MANCHESTER BRANCH

NEWSLETTER

AUTUMN 2012

Forthcoming events
Saturday January 12th 2013
Home and Away

by

John Miller

John started his interest in cacti and succulents at a very early age being one of a number of junior members in the branch in those days. He was keen and interested in learning about all these plants that had attracted his attention. His collection grew rapidly as did his interest. Being keen to improve his knowledge and cultivation skills he sought out more people to help him and it wasn't long before he was noticed by Jim Bolton. For the many of you who don't know the name Jim Bolton, he lived in Formby very near my aunt and he had an extensive collection filling the greenhouses that dominated his small garden. John could be found at Jim's house as often as he could manage. Naturally he would come away from Jim's with new acquisitions whenever possible. He wasn't there just to gaze with wonder but he would help Jim an enormous amount. Time moved on and it was time for John to further his education at University. I don't think he enjoyed the experience too much as he decided to move his career in a different direction—he now works at Bent's Nursery where he can indulge in plants while at work. Not long ago he spent six months in the United States of America where he worked at Mesa Garden Nursery belonging to Steven Brack. While he was there he was able to go into the field on numerous occasions. He became fascinated with the 'gems' of the American south west and northern Mexico, namely

Echinocereus knippelianus

Geohintonia mexicana

Sclerocactus, Pediocactus, Ariocarpus, Strombocactus, Obregonia, Turbinicarpus, Aztekium and Geohintonia to name but a few. He also became very interested in being able to graft these plants grown from seed to both enhance their growth and make them more available to the ordinary grower. On his return to Lowton where he lives he actively participated in the role of seed grower and produced hundreds of grafted seedlings of the genera mentioned. Many of these plants now reside in my greenhouse as testimony to John's ability to grow good plants. In later visits to Mexico with Geoff Bailey and others he took a very active interest in the genus Ariocarpus. He set about producing seed of all species, using not only his own plants but also those belonging to Geoff Bailey and David Rushforth. Again he was extremely successful as a seed producer with seed pods regularly appearing on plants in all three collections. Not only did he produce pure seed but he also encouraged plants to set hybrid seed. The resultant plants were very interesting and the occasional oddity also appeared which would be without chlorophyll, often a reddish colour, and these had to be grafted to be able to survive.

John is talking to us on January 12th about plants he has seen in the wild and also grown or seen grown in the greenhouse. It should be interesting to see how the same plants react to the different growing conditions. We welcome him back to Manchester Branch to give us this talk, the first he has given here. It will prove to be very interesting.

Another of John's activities was his valiant efforts to keep the Warrington Branch of the BCSS alive and thriving but sadly, through no fault of any of the officials of that Branch it could not keep going due to lack of members.

Above: Pelecyphora asselliformis

Right: Echinocereus rigidissimus

Left: Sclerocactus spinosior

Some very interesting facts about the genus Opuntia

Do you grow Opuntias? Or are you one of those people who considers them ugly, plants that grow too large or just not having any interest for the cactus grower? Did you know that Opuntia is the widest spread in the wild of all cacti? Yes, they can reach gigantic proportions in some species. They are barbaric in their self defence with spines like fish hooks that enter the flesh with enormous ease but getting them to release that same flesh can be extremely painful, as my wife will bear testimony having stood unwittingly on a dead pad of O. tunicata,the scars of which are visible 40 years later. Opuntias are to be found in temperate lands, Italy, Israel and all round the Mediterranean, subtropical zones of America and Africa, in Asia , particularly China and South Korea through to cold regions with winter snowfalls such as Canada or Argentina, not to mention that it is considered to be a scourge in Australia.

Centuries ago the Native Americans knew unerringly of the good that Opuntia can do but it is only in the last 30 years that 'civilised' man has rediscovered the facts that had been buried under the weight of modern science. Natural products and health foods have recently received a lot of attention both by health professionals and the common population for improving overall wellbeing as well as in the prevention of diseases including cancer. Opuntia, the prickly pear, is now understood to bear many active nutrients with multifunctional properties. The fruits and cladodes (explanation later) are perfect candidates for the production of health promoting foods and food supplements. Centuries ago it was traditionally appreciated for its pharmacological properties but modern science has done little to follow these facts. Thankfully modern science is waking up to the idea that Opuntia species do have a role to play in good health.

In the world today there is a growing demand for nutraceuticals which is paralleled by the increased effort being made in the realms of medicine for natural products for the prevention or cure of human diseases. Studies have been carried out which demonstrate the fact that cactus fruit and cladode yield high values of important nutrients such as betalains, amino compounds, minerals, vitamins and antioxidants and Opuntia spp appear to be excellent candidates for inclusion in food. Native Americans and ancient medicine realised that it had anti-diabetic and anti-inflammatory functions. Only in the 1980's were there any results of research published following decades of ignoring what scattered information that was available. More recent investigations into the chemical components and nutritional value of Opuntia spp. Have attracted attention from food, nutritional and even pharmacological science. However more needs to be done to raise awareness of the value of this plant as a valuable crop.

Two pictures showing the fruits and cladodes of the Prickly Pear.

The Opuntia plant can be divided into four parts, the root, the vegetative part, the fruit and the flower. The vegetative section is usually referred to as pads, joints or cladodes which carry out the job normally done by leaves in most plants, namely photosynthesis. The outer part of the cladode is to carry out the photosynthesis and is always green,, even when the actual outer skin colouring may be different whereas the inner cladode is white and pithy to carry out the function of water storage. The fruits come in a wide range of colours unconnected to flower colour. The pulp is the edible part and consists of 84-90% water and 10-15% reducing sugars. The seeds embedded in this pulp play no part in the human food chain if untreated though animals will eat them. However they are indigestible as a whole seed and will be ejected from the body naturally but this is probably a very important requirement for germination.

In today's world Opuntias are extremely important to Mexican trade especially for the rural dwelling majority. Only Mexico is involved in deliberate farming of Opuntia at the moment but there are signs of this spreading into the Mediterranean regions and maybe some areas of South America where subsistence is difficult. In Mexico production is divided into three areas, a) wild production, b) family farms and c) commercial farms. The total area of significant production exceeds 3,000,000 hectares of which around 220,000 hectares are used for commercial production. About 72% of this is used for animal feed, 22% for fruit production, 5% for human consumption as a vegetable and the remainder for cochineal production from deliberately allowing mealy bug to thrive on the plants..

CLADODES: Whether for animal or human consumption these need to be young pads, up to three years old for animal feed or 3-4 months as a vegetable for humans. For the best vegetable use it is advisable to harvest after a couple of hours of sunshine when they are turgid, rich in sugars, pro-vitamin A and vitamin C. These fresh, young stems are a source of proteins including amino acids as well as high malic acid contents (important in cell metabolism and the reduction of muscle fatigue) mineral and organic acids.

FRUITS: Various amino acids are readily produced by the fruits. Vitamins are also nutritionally important constituents of the fruits. The vitamin E content in the fruit is high. In addition to this there is carotene, ascorbic acid and traces of vitamin B1, B6, niacin, riboflavin and pantothenic acid (all part of the vitamin B complex). When crushed the seeds produce valuable oils and are rich in proteins, minerals and sulphur amino acids. The fruit pulp is also known to be a valuable source of calcium, potassium and magnesium. The fruits are considered to be as good as pears, apricots and oranges

Opuntia in flower

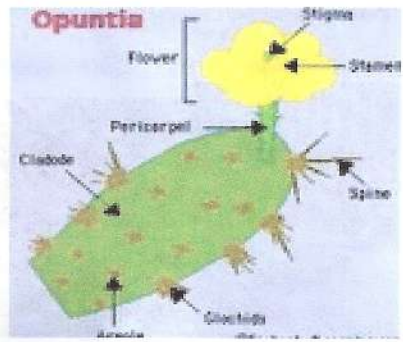


Diagram of an Opuntia pad and flower

For their caloric value and they contain fructose and glucose in very similar amounts. Glucose is an energy source immediately available to the brain and nerve cells while fructose may enhance the fruit's flavour. Studies into medicinal properties are still in the formative stages but this far the signs are good. The most recent studies show a) the fruit extract inhibits the proliferation of cervical, ovarian and bladder cancer cell lines and b) suppresses tumour growth. Two valuable benefits shown during testing were the fact that no body weight loss was experienced and there was no toxic effect in the tests on mice. This was 6 years ago at least so advances will have been made. In another study to see if there was an anti-viral effect against herpes, flu, respiratory syncitial disease virus and HIV 1 were encouraging. These tests were carried out on horses, mice and , interestingly, humans though much more is needed to be done. Anti-inflammatory and analgesic effects have been observed in tests on animals (particularly by using the fruit of Opuntia dillenii) on gastric lesions. One area of success is that of treating diabetes where Mexico has led the world in the use of Opuntia, In Europe this is being treated seriously and Italian herbalists actively encourage the use of Opuntia products in the treatment of glycemia (a concentration of glucose in the blood).

Cactus fruits, cladodes, or flower infusions have been traditionally used as folk medicine to treat other ailments such as ulcers, fatigue and rheumatism, and as an antiuric and diuretic agent. Alleviating effects towards alcohol hangover symptoms have been addressed recently and were associated with reduced inflammatory responses after excessive alcohol consumption. Much is being done behind the scenes and, who knows, one day we may find many cactus genera may become an important part of medicine.

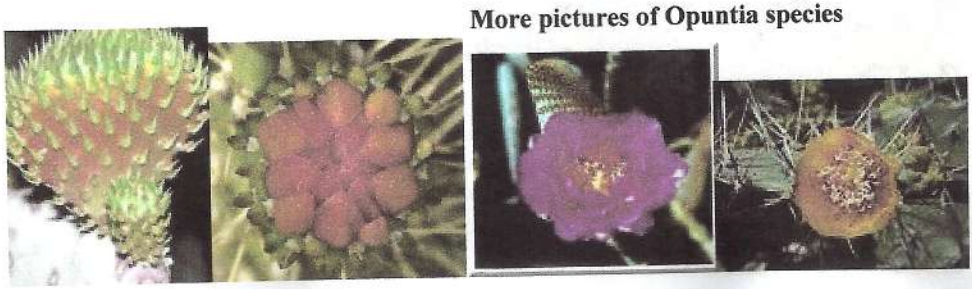
In the area of cosmetics it has been discovered that the cladode pulp is effective in the production of shampoos, conditioners, face and body lotions, hair gels and sun protectors. In addition veterinary phytotherapy using Opuntia spp. seems to be a promising field of research. Natural colorants from plant sources are receiving growing interest from food manufacturers and consumers in the continuing replacements of synthetic dyes. Betalains (incredibly powerful anti-inflammatory agents with no known side effects) are present in fruit peel and pulp as well as flowers represent a potential healthy alternative. Opuntia fruits are highly appreciated in countries of origin, e.g. Mexico, Argentina, Italy, because of the wide range of colours available.

In conclusion, no matter what your opinion of Opuntia as a plant to grow in greenhouse or garden, there is undoubtedly an enormous amount of powerful information in the area of food, medicine and cosmetic waiting to be discovered which will benefit mankind in the future.

By Peter Bint

Frontiers in Bioscience 11, 2574-2589, September 1 2006. Jean Magloire Feugang, Patricia Konarski, Daming Zou, Florian Conrad Stintzing, and Chanping Zou

More pictures of Opuntia species



Manchester Branch Programme for 2013

January 12th **Home and Away** **John Miller**
In this talk John will show us plants he has seen in the wild and similar ones grown in the greenhouse.

February 9th **Northern Peru part 2** **Maurice Williams**
Maurice returns to continue the talk he began earlier in 2012 and regale our senses with the plants from that part of the world.

March 9th **Patagonia** **John Carr**
John will show us what life for a cactus is like in the plains and foothills of Patagonia, a windswept and demanding habitat.

April 11th **Epiphytic Cacti** **Mark Preston**
Mark is new to the speakers circuit and the topic being dealt with will show how varied this family is—not just Epiphyllums.

April 27th **North West Cactus Mart**
All last years sellers are attending plus at least one new one, a Bonsai specialist who was at the National show who has asked to be included.

May 11th **Parodia & Notocactus** **John Arnold**
Occasionally we have a talk about a single genus and these two types are officially recognised as one genus now.

June 8th **Shhh! Its the H word** **Rob Stevenson**
Rob returns to speak to us for the 3rd time in an attempt to show that h.....s can be beautiful, interesting and worth growing.

July 6th **Zone 19 Convention Petr Pavelka, Tomi Kulhanek & one other (It should have been Graham Charles** see back page)

July 13th **World Collections & Nurseries** **Ian Woolnough**
We will see collections and nurseries in several countries of the world

August 10th **What ho! Watmough's Mesembs** **John Watmough**
John's humour and many genera of Mesembs not often seen in collections because people don't know about them—a chance to change opinions.

September 14th **Gardens of the Western Cape** **Trevor Wray**
What is a garden? Not the sort you see in Britain I am assured. Lots of plants enjoying the outdoor life and some phenomenal photography.

October 12th **North West Mesemb Show plus**
Namaqualand **Ian Thwaites**
Again the show and the Branch meeting will be combined. The talk will begin at 2pm. A the chance to see the wild grandeur of the Namaqualand area.

November 9th **Five Star American Habitats** **Martin Doorbar**
Yes, Martin promises he will deliver this talk in 2013. Stunning scenery, superb plants and other delights as well.

December 14th **AGM and food and a short slide show and talk to follow**

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January 11th **A Cactophile discovers Other Succulents Alisdair Glen**
Our Society Chairman will show how he found succulents are good to grow.

SATURDAY APRIL 27TH
NORTH WEST CACTUS MART

Many well known nurseries from around the country will be in attendance with a vast array of plants for sale.

Spring will be with us, plants will be growing again, possible spaces will have appeared on the benches due to unfortunate plant deaths so here's a chance to stock up again.

Bushukhan Bonsai Nursery have asked if they can come as well. From their information Comes this quote, **"We have a large selection of Bonsai including indoor varieties, plus pots, tools and accessories".**

Doors open at 10.30am—finish 2.30pm

Hot and cold food, drinks as always on sale

It is with sadness I have to announce that Graham Charles has ventured that he will not be able to speak at Zone 19 Convention in July 2013 as he has had a serious operation as has chemotherapy to face. He wishes to concentrate on a full recovery and not worry about having to let people down at the last minute. I hope you will remember him in your thoughts and we all hope he makes a complete recovery.