Gymnocalycium* germinated.

Janet kept them growing over the first winter and in the spring of last year I re-potted the plants she had into two BEF pots. They were a little red and frazzled, but a bit of shade and fresh compost soon had them perking up.

Twelve months later I've had another update and they seem to be doing just fine. There are eight seedlings growing in the two pots and they look really happy and healthy.

Janet has sent a picture and I've included it below. For someone who professed to being in no way green-fingered, and never grown cacti before, she has done really

well to get this far with them. I might see if she wants to try some more seeds.....



Fig 1. Gymnocalycium hyptiacanhum MM367 as grown by Janet.

Seed Sowing (Continued) by Christopher Leather

Last year I described the disaster that was the sowing seeds in the greenhouse. I still haven't figured out what went wrong – all I know is the seeds didn't want to germinate in the greenhouse.

This year things seem to have gone a lot better. The seedlings that were rescued from last year have more or less overwintered safely in the greenhouse in quarter trays on the lower tier of the staging. Some did perish, but then they were probably a bit tender – I'll be avoiding those types in future, or overwintering them on the kitchen window sill. The whole 10 foot run is full with quarter trays, which have lots of nicely growing cacti in them. Maybe I've got too many of some cacti and not enough of the others, but that is always the case. I have quite a number of trays that have seedlings big enough to pot on in to 6cm pots for sale at the Mart/meetings. The plants I've brought to the Mart and

meetings still seem popular and I've managed to sell a few on the forum too. The greenhouse floor is constantly full of trays of pots waiting to be brought to meetings.



Fig 4. A view under the staging showing some of the other trays.

My bedroom window sill has been filled with lots of 2" pots and I have lots of cacti germinating. The study window sill is also now full of pots and some of them are germinating too. There is a selection of *Lobivia* growing, some more *Gymnocalyciums*, *Eulychnia*, *Echinocereus* and *Mammillaria*, plus lots of other genera not so often seen. The study window sill has a few rarer genera growing on it and I've decided to try and grow *Blossfeldia* again. If they carry on growing then it will be a long while before they are big enough to repot.

I have settled on a mix that I am happy with which is a 50% mix of riddled J12 and cat litter. It seems to hold the moisture without going to one extreme or the other. It also breaks up very easily and doesn't seem to damage the roots. My aim is to leave everything to grow in the bags for as long as possible. Hopefully they will be able to overwinter out of the bags till next spring on the windowsill, though I will see if there are any completely dead pots later in the year and replace them.

I think when I am potting the next lot of seedlings on I will split the quarter trays into three types of different plants. Having a quarter tray with 20 or 30 seedlings that are the same species isn't too clever when breaking the tray up – having 10 of each of three lots will be much better I think. It is surprising how much more room a group of 20 plants needs when in individual pots rather than in a group in a tray.

I am not sure if I have covered my sowing method before in the newsletter, and if I have it will be a while ago. Any packets of seeds are recorded on the spreadsheet on the computer and a yellow label is printed for each packet. These are stored together in a box until needed. I usually mix five scoops of compost and five scoops of cat litter for a mix as that is enough to do in one sitting. The mixture half fills a square washing up bowl.

The clean pots are filled to the rim and then stood in boiling water until cool. This allows everything to become really soaked. I take a food bag and open it up and stand three pots in it. A label goes in each pot and the correct seed is sown on the compost. A blank label goes in the other side of the pot to stop the bag collapsing and the bag is tied up with a tight knot. Bags go on the windowsill with the yellow label facing towards me (so I can read it) and they are then left to do their own thing.

Fig 5. A selection of seedling trays showing last years seed sowing potted up into quarter trays.



Having a list of plants on the computer is a good idea because you can see at a glance what has (and hasn't) germinated. You know if any one source of seed is performing better (or worse) than others, and you've a ready-made list prepared for when you need to pot the plants on into single pots and are wanting more labels.

I have been trying to keep one example of each plant I've grown and the other week I got them all into a tray and brought to the meeting. I was pleasantly surprised as to how many I could collect together.

Cacti Flowers by Christopher Leather

Two years ago, for my 40th birthday a work colleague, knowing I liked cacti, bought me two Echinopsis plants. The following year, and again this year they have flowered. Being a night opening flower and not needing strong sunlight to stay open they are very suitable to take into work to show to people. A few people asked me about the flowers and it set me thinking about the wide variety of flowers that cacti have between them. (Succulents flowers are a whole other topic)

Most of the flowers that form on cacti form in the crown of the plant, there being either one flower or several. Some flowers form on the shoulder of a globular plant and some even form round the base of the plant. Many plants will flower at a young age, but others need to be many years old before they will flower.

Most flower in the late spring to late summer, but a few Mammillaris will be flowering in very late winter into early spring. Some plants will flower once per year, others seem to not want to stop flowering. Apart from a few night flowerers most of the cacti flower during the day. Flowers will last from one day to nearly a week if the weather is dull.



Fig 6. Frailea castanea in flower. Normally Frailea flowers are cleistogamous and never open,

The size of flowers can range from less than 1cm across right up to nearly 30cm across for the night flowering Selenicereus.



Pollinators for many cacti are unknown, but must certainly include flies, moths, butterflies, birds and bats.

Buds can be hairy, spiny or smooth in feel and come in all shapes and sizes. Some take an age to form, others seem to develop over-night.

Fig 7. The large showy flowers of Gymnocalycium horstii.

Most flowers are circular in shape, and can open from quite being quite flat to a deep tube shape, with bell shaped flowers in between. Some species are zygomorphic, meaning they are symmetrical in only one plane. Most flowers open wide, but some only open at the very tips of the flowers and some, cleistogamous, flowers don't even open at all (or only very rarely).



Fig 8. *Rebutia pygmaea*. This is a 2.5cm pot and the flower is bigger than the plant body.

Fig 9. *Bolivicereus samaipatanus*. These flowers are zygomorphic—they are symmetrical only in one plain



Seedpods have similar characteristics and release their seeds in a whole manner of ways. Some become fleshy fruits that are eaten, or distributed by ants, others become a dry husk and the seeds simply fall out over time.

Viewing seeds under a microscope is to enter a whole new and strange world. Some seed you can hardly see, whilst other seed is surprising large – and no two types of seed are exactly the same.

Petals, stamens and stigmas come in all manner of shapes, designs and combinations, some with contrasting colours, quantities and lengths. Some petals are glossy and others are matte. A very few species have irritable stamens and they move quite quickly if you touch them – many Notocacti do this.

Whilst many plants will only flower in a conservatory or greenhouse there are some that will flower on a sunny windowsill and in a small pot as well.



Fig 10. The lesser long-nosed bat feeds on nectar and pollen from cactus flowers. (Photo by Winifred Frick)

Pollinators by Peter Bint

Returning to the theme of pollination of cactus flowers it is interesting to note that many plants and their flowers have adapted to their local conditions. Plants from the genus *Cleistocactus*, which now includes a number of previously monotypic genera such as *Bolivivereus* (pictured on the previous page) and *Hildewinteria*, do not have butterflies, moths bees, wasps or flies capable of pollinating them. They have evolved their flowers to be long narrow tubed structures into which the indigenous Humming Birds are able to insert their long, often slightly curved beaks. You have to remember that creatures visit flowers simply for the purpose of feeding. They don't think "I will visit that flower to pollinate it." The two main foods are nectar and pollen but the stamens and petals also form food for some predators though visitors of this type do not necessarily cause pollination to happen as they do not visit the stigma. Long tubed flowers usually carry both the stigma and the stamens either fully protruding from the flower or extremely close to the mouth of the flower. When a humming bird visits a *Cleistocactus* flower (or similar type of tubed flower) its facial feathers gather pollen on them as it feeds. Upon visiting the next flower these pollen coated feathers automatically brush against the stigma depositing many pollen granules onto the sticky surface of the exerted stigma. As long as these flowers are on a different plant pollination will almost certainly follow but this is not likely to happen if flowers on the same plant are visited in succession as nature has, in many cases, placed a barrier against self pollination (self pollination is: the transfer of pollen from the anther to the stigma of the same flower, another flower on the same plant, or the flower of a plant of the same clone).

We are all aware of the actions of bees, wasps and butterflies from observation of them visiting flowers in our own gardens. Here it is the bodies and legs of these insects that carry the pollen from flower to flower and the stigmas are so arranged that the insect automatically brushes against it upon entry into the flower. Most diurnal flowers of cacti are wide structures enabling larger bodied insects to be able to reach the nectar at the base of the flower. Other regions/countries have their own versions of these insects to carry out this vital business without which the floral population would vanish in time.

Moving to the nocturnal flowering cacti again we see that nature has provided the means for the continuation of the species Whereas diurnal flowers are mostly highly colourful and also often marked in such a way that they act like signposts for the visitors saying "food this way" night flowering plants have white or cream blooms. Pollinators eyes are adapted to seeing colours in a different way to the human eye and often only recognise certain shades. Humans can see three colours red, blue and yellow and any combinations of those, hence green, purple, orange whereas bees can see ultra violet light, blue and green. Because they can see ultra violet light they can see patterns on flower petals that are invisible to us but they don't see colours in the red spectrum excluding purple. But back to nocturnal flowers. The main visitors here are bats and moths (*Fig 10*). Night flowering cacti reflect moonlight from their white petals and are highly scented which attracts their pollinators. Both bat and moth feed on nectar and bats enjoy eating the pollen as well hence the reason many nocturnal flowers have thousands of stamens. The method of pollination is the same as with diurnal pollinators. Nocturnal flowers open after dark but often not for a couple of hours or so. They flower for one night only hence the need to attract the pollinator using smell. They will close permanently after about an hour of daylight which does allow the early rise pollinator the opportunity of feeding on what has been left following the voracious feeding of the night visitors. Flowers in the greenhouse do not necessarily follow the one night only pattern and in dull weather will last a further 24 hours but the chance of them being pollinated is slim unless you know a local friendly bat and leave the greenhouse open!!!