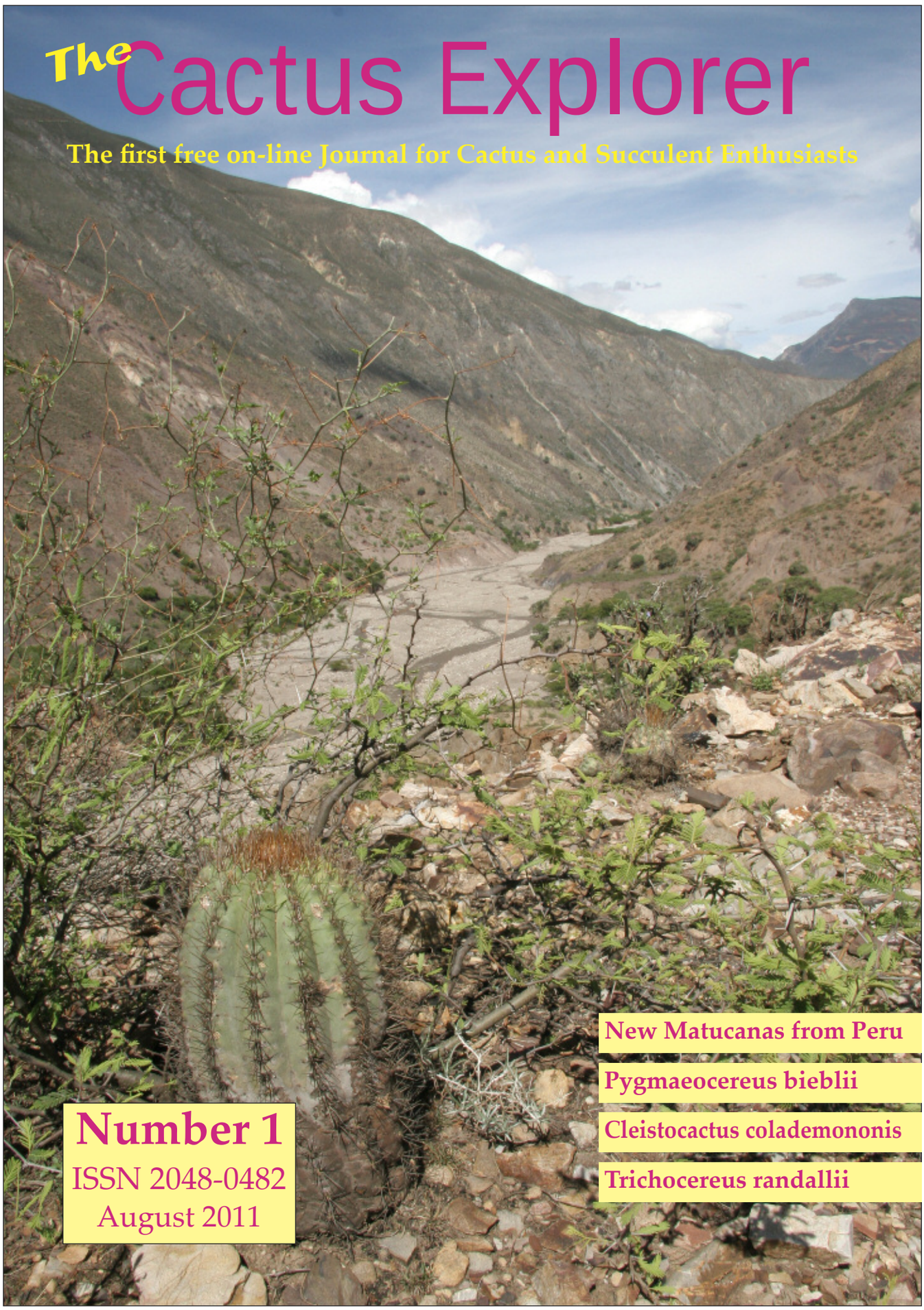
The Cactus Explorer

The first free on-line Journal for Cactus and Succulent Enthusiasts



New Matucanas from Peru

Pygmaeocereus bieblii

Cleistocactus colademononis

Trichocereus randallii

Number 1

ISSN 2048-0482

August 2011

In this Edition

Regular Features

Introduction	3
News and Events	4
Recent New Descriptions	8
In the Glasshouse	13
Journal Roundup	20
The Love of Books	22
Retail Therapy	34

Articles

Graham Charles: Now we know where *Pygmaeocereus bieblii* grows	25
Martin Lowry: *Trichocereus randallii* revisited	28
Paul Hoxey: Lunch in the Field	31

The No.1 source for on-line information about cacti and succulents is http://www.cactus-mall.com

Cover Picture

The recently-described *Matucana paucicostata* ssp. *hoxeyi* in the valley of the River Rupac, Ancash, Peru at 2260m. See page 10

Invitation to Contributors

Please consider the Cactus Explorer as the place to publish your articles. We welcome contributions for any of the regular features or a longer article with pictures on any aspect of cacti and succulents. The editorial team is happy to help you with preparing your work.

Please send your submissions as plain text in a 'Word' document together with jpeg or tiff images with the maximun resolution available.

A major advantage of this on-line format is the possibility of publishing contributions quickly and any issue is never full! We aim to publish your article within 3 months and the copy deadline is just a few days before the publication date.

Please note that **advertising and links are free** and provided for your information. Adverts are placed at the discretion of the editorial team, based on their relevance to the readership

Publisher: The Cactus Explorers Club, Briars Bank, Fosters Bridge, Ketton, Stamford, PE9 3BF U.K.

The Cactus Explorer is available as a PDF file downloadable from www.cactusexplorers.org.uk

The Editorial Team:
Organiser: Graham Charles graham.charles@btinternet.com
Scientific Adviser: Roy Mottram roy@whitestn.demon.co.uk
Paul Hoxey paul@hoxey.com
Martin Lowry m.lowry@hull.ac.uk

Introduction

The New Medium

Cacti and Succulents have fascinated gardeners and professional botanists ever since they were first discovered. Those of us who have enjoyed the cultivation and study of these plants over many years have seen dramatic changes to our hobby, none more so than the arrival of the World Wide Web. Now we have access to a wealth of information and even the possibility to buy plants, seeds and books without leaving our home. The Web has enabled people with a shared minority interest like ours to communicate much more easily, even if we speak different languages, by using the on-line translation tools.

Traditional cactus and succulent societies have seen a decline, both in their membership, and in the number of people attending their meetings. The inability of these societies to attract younger members has also been a cause for concern. There has been much speculation about the reasons for these trends but I believe the digital age provides a possible remedy.

Encouraged by the success of the first specialist on-line journals, I have decided that it is time to offer you one with a broader scope, based on my experience organizing the Cactus Explorers Club for the last 6 years. I really hope that I shall get your support, not only by downloading it and reading it, but also by contributing material.

The Cactus Explorers Club was set up to offer enthusiasts an occasion to meet and share their hobby. The annual residential weekend has now been held six times at Leicester University and you are invited to attend this year's event from September 16 - 18th 2011. Details are published in this issue or at www.cactusexplorers.org.uk

My aim is for the Cactus Explorer to offer you topical information; help you find plants, seeds and books; find out about unusual plants and places ... in other words ... *explore* all aspects of our hobby. Since amateurs cannot easily access the findings of scientific studies which so often lead to the much-disliked name changes, I hope to offer more explanation to increase understanding and foster more co-operation between hobbyists and professional botanists. By working together, there have been some notable achievements recently, the most obvious example being the New Cactus Lexicon.

Especially over the last ten years, there have been an increasing number of visits made to succulent habitats, so I hope that those of you who have been lucky enough to see plants in their natural environment will share your experiences here. The Cactus Explorer provides an opportunity for field observations to be recorded in a place where they can be consulted. So much information is lost because it is only known by individuals and not documented. With the loss of so many plant habitats, it would be useful if those who had visited them at a time when they were intact could provide us with a description of what they saw.

I hope you enjoy this first issue, but please tell me your opinion anyway. I would appreciate ideas for improvement, but most of all please write something and send pictures. To get things started I have written most of this issue but I hope to be a minority contributor in the future!

If it proves popular, I plan to publish the Cactus Explorer about four times a year, although I won't stick to particular dates. One advantage of this medium is that you can publish quickly so, if appropriate, there can be special issues. If you want to be advised by E-mail when the next issue is available for download, please supply your E-mail address to me.

Happy Exploring!

Graham Charles

News and Events

A New Job for Nigel

The name Nigel Taylor will be well-known to cactus enthuiasts. There have only been a few professional botanists from Britain specialising in the Cactaceae. Nigel's contribution to our understanding of these plants has been outstanding and continues today with his encyclopaedic knowledge of Brazilian cacti. His book 'Cacti of Eastern Brazil' written with his wife Daniela Zappi was based on the work he and Daniela undertook for their doctorates. It stands out amongst recent cactus literature for its scholarly approach and botanical credibility.

I first met Nigel in 1981 when he visited me to study my Copiapoas in preparation for his review in the GB journal. He was working at the Royal Botanic Gardens, Kew at the time, and he has remained there since, eventually becoming the Curator, following in the footsteps of the famous.

After 34 years at Kew, Nigel will take up his new prestigious post as Director of the Singapore Botanic Gardens in September. He and his family will move to live in Singapore, where Daniela will work on the new Gardens by the Bay project. Nigel already has a broad knowledge of plants in general so now, while working at a such a wonderful tropical garden, he tells me that he plans to further study palms which have always appealed to him. Although the climate in Singapore is not suitable for the cultivation of most cacti, he plans to return to the UK and resume his interest in the family.

We wish him and his family well with their new venture. Of course we shall miss Nigel's company but hope to see him in the UK when he visits.

GC

Cactus d'Or for Myron

The prestigious Cactus d'Or is awarded by the Principality of Monaco to people who have made an outstanding contribution to the study of succulents. It started in 1978 when the first award was made to Dr. Werner Rauh who received his award from Her Serene Highness Princess Grace of Monaco.

Recipients are nominated by the Board of the International Organization for Succulent Plant Study (IOS). Myron's trophy was presented to him at the 9th IOS Inter-Congress in Monaco by the Maire of Monaco.

Readers of the CSSA Journal will be familiar

with Myron's remarkable achievements. He was instrumental in setting up International Succulent Introductions (ISI), an organisation dedicated to the propagation of rare plants with provenance that still continues today in the USA. Regrettably, in recent years, the international regulations set up to conserve wildlife forced the ISI to cease sending plants outside the USA ... how ridiculous!

Myron is also well-known as having been the Superintendent of the wonderful Huntington Botanical Gardens in California, USA, a job he started in November 1962 and held until he retired in 1986. He has published extensively on cacti and succulents, especially epiphytic cacti and Crassulaceae, and his 'Revision of Borzicactus' (CSSJ XXXII 1960) is still essential reading for students of South American cacti.

Above all, Myron is such a very pleasant man, modest and approachable. You can read more about him in the CSSJ LXXIX (2007) where he started his fascinating series of articles about 'Some Succulent Memories'.

GC

The Cactus Explorers Club Meeting 2011

The 7th annual meeting of this informal group will be held at Leicester University Beaumont Hall of Residence from September 16 - 18th 2011.

You are invited to attend this year's Bumper Cactus Explorers Club Weekend. Beaumont Hall at Leicester University Halls of Residence has been booked for the usual weekend, that is 16th to 18th September this year, the weekend after ELK.

I have booked **Marlon Machado** from Brazil to give us some talks and this year, a second overseas speaker, **Zlatko Janeba** from the Czech Republic. Marlon will tell us about his recent adventures in Brazil and Zlatko will present one lecture about Sclerocactus and Echinomastus, then a second about his explorations in Mexico. There will be a total of approximately 20 talks given by participants and visiting speakers. As usual there will be plant and book sales and a bar offering real ale! Details here

The University has slightly increased its charge, and VAT is up to 20%, so I am asking for £180 for the whole weekend this year to cover the costs which include wine with the evening meals. Every penny goes to the direct costs of staging the event.

GC

Sale of a Splendid Collection

On Sunday July 10th, a large group of keen cactus growers assembled at the home of Doreen Donaldson for the auction of her late husband's fine collection of plants. The cactus community had been shocked by the news of Doug's passing late last year. We knew him as a friendly and generous man.

Doug and Doreen had many friends on the Continent and ran Kilnwood Nursery, offering unusual succulent plants to their loyal customers. Recently, Doug had taken over the organisation of the British participation in ELK, the annual Europe-wide meeting in Belgium.

Under sunny skies, bidding on the 400 lots was brisk and auctioneer, David Kirkbright, was able to sell everything in a mamouth six-hour session. It is always sad to see the disposal of a collection, but good to see one sold when in such good condition. I just wonder how the successful bidders can find space in their glasshouses!

GC

ELK Meeting in Belgium

For many years, ELK has been the place for cactophiles to meet from all over Europe. There are a number of lectures, at least one in English, but the main reason the meeting is so popular is the huge plant sale. There are vendors from all over Europe including amateurs selling a vast range of plants, books and sundries.

The 2011 event will be held during the second weekend of September, from 9-11th. The British representative is David Rushforth. He handles all the bookings so please contact him for information.

Monaco Expocactus

The 22nd meeting of Monaco Expocactus was held at the Jardin Exotique on the 23rd and 24th April 2011. The meeting was opened by Prince Albert II of Monaco and his then fiancé Charlene Wittstock. On the right of the picture is Jean-Marie Solichon, the Director of the Jardin Exotique.

Monaco is famous for its glorious climate but, on this occasion, while Britain enjoyed warm sunny weather, the attendees endured wet, cool and windy days. The event included an outdoor plant sale and lectures given by Myron Kimnach, Philippe Corman and Graham Charles.

Visitors were also invited to visit the splendid reserve collection behind the scenes across the road from the public gardens. The 9th Inter-Congress of the IOS was also held at the same time and everyone was invited to attend the lectures presented on the Sunday.

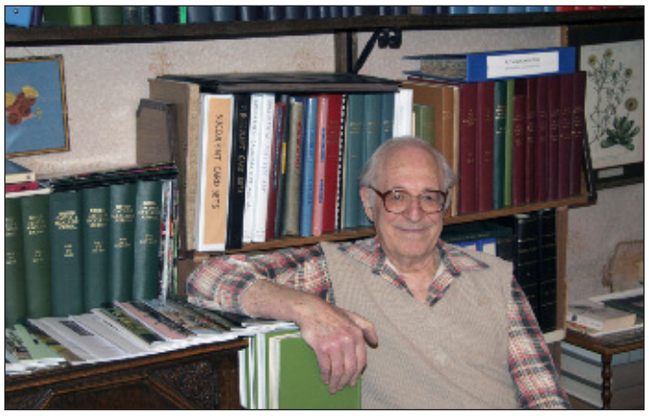
You can find out more about the Association of Friends of the Jardin Exotique of Monaco at http://www.amisjem.com

GC

Happy 90th Birthday Gordon

Sunday 31st July 2011 was a warm sunny day when more than 100 succulent enthusiasts met at Swallowfield Parish Hall near Reading, England, to celebrate the 90th Birthday of Gordon Rowley.

Internationally, Gordon is probably the best-known of all British cactophiles. His many books and articles have contributed immensely to our knowledge. Our enjoyment and education have been enhanced by his readable style and meticulous research. Whilst he was a



lecturer at Reading University, he rented accommodation nearby. He eventually bought his landlady's house which became the world-famous 'Cactusville', a treasure house of all things succulent. His love of books inspired him to create a wonderful library, such a valuable resource for his writings. He says that his favourite of all the books he has written is 'A History of Succulent Plants'....mine too!

To celebtrate his birthday, lectures were presented by three of his friends: *Len Newton* "A Succulentist at large in Africa"; *Nigel Taylor* "Brazil north and south" and *Graham Charles* "Cacti of S. Ecuador and nearby Peru". Gordon's technical friends, *Pete Arthurs* and *Jonathan Clark*, helped him to create an amusing video "Cactotherapy" about his life, incorporating original recordings and pictures of the personalities he met tgether with extracts from Gordon's own films.

The occasion presented a unique opportunity for purchasers of the new book 'Aloes The Definitive Guide' to have their copy signed by all the authors: Colin Walker, Len Newton, John Lavranos and Susan Carter (seated in the picture below).

The plant sales proved very popular with attendees and there were books sales by Keith Larkin and sundry sales by Phil Barker in the adjacent conservatory, a place which became a bit too hot for comfort!

Members of the BCSS Reading Branch made a splendid job of organising the event in a very pleasant setting. Everyone was richly entertained by the full programme of activities.

GC

Recent New Descriptions

Exciting new Matucanas from Peru

The story of the discovery of *Matucana oreodoxa* ssp. *roseiflora* and the recognition of *Matucana paucicostata* subsp. *hoxeyi* as a new taxon. Graham Charles

Finding a really new cactus taxon in habitat rarely happens and when it does, it is often by chance. During November 2009, I was with John Arnold, Débora MacDonald (Peru), Chris Pugh and Rob Underwood. We were travelling in Depto. La Libertad, Prov. Pataz, east of the Marañón river at about 2500m.

We had just descended into a valley when we stopped to look at a *Weberbauerocereus albus.* As we were walking along a track, John noticed a single plant growing high on a steep earthy bank. It was a cluster of globular stems but without flowers or buds. On making a close examination, Rob and I simultaneously identified the plant as *Matucana oreodoxa*, although we were about 130km north of, and

1,000m lower than, its type locality in the Rauhapampa Valley.

Driving further along the valley, we started to see an interesting *Espostoa* which we speculated might be related to *E. mirabilis primigena* from the nearby Marañón river valley. Having stopped for a closer look, we were walking up the hill when Chris shouted us to see what he had found. On a steel earthy slope was another plant of the Matucana, a large clump of dark-green stems very reminiscent of *M. oreodoxa.* However, the stems were not the usual pale-green and the heads were larger and formed larger clusters.

Further exploration on the steep hillside revealed more similar plants. There had probably been some rain and there were many flowers on the other plants. I was feeling excited about finding a new habitat for *M. oreodoxa* when I saw a bright violet-pink flower under a bush. You can imagine how I felt when I saw that it belonged to the *Matucana*!! So, we had found a new taxon which would be named as *Matucana oreodoxa* ssp. *roseiflora*

Having received so much help from Carlos Ostolaza and his friends in the Peruvian Cactus Society, I decided to describe it, and another new plant I had been planning to name, in their journal Quepo. It is published annually so I made the descriptions and Carlos published them in the 2010 edition, Volume 24.

The flowers of this plant are a beautiful violet-pink and they are produced easily in cultivation on plants in 6cm pots. It will be

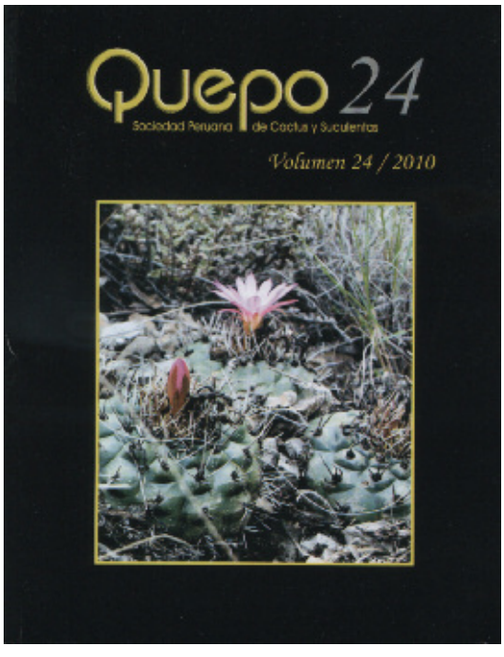


Photo: C.Pugh

some time before this plant is available as seedlings but I have seed and will endeavour to offer it for sale before too long.

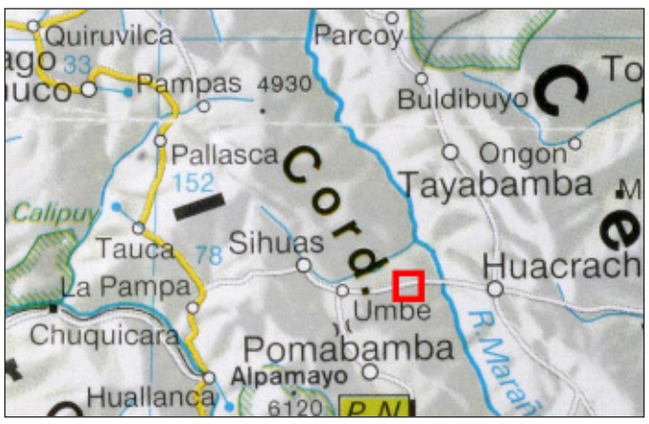
The other new Matucana I named for its discoverer Paul Hoxey, an English cactus enthusiast. I described it as *Matucana paucicostata* ssp. *hoxeyi* although it is perhaps a separate species, differing from typical *M. paucicostata* by its much larger body, epidermis colour and differently-shaped flowers. It looks remarkably like *Copiapoa haseltoniana* (see cover picture).

Paul found it on 29th December 2001 when he explored the then newly-constructed road from Sihuas to Huacrachuco. This interesting new road follows the Río Rupac down to its confluence with the Río Marañón, then south through a spectacular gorge before crossing the Río Marañón by a new bridge and following the Río Huancrachuco eastwards. Since its construction, it has become an important through route, but during the author's visit in November 2009, the road had been seriously damaged and temporarily closed by land movement following heavy rain.

The distribution of *M. paucicostata* subsp. *hoxeyi* is known only in the valley of the Río Rupac from c. 1800 to 2350m. At the upper limit of its distribution, it grows in close proximity to *Matucana comacephala* and a few plants were found that exhibited intermediate spination, suggesting hybrid origin. The author grew seedlings from seeds from a single fruit collected here off a normal plant of *M. paucicostata* subsp. *hoxeyi*. A few of the seedlings developed the dense golden spination of the supposed hybrid, while most were similar to the mother plant.

The nearest populations of *Matucana paucicostata* subsp. *paucicostata* occur further south and to the west of the Río Marañón, in the valley of the Río Pomabamba, and at a higher altitude of at least 2650m.

I first distributed seedlings of this plant as *Matucana paucicostata* 'gold spines' with my field number GC551.01. They have proven to be unexpextedly susceptable to marking by low temperatures in winter. Even though I keep my plants at a minimum of 10ºC some have developed brown patches.



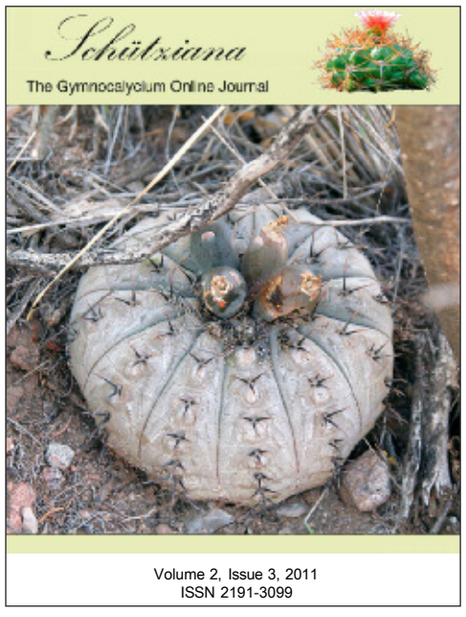
A New Strombocactus

In a recent issue of Revista Mexicana de Biodiversidad, Salvador Arias and Emiliano Sánchez-Martínez described a new species of Strombocactus. The genus, as treated in the New Cactus Lexicon, had only one species *Strombocactus disciformis* so, if really different, this description is significant.

The abstract explains that *Strombocactus corregidorae* is from the Infiernillo Canyon, in the Moctezuma River, at the border between the Mexican states of Querétaro and Hidalgo. It differs from *S. disciformis* by its massive body, larger, strong, thick, persistent, black-grey spines, yellow flower, seeds with flat periclinal wall cells, finely reticulate micro-relief, and hilum-micropylar region not covered by a strophiole. They provide an identification key to the two Strombocactus species, based on stem, flower, and seed characters but no photograph is published, just a line drawing.

Reference: "A new species of Strombocactus (Cactaceae) from Moctezuma River, Querétaro, Mexico." Revista Mexicana de Biodiversidad 81: 619- 624, 2010

Spectacular New Gymnocalycium



There have been lots of descriptions of supposedly new taxa of Gymnocalycium published recently. Most of these are just minor variations of those already known but, in the latest issue of the on-line free journal Scheutziana, *G. esperanzae* appears to be truly different.

It was found near the southern tip of the Sierra de Ulapes in the Argentinian province of La Rioja, near the small village of Nueva Esperanza, not far from the border with province San Luis. The plant's white body and black spines give it a spectacular appearance, so we can only hope that we can grow plants that look like this in our glasshouses.

The authors speculate that it could have originated as a hybrid between *G. castellanosii armillatum* and *G. bodenbenderianum*. However, they say that it grows true from seed, so now all we have to do is get some seed!

You can download the issue free and see the many excellent pictures of this interesting discovery.

GC

Weberbauerocereus from Bolivia

Weberbauerocereus Backeb. was believed to be endemic to Peru but last year a new species was described from the north of Bolivia. It was discovered in dry forest in the Jungas region of the Tuichi Valley, north of Apolo and inside the Madini protected area in La Paz Departmant. It is said to be similar to *W. churinensis* and *W. johnsonii* but differs by its reduced branching and lack of bristles in the flowering zone. It also has 13 - 19 spines per areole, shorter flowers, a non-emergent stigma and round fruits.

The first description of *Weberbauerocereus madidiensis* was published in Novon 20:325-328 (2010) by Noemí Quispe and Alfredo Fuentes.

GC

In The Glasshouse

What a Wonderful Plant!

Just occasionally, a new species is introduced that is just perfect for cultivation. One such plant is *Cleistocactus colademononis*, a plant that first came to the attention of the cactus community when it was described by Diers and Krahn in the German Cactus Society Journal 'Kakteen und andere Sukkulenten', Vol. 54(8): 221 (2003).

It had first been seen growing in pots in the nearby town of Samaipata, Santa Cruz Province, Bolivia. Its habitat was some way east of the town, on steep sandstone cliffs

Cleistocactus colademononis in habitat at GC921and a habitat clone from Wolfgang Krahn flowering in culture

where it is now easily viewed from a walkway neatly signposted from the nearby road.

It an easy plant to grow, ideal for a hanging pot where it will flower repeatedly through the summer. An acid soil with ample watering in warm weather will produde an impressive specimen with long stems hanging vertically down. It is pleasing to stroke and uncannily-similar to the tail of an animal. Its name appropriately means 'monkey's tail'.

You will also find this plant treated as a subspecies of *Cleistocactus winteri* in the New Cactus Lexicon. *C. winteri* is the correct name for *Hildewintera aureispina* if you want to

Above: Cleistocactus brookeae GC857.02
Below: *C. vulpis-cauda*, an old clone in culture

include it in *Cleistocactus*.

It has an unusual structure inside its flowers which can also be found in *Hildewintera aureispina*, one of the reasons for its placement in the same genus. But, unlike that species, the flowers have a sharp bend in the tube reminiscent of *Cleistocactus brookei* which also grows in the area. There has been speculation that at least one of these plants is of hybrid

Cleistocactus wendlandiorum the form usually seen in cultivation, said to originate from Backeberg.

origin and indeed that appears likely.

I have two different habitat-collected clones which both flower profusely and produce many fruits containing healthy-looking seeds, however, so far, I have failed to germinate a single one! Does anyone knowthe secret?

There is an interesting story about the first description of this plant. It is polite and good botanical practice to give the discoverer of a new plant the chance to make the first description. However, in this case, while Diers and Krahn were waiting for KuaS to publish their description, a Polish couple E. & V. Foik

Flower section of *Cleistocactus brookeae* showing the sharp bend at the base of the flower.

rushed to publish it in the Slovakian journal 'Cactaceae etc.' with the inappropriate name *Hildewintera polonica*. They had reportedly been taken to the habitat of the plant following its first discovery. Eventually, justice was done, since their publication turned out to be invalid as it contravened the Code of Botanical Nomenclature.

There are many populations of *Cleistocactus brookeae* in south east Bolivia. The white-spined form known as *C. wendlandiorum* with orange flowers is popular with growers because it produces large numbers of its pretty flowers. The form known as *C. vulpis-cauda* is an ideal subject for a hanging put since the stems are pendant and flower throughout the summer with dark red blooms. All these have the characteristic bend at the bottom of the flower tube.

There is more to read about *C. colademononis* in the many articles published about it:

Diers, L. & Krahn, W. *Hildewintera colademononis* spec. nov. KuaS 54(8): 221 (2003)

Diers, L. & Krahn, W. Eine bemerkenswerte Art aus der Bergwelt Ostboliviens. KuaS 54(10): 274-279 (2003)

Foik, E. & V. *Hildewintera polonica* E. Foik & V. Foik. Cactaceae etc. 13(2): 68-70 (2003)

Foik, E. & V. The discovery of a new hildewintera. CSSJ 74(6): 277-281 (2003)

Kiesling, R. & Metzing, D. An amazing species of *Hildewintera* (Cactaceae) - characters and systematic position. CSSJ 76(1): 4-12(2004)

The Grower Conservationist

Growing any group of plants in any branch of gardening tends to begin with the satisfaction obtained from nurturing a few plants and watching them respond favourably to treatment. That pleasure is compounded by adding more and more subjects, and pretty soon the tyro has turned into an enthusiastic collector.

For many that is the end of the story, but others seek out like-minded individuals in order to share their triumphs and disasters. That is how societies come into being.

There is another kind of person who starts to acquire plants in much the same manner for similar motives, but who then starts to develop an insatiable scientific curiosity about them. These are some of the biggest collection builders, and soon become the main source of authors on the subject of their devotion.

Beyond all this there is now yet another new kind of collector: those who look upon their collection not only as a scientific resource but also as a microcosm of nature that is under their personal protection. These are the ex situ conservationists.

The grower conservationist tries to emulate as closely as possible conditions in nature, but at the same time eliminate the climatic and other extremes of habitat that could result in the loss of their plants. They aim to grow plants at a rate that simulates that in nature, and look upon their collection as a remote extension of habitat.

Guidelines for an ex-situ conservation collection

Conservationist collectors wishing to maintain reservoirs of good genetic material do need to observe certain disciplines, and here are five dos and don'ts for the budding ex-situ conservationist:

1. Plants with a conservation value need to have as much documentation on their origins in the wild as possible, i.e. a field collection number or the actual location where the seed or live plant material was gathered. Full labelling on the plants and an independent record book are essential. Losing a label when it is the only place where the data is recorded can be a disaster. Most growers can remember the name in their heads, but not usually the data as well. A card index is ideal, but nowadays the computer is the obvious tool for maintaining records (with backup!!!).

2. Ideally, at least two plants (different clones) should be grown of identical origin, so that they may be cross-pollinated to obtain seed. Even better is to have at least three plants, in case one is lost, as even the best regulated collection can have unexpected failures. Don't ever cross-pollinate two plants of the same species unless you are certain that that come from the same population in the wild. To do so will create progeny that do not exist in the wild, as they would never have had a chance to be crossed in nature.

3. Care should be taken to avoid cross-pollination with foreign pollen. This is the

Laser printed labels permanently record the data about the plants origin as well as the aquisition number.

trickiest discipline in a mixed collection. It does not necessarily mean isolating the plants. If no others are in flower in the greenhouse at the same time, or no flying insects are observed, then the chances are that no contamination with foreign pollen has occurred. Getting to the flowers just as they open and pollinating before the insects have had a chance to get to them is a good way of maintaining purity. Once pollinated, later transfers of pollen won't count – they are too late to be effective in the race for pollen gains to grow down the style. Some professional growers producing seed for sale have sometimes gone to great lengths to ensure no contamination, such as the sealing of the greenhouse doors and windows with muslin cloth plus extractor fans to ensure that no flying insects have a way in to the greenhouse. On a smaller scale, isolation of the plants by constructing little enclosures to fit the plants, or moving them into a propagator, is also effective.

4. Obtain your plants or seeds from reliable sources. Generally the specialist growers and seedsmen know what they are doing, and seeds brought back from habitat by travellers are also a good source. However, plants propagated by tissue culture are much less trustworthy, because they are very prone to undergoing genetic mutations and changes in chromosome number. Very obvious mutations can easily be recognised and rogued out, but the more subtle changes cannot be detected. This is a propagation technique best reserved for the rapid multiplication of cultivars or the

creation of new cultivars, and should not be relied upon to multiply rare endangered species for conservation purposes.

5. Ideally, fresh seeds or other material of wild origin should be introduced at intervals. Many conservationists argue that ex situ conservation does not work because of genetic drift in the greenhouse environment after a number of generations. A regular infusion of wild genes is a good idea if it can be organised. It is, however, unfortunate that Mexican legislation militates against this, having a complete ban on the export of seeds as well as plants. There should, however, be no problem elsewhere, other than for CITES App. I species from USA.

The well maintained conservationist collection is a very valuable resource. It may be used as a source of seeds and other material for replanting depleted habitats, and hopefully one day the regulatory authorities will become wise enough to make good use of this fact and allow plant material to flow in both directions. They could, for example, have a scheme whereby exchanges take place, with the grower receiving an infusion of fresh habitat material to enhance and maintain the purity of the gene pool in cultivation while supplying at least as much again of young plants for a replanting programme in exchange, to the benefit of all.

Roy Mottram 15 Jul 2011

..or in a Maltese Garden!

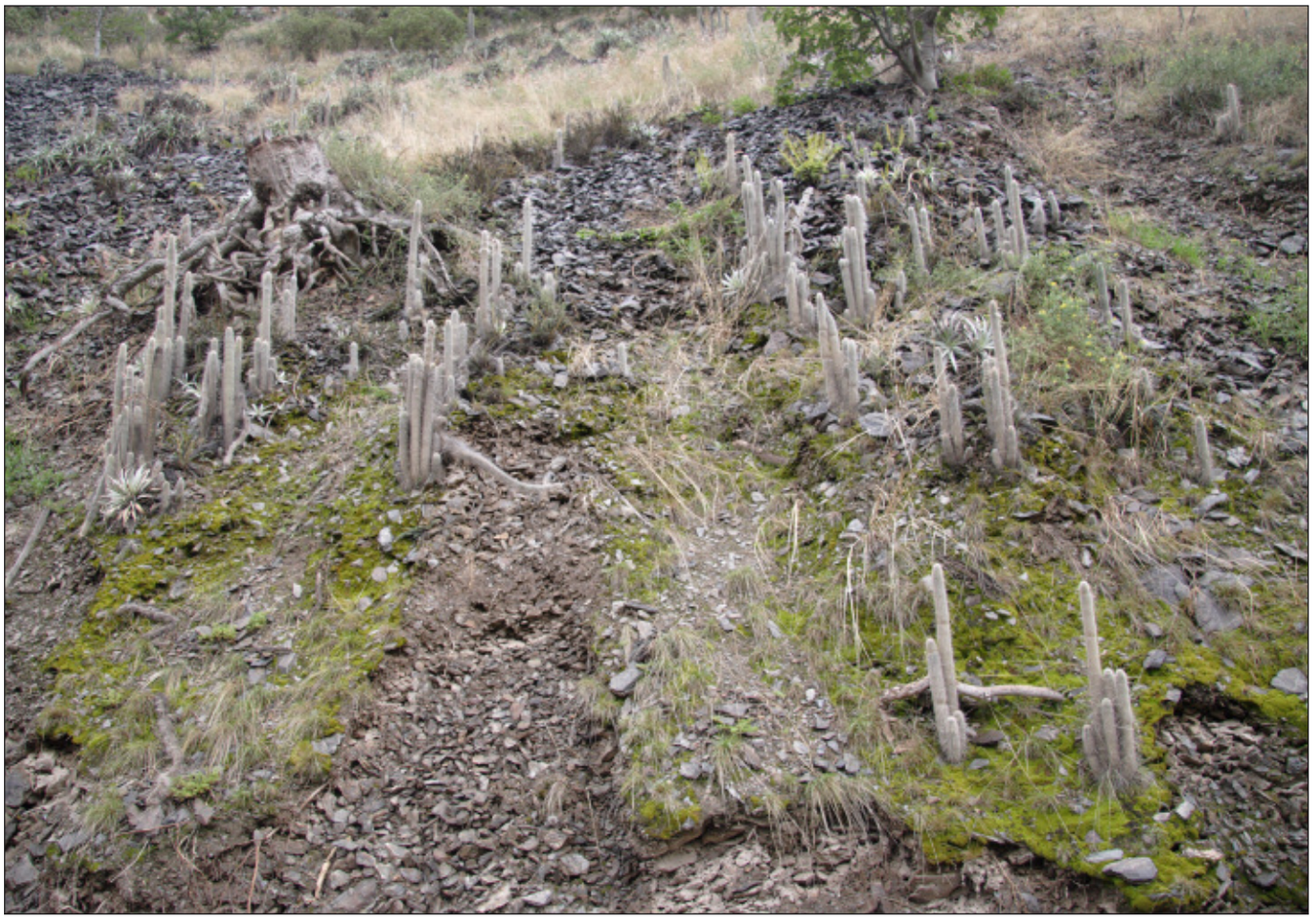
When you live in a climate where you can grow columnar cacti to maturity in your garden then you have the chance to see flowers most of us never can. Our good friend René Zahra sent me an E-mail recently "With this e-mail you have a photo of the flowers of *Thrixanthocereus ritteri*. This was grown from seeds obtained from Knize. It looks similar to plants grown from seeds under the name *Thrixanthocereus albispinus* but the latter are still too small to be 100% sure. The cephalium is facing the wall and so I was unable to take a frontal picture of the flowers. On Espostoa and Thrixanthocerus, the cephalium normally faces East or South, but in this one it's facing West.

Photo: R. Zahra

Thrixanthocereus ritteri KK1634

Photo: R. Zahra

Thrixanthocereus ritteri KK1634



Thrixanthocereus near the River Marañon at El Chagual
Is this *T. longispinus* Ritter? The same as René's plant?

The plant is about 150 cm tall."

In his list (1987) Knize attributes his KK1634 *Thrixanthocereus ritteri* to Cullman but I can find no reference to its publication. Knize gives the location as Chagual, a crossing of the River Marañon. There are two cephalium-bearing cacti at this place, *Thrixanthocereus longispinus* Ritter and *Espostoa mirabilis primigena* Ritter. The flowers in René's picture are certainly not the Espostoa, so perhaps the valid name for *T. ritteri* is *T. longispinus*.

The genus Thrixanthocereus has been included in Espostoa in recent treatments but I am not convinced. I await a molecular study to tell us the facts, but I suspect their similarities are an example of convergence rather than a close relationship. The fruits and seeds are really very different.

René sent me another mail telling me " I just can't understand how *T. cullmannianus* could be the same as *T. blossfeldiorum* which is much thicker and has larger dark brown spines. The flowers of *T. blossfeldiorum* are much larger too."

T. cullmannianus (& *T. longispinus*) has been placed in the synonomy of *T. blossfeldiorum* which grows in the same River Marañon valley but lower downstream. I think it likely that one is a dwarf form of the other as René's observations suggest.

Thank you René. I hope we can have more pictures of your flowering cerei.

RZ & GC

The Value of Field Numbers

When visiting cactus habitats, it is usual for cactophiles to allocate numbers to their finds. There is no consistent format or meaning to these numbers, but they are a convenient way to trace the finding place of a plant with such a number. The best practice is for each habitat of a species to be given a separate number, but some historically important field numbers, such as those of HU (Horst-Uebelmann) and FR (Ritter) apply to a perceived species rather than a single locality. In these cases, the same

number has been applied to plants from different localities. In the case of my numbers, the first part is the locality then each species there has been given a different number after the dot. There are a number of other people using this system, but many just use consecutive numbers, or only give numbers to species where seeds or plants were collected.

The best way to find the data for a field number is to use the Field Number Database, an internet resource created and maintained in the UK by Ralph Martin.

Many nurseries offer plants with field numbers but, unless the vendor tells you that the seed was field collected, there is no way of knowing how many generations separate the plant from the original collection. Some years ago, I invented a suffix to add to the value of the recorded number:

(Z) = Grown from seed pollinated in habitat.

(Y) = Grown from seed from habitat plants pollinated in cultivation.

I use this code in my collection and on plants I sell, but a number of my friends have also adopted this notation. Those of you who bought plants from Bill Greenaway will have seen it used in his lists and on plant labels.

So, why is location data important? There are a number of reasons:

(a) The plants with a (Z) can be used for study and conservation because they are representatives of the gene pool in the wild.

(b) The field number data, if recorded accurately, is not subject to change whereas the name could be revised.

(c) Rather than giving every population of a species a separate name, the number identifies local forms which may be particularly attractive to cultivators.

(d) Your number can be used to consistently identify habitats you have visited, your photographs from there, seed collections, subsequent plants from there, and pictures of those in culture.

In the next issue I shall tell you about my new method of labelling plants that is fade-resistent and facilitates including location data on the label.

For more discussion see the recent CSJ(US) journal: "Beginners' Guide to Managing a Collection. Part 1: Keeping Track of Plants" CSJ(US) 83(3):109-117 (2011)

GC

The Matucana with a yellow flower

Although one of the first Matucanas to be discovered, the type form of *M. weberbaueri* is still uncommon in UK collections. It was first discovered by Weberbauer (No. 4271) in 1904 when he was travelling from Chachapoyas to Balsas (Amazonas, Peru) on the old mule track which is now abandoned, having been replaced by a modern road that follows a different route. The plants were described in 1913 by Vaupel as *Echinocactus weberbaueri*, before Britton and Rose had erected the genus Matucana.

It was Alfred Lau who rediscovered the original habitat on a hill called Carrizal (Lau218, pictured above). He described the event in an interesting article, part of a series called 'South American Cactus Log Part II' in CSJ(US) 50 (2):65-71. Similar-looking plants collected from near the modern road had been send to Europe by Karel Knize but they had darker spines and orange flowers. John Donald, realising their affinity with Weberbauer's plant, named them in Ashingtonia 1(9):100(1974) as *Borzicactus weberbaueri* var. *flammea.* [Donald did not recognise Matucana, treating it as Borzicactus]

GC

Journal Roundup

A Model for On-line Journals

An on-line journal is the ideal medium for a society with a world-wide membership to communicate efficiently. The journal of the SLCCS is an impressive source of information about the study of cacti and succulents in the New World. It is encouraging that these plants are increasingly being studied by botanists in their native countries. The increasing local awareness of succulent flora is good for their long-term conservation.

You can get a free download of all the issues of this excellent journal in PDF format.

Another View of Gymnocalycium

The specialist journal 'Gymnocalycium' has been a valuable source of information about the genus. However, it has adopted an extreme splitting approach to nomenclature and supported the resurrection of old names that cannot be attributed with any certainty. It appears that alternative views are not welcome on their pages so, regrettably, the reader does not receive a balanced approach.

Now, another group of Gymno enthusiasts have launched a new free on-line journal 'Schütziana'. The editorial policy encourages authors to state their opinions without censorship and the 4 issues so far published are a valuable contribution to the knowledge of this popular cactus genus.

You can get a free download of all the issues of Schütziana in PDF format.

Important New Research

There have been many molecular studies undertaken recently on the genes of cacti and succulents. They have produced some unexpected results, often challenging the current understanding of relationships and hence the classification of taxa. Techniques are always being refined and the confidence in the results is improving.

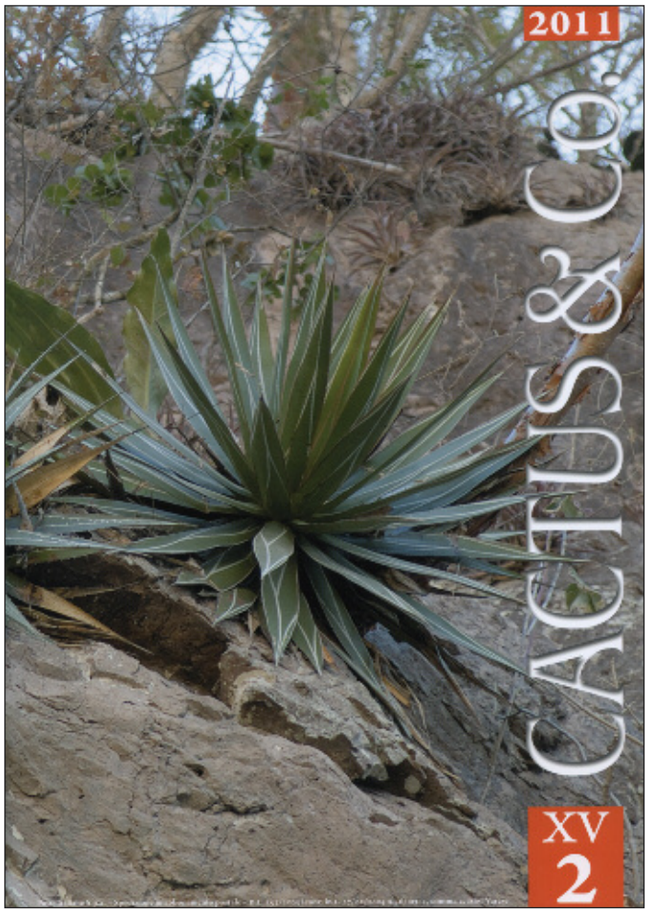
One impressive study was published last year in 'Willdenowia' by Nadja Korotkova et. al. concerning the phylogenetic analysis of Pfeiffera. It showed the genus as treated in the New Cactus Lexicon is polyphyletic, meaning that it is not the result of one developmental line. Hence, the plants not in the lineage of the type of Pfeiffera needed to be placed in a different genus.

The monotypic genus *Lymanbensonia* had already been erected by Myron Kimnach in 1984 for one of the species concerned (*Pfeiffera micrantha*) so this genus was reinstated for the three species which had been shown not to belong to Pfeiffera. Furthermore, a new tribe Lymanbensonieae was erected for Lymanbensonia and its close relative Calymmanthium.


Lymanbensonia brevispina GC1065.02 Balsas Peru

GC

Featured Journal: Cactus & Co.



Now in its 15th year, this journal is published in Italy and, as one might expect, is very well designed and produced. The A4 page size, larger than any other cactus & succulent periodical, allows the reproduction of large pictures. In fact, the excellent illustrations dominate the layout, providing the reader with a wonderful pictorial record of plants and habitats. The text is provided in Italian and English so giving Cactus & Co. international appeal.

As well as the quarterly journal, Cactus & Co. also publish high quality books at very reasonable prices such as the new 'Succulente in Natura' reviewed on the next page. Other titles are available in English and I particularly like 'Lithops Flowering Stones' by Desmond and Naureen Cole published in 2005.

Please consider supporting this valuable publication by subscribing on-line. You can find a list of available titles here and many are also available from Keith's Plant Books.

GC

German Echinocereus Journal

For

enthusiasts of the genus Echinocereus, this is essential reading, even though the text is in German with English summaries. It has been continuously published since 1988, now with four issues per year. In the latest issue, 3/2011, three well-illustrated articles describe plants from Chloride, Arizona; further information about *Echinocereus chaletii*, recently described in Cactus & Co.; and the beautiful flowering hybrids of Otero County, New Mexico. The annual seed list is an excellent source of documented seed. Information about joining can be found on-line.

The popularity of the genus Echinocereus is bound to be enhanced by the forthcoming publication of a book about it currently being written by John Pilbeam.

GC

More books in the Pipeline

The Bushman Candles (Genus Sarcocaulon) - Charles Craib & John Lavranos

The Genus Eulychnia - P. Klaassen & P. Hoxey

Timber Press Guide to the Succulent Plants of the World: The definitive reference to more than 2,300 species

Baja, California Plant Field Guide - J. Rebman & N. Roberts - 3rd Rev. Edition

GC (with thanks to *Chuck Everson* for information)

The Love of Books

News of Recent Publications. A Reminder of Old Favourites.

Many cactophiles enjoy reading about their plants, particularly in the winter when our collections are less demanding. This feature should provide you with inspiration.

New Book about Succulent Habitats

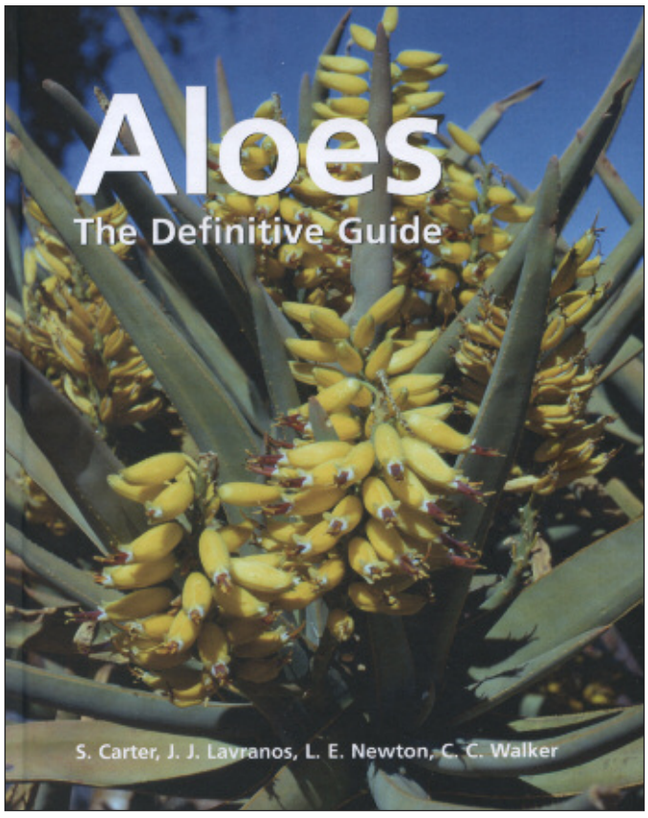
Cactus & Co. April 2011. 128 pages, softbound 220 x 220mm with colour photo covers. 151 colour pictures, plus diagrams and maps.

The book includes succulent anatomy, evolution, history, and distribution, before discussing habitats around the world in detail.

It is professionally produced with excellent illustrations contributed by many specialists. Italian language.

The author, IOS Member Laura Guglielmone, has a keen interest in succulents and works at the Herbarium of Turin University.

Cactus & Co. are well known for publishing high quality reasonably-priced books of which this is a good example. More information can be found here.



Eagerly awaited Aloe Book Published

Authors: Susan Carter, John Lavranos, Len Newton and Colin Walker. Published by the Royal Botanic Gardens, Kew. 720 pages, hardbound 267 x 195mm with colour photo covers. There are more than a thousand colour pictures together with many diagrams and antiquarian illustrations .

The monumental effort undertaken by the authors in creating this important work is complete. It is the product of a collaborative venture of Kew Publishing and the BCSS. Here is a volume of great significance and reflects the botanical expertise of its professional authors.

The chapters cover all the aspects of the genus you would expect and I personally particularly like the one about history. I regard

most of the book as a reference, rather than a text to sit down and read, but the chapter on history is a fascinating story about man's long association with Aloe.

The main body of the book is a detailed treatment of the described species. Botanical keys are provided and the entries are organised by habit and then size, an arrangement designed to make it easy to identify un-named plants.

There have been a remarkable number of new Aloe species described in recent years, a few since this book was completed. The title 'Definite Guide' is a curious choice, implying that Aloe is now 'done' and there is nothing else to say!

My only disappointment with this book is the size of many of the pictures. The designer would no doubt claim that the need to avoid the book becoming too big, and the desire to have one species per page are the reasons, but I do like a good-sized picture!

£90 from Keith's Cactus Books GC

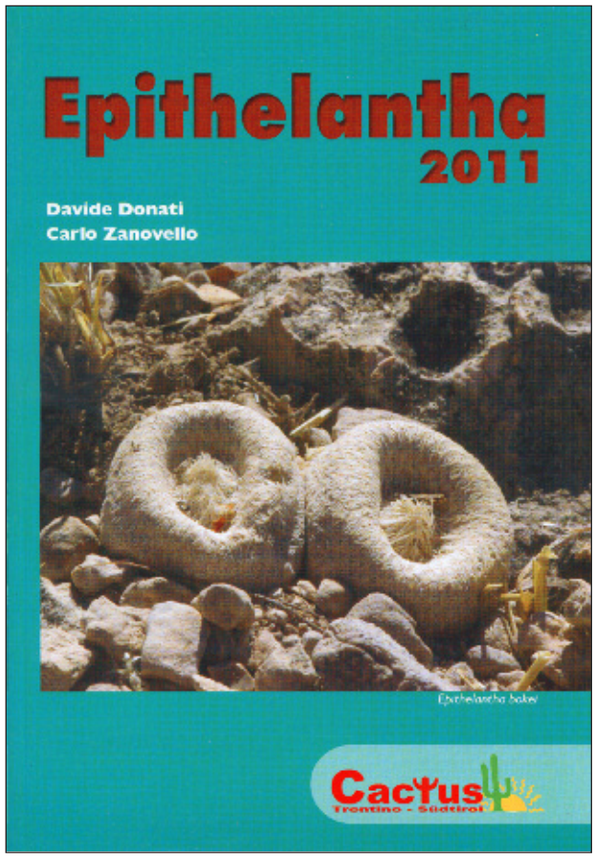
Ritter in Colour

Students of South American cacti find the 4 volume set of 'Kakteen in Südamerika' written by Friedrich Ritter an indispensable source of information. Ritter probably made the single greatest contribution to cactus exploration in the 20th Century. He was responsible for a large number of new descriptions and the black and white illustrations in his books often represent the type collections.

Many of the colour transparencies used to produce the B&W pictures in the books have come into the possession of David Hunt. With the help of some members of the International Cactaceae Systematics Group, he plans to publish them in colour which will greatly increase their value.

Can you help? There are still some of Ritter's original transparencies missing, so do you know where they are? They are most likely to be in Germany, perhaps in sets of slides loaned to branches by the DKG slide library.

GC



Epithelantha 2011

Softbound, 239 x 164mm 64 pages.

An interesting booklet by Davide Donati & Carlo Zanovello about a cactus genus which many growers have in their collections, but probably know little about. Written by two Italians who have studied the plants in the wild as well as cultivation, they start by looking at the characteristics of the genus, their history in cultivation, and the factors they used to determine the species.

Each species and variety is described with its history, distribution, ecology, and the other plants it grows with in habitat. The book is well illustrated with 100+ colour photographs mainly in habitat, with close-ups of single areoles and distribution maps. Final sections cover conservation, advice on cultivation and propagation, then a bibliography.

English translation from the Italian. £16.50 from Keith's Cactus Books.

A History of Succulent Plants

Keith Larkin reminds us about a fascinating book that has not enjoyed the popularity it deserves. It's Gordon Rowley's own favourite amongst all the books he wrote. It is still available.

Most times it is possible to get a reasonable estimate of expected sales of any book from how other similar titles have sold - but occasionally a book surprises by being more or less popular than anticipated.

One reason for what seems to me to be an exceptionally good book being overlooked by customers is that it doesn't fit in with the standard categories of most cactus etc. books – monographs, cultivation, habitat, picture dictionaries etc. And this is one of those.

Gordon is someone who goes into topics which others haven't – his Teratopia book still stands apart, little else has been published on Adenium and Pachypodium since his two early books, nobody else has tackled Didierias, and his Pachyforms was a pioneer which has been followed by few other books on the subject.

This book comprehensively covers how our relationship with succulent plants has developed from the earliest times. It is the culmination of Gordon's many years of assembling historical information on the plants, and we got the first visible signs of it with the display he put on at the BCSS 1990 Convention at Reading. His extensive personal collection of books and information has been enhanced by other items from his widespread contacts around the world.

The range of topics in the book extends from the earliest records, including personalities involved with them over the centuries listed in a 369 who's who [Gordon stresses that you have to be dead to be included!] that gives brief biographical information about each.

Then there is plant exploration; how modern technologies such as microscopes and ideas from the likes of Linnaeus and Darwin built a framework for understanding them; and how items such as wardian cases and glasshouses helped the collection and growing of the plants in cultivation. And how many writers have considered the aesthetics of the plants? What other book covers any of these topics let alone its range?! And as ever it is written in Gordon's easy style.

At the recent celebration of Gordon's 90th birthday, he was still adding to his extensive book collection!

Published in 1997, this book is enhanced with the widest range of illustrations possible.

Perhaps the initial high cost of the book didn't help, but I'm surprised how little known this book has been by many in the hobby. Whilst it doesn't enable you to grow your plants better or to decide what appeals to you, it does give a greater appreciation of how the plants came to be brought in to cultivation and knowledge of them and their cultivation spread, which surely is the basis of the hobby we all share. Most people will find much that they didn't know and give them an enhanced perspective on their plants.

Keith Larkin

NOW WE KNOW WHERE P. BIEBLII GROWS

Some observations on a mysterious cactus

Graham Charles presents observations on a plant which most cactophiles would like to have in their collections. Many thanks to Paul Hoxey for information about the location of the habitat and for pictures used in this article.

The highest altitude habitat of *Pygmaeocereus bieblii* GC1092 and some of the plants there.

The first description of *Pygmaeocereus bieblii* by Diers appeared in KuaS 46(11): 256-260 (1995). The illustration published at the time showed a plant with short thick spines, really different from *P. bylesianus*, the type species of the genus. The other remarkable fact was the location given for this new species. It was said to grow 100km north of Huaraz in Ancash Province of Peru.

The genus had long been known from locations near the coast in the south of Peru. The publication of a new species from 900km away in the north of the country was a surprise and the authenticity of the claim was questioned. The omission of the altitude led Ted Anderson and others to search near the coast but it was not found there. Recently, the destruction of a road by landslides resulted in its re-routing near to the habitat so facilitating its rediscovery.

In Cactaceae Systematics Initiatives 22 (2007), David Hunt tells us that *P. bieblii* had been found by Marcel De Munter and Falco in 1979. He published a picture of the plant growing in the Jardin Exotique in Monaco and wondered

Pygmaeocereus bieblii at Habitat GC1093, 1785m. Neoraimondia and Melocactus at the same place.

who Wolfgang Biebl was. Diers said that the man had 'been sent to Peru by the German Government to do a survey and had found the plant by chance' Eggli in 'The Etymological Dictionary…' says that Wolfgang Biebl was a 'German cactus collector'

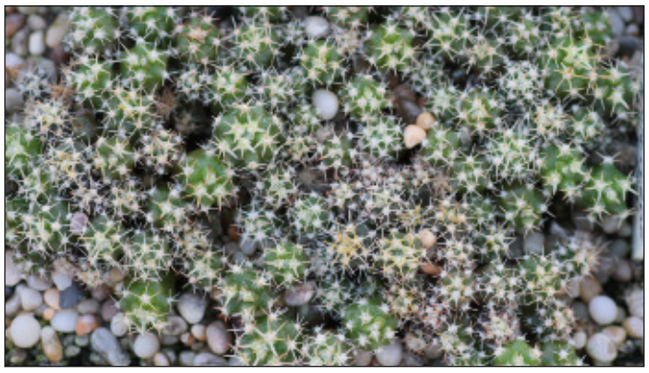
When the plant was rediscovered by Franz Kühhas, he realised that it occurred over an altitude range from 600m in the Rio Santa valley to over 2000m on the hills above. The plants at low altitude were finer-spined and up to 13cm tall, whilst those at high altitude, the type form, were flat to the ground and made large mats of stems.

In KuaS 58(5): 71-77(2007), Diers described the low altitude form as *P. bieblii* var. *kuehhasii* and grafted plants of this have been available recently. They look more similar to the familiar *P. bylesianus* from southern Peru. Surprisingly, Kühhas reports that the two forms cannot be cross-pollinated.

During our visit to Peru in 2009, we were travelling on the new road and as we approached the valley of the Rio Santa we

Below: *P. bieblii kuehhasii* PH634.03 at 630m
Bottom right: Cristate plant at Habitat 1092

Photo: P.Hoxey



Seedlings of P. bieblii GC1093.07

could see below us the hill on which the plant grew. The top of the hill was quite bare and composed of fine broken rock which was the habitat for hundreds of heads of *P. bieblii* growing flush with the ground (GC1092). They appeared to be organised into large groups of similar-looking heads which I discovered all belonged to single plants. Also on the hill were *Espostoa nana*, *Melocactus peruvianus* and *Mila pugionifera*.

400m lower down the hill, at habitat GC1093, there were many more cacti. All the species at the higher location were also here as well as *Haageocereus zehnderi* and huge plants of *Neoraimondia gigantea.* The clusters of *P. bieblii* similar spination but grew taller. We were there in November towards the end of the long dry season and it did not look as if it had rained much, if at all. I was able to find two dry fruits on the Pygmaeocereus and the following spring the seeds germinated very well. A year later the plants are looking like miniatures of the adult plants so I hope to offer them for sale before too long.

GC

Below: *Pygmaeocereus bieblii* GC1092.04
Bottom right: *Pygmaeocereus bieblii kuehhasii*

Photo: P.Hoxey

Photo: P.Hoxey

TRICHOCEREUS RANDALLII REVISITED

The Story of a little-known plant from Bolivia

Martin Lowry looks back at the history of the most-northerly subspecies of *Echinopsis formosa* and shares his experiences in habitat and in his glasshouse. If any of our readers have authentic material in their collection, please let Martin know.

On December 2nd 1962, a half-ton Ford truck crossed the puna north of San Antonio in southern Bolivia and descended into the Paicho gorge. Little did the driver know that he was about to be stuck there for three days due to the combination of a flash flood and a broken carburettor. Even so, he made good use of his time and discovered at least four new species of cacti. The man at the wheel was Friedrich Ritter on yet another of his many exploring trips.

35 years later, having decided to follow in Ritter's tracks, I made the same journey travelling with Brian Bates and Tim Marshall. It is unlikely that the road conditions had changed much in the intervening years but, fortunately for us, our vehicle was well equipped to cope with the difficult terrain. We started from the small town of Iscayachi and after about 25km came to the edge of the puna and looked out over the Paicho valley. We began our descent and soon were in a veritable

Fig. 1

Fig. 2

cactus paradise with many plants of nearly a dozen species surrounding us. Among the Oreocereus, Trichocereus Cleistocactus and Parodia, I was especially pleased to discover several specimens of what was then called *Lobivia formosa* var. *randallii* (Card.) Rausch on a small cliff (BLMT137). The species had been discovered by Ritter on his trip in 1962 and he had prepared a manuscript for its description under the name *Trichocereus superbus*. However, before he could submit his article, the Cactus and Succulent Society of America published an article in September 1963 by the renowned Bolivian botanist Martin Cardenas. In it, Cardenas described those very same plants as *Trichocereus randallii* after Mr R. B. Randall who had discovered the plants and sent specimens to him in Cochabamba. Subsequently, Backeberg placed it in his genus Helianthocereus close to *H. tarijensis*. Walter Rausch was the first to recognise its true affinity when he made it a variety of *Lobivia formosa* in 1987. Its most recent nomenclatural move was in 2002 when I raised it to subspecies rank under *Echinopsis formosa*.

Most of the plants we found that day in December 1997 were quite small, ranging from 5 to 30cm in diameter and from 8 to 30cm tall. One or two were much larger, at over 30cm across and nearly 1m tall, indicating the

potential of the plant to become quite massive. Like the other forms of *E. formosa* from Argentina, it has many ribs and quite small areoles from which arise 2-5cm long thin flexible brownish-red spines (Fig. 3). Perhaps its most outstanding character is its large, deep magenta flowers, but we were unlucky and couldn't find any flowering plants. There where plants with young brown woolly buds near the crown but, more strangely, it appeared that the previous year's buds had aborted since they were still present as small woolly grey tufts part way down the stems. I have to admit that between us we came away with four small plants.

Nine years later, in November 2006, I visited the Paicho valley again with John Arnold, Graham Charles, Moises Mendoza and Chris Pugh and, very close to where I had first seen them, we found another couple of dozen plants (BLMT718 & 719). At this location many of the plants were mature with most being about 30cm diameter and tall. Again, we found one or two larger specimens and even one with several baseball sized offsets (Fig. 4) but we found no flowers nor fruit.

I was in southern Bolivia again in November 2009, this time with John Carr, and made another brief visit to the Paicho valley. After ascending from the valley we took a barely visible track across the puna around its south-western rim until we came to a precipitous overlook (BLMT777). Just over the rim on the steep slopes amongst rocks we found another small population of *Echinopsis formosa* ssp. *randallii*, again all sterile and showing evidence that previous buds had aborted. Two days later, we visited the Tomayapu valley one ridge west of the Rio Paicho and whilst driving north-east to the pass between the two rivers, we came across another group of the plants (BLMT785). Similar to the previous locations, most of the plants were mature with one or two quite large specimens and little evidence of recent regeneration. One of the plants at this location was exceptional; at around 2m tall, it is the largest specimen I have yet seen in habitat (Fig. 5).

These sightings were in an area less than 10km^2 and probably represent the same population so this subspecies appears to have a very restricted range and to regenerate very slowly, so making it vulnerable. The distribution area is in the rain shadow of the Serrania Sama and is generally quite arid with little vegetation other than the cacti and a few

Fig. 3


Fig. 4


Fig. 5

drought-resistant Prosopis trees. It is possible that this aridity is recent and has had a deleterious impact on seed production. Fortunately, individual plants are long lived and there are no obvious additional threats to its continued survival.

Ritter was more fortunate on his one trip, since a year or so later seeds of the plant were offered for sale in Europe by his sister, H. Winter, under his collection number FR1155. These seeds appear to be the only introduction into cultivation, since more recent offerings have turned out to be impostors; quite often they grow into short columnar plants which can be recognised as *Echinopsis tarijensis* from their wide ribs and large areoles with thick rigid spines. One keen grower of South American cacti in the period when the Winter firm was active was Gordon Foster of Oakdene Nurseries. He bought a packet of Ritter's seed and grew a batch of seedlings. One of these eventually made its way into the collection of Colin Norton where I first saw it in the mid 1990s. It must have been damaged as a seedling since it had produced two very similar stems each about 30cm tall and 10cm in diameter. It had never flowered for Colin and he had become somewhat disenchanted with the plant so in 2001 he let me take it home. I discovered it had very little root so decided to rejuvenate the plant and took the top 15cm of each stem as cuttings. I also cut away the roots from the remaining main stems so ending with four cuttings. Eventually, the original main stems produced offsets before they rooted and these were passed around to interested friends with one returning to Colin. I kept one of the original top cuts and eventually, in 2005, it flowered, producing several large deep magenta flowers (Fig. 1). Since that time, two of the seedlings we collected (Brian and Tim donated their specimens to the collection in 1998 and 2000, respectively) have also matured and flowered (Fig. 2). Unfortunately, they haven't yet flowered together but last year one of them flowered simultaneously with the Ritter plant so I was able to cross pollinate them and now have a small amount of seed. Considering the potential vulnerability of this plant in the wild, I suspect that my five plants represent a valuable ex-situ conservation resource, so I am happy to provide small quantities of seed to interested growers.

ML

Lunch in the Field

Paul Hoxey tells us about his interesting encounter with a local Mexican man and what he learned from him about the native uses of the succulents growing nearby.

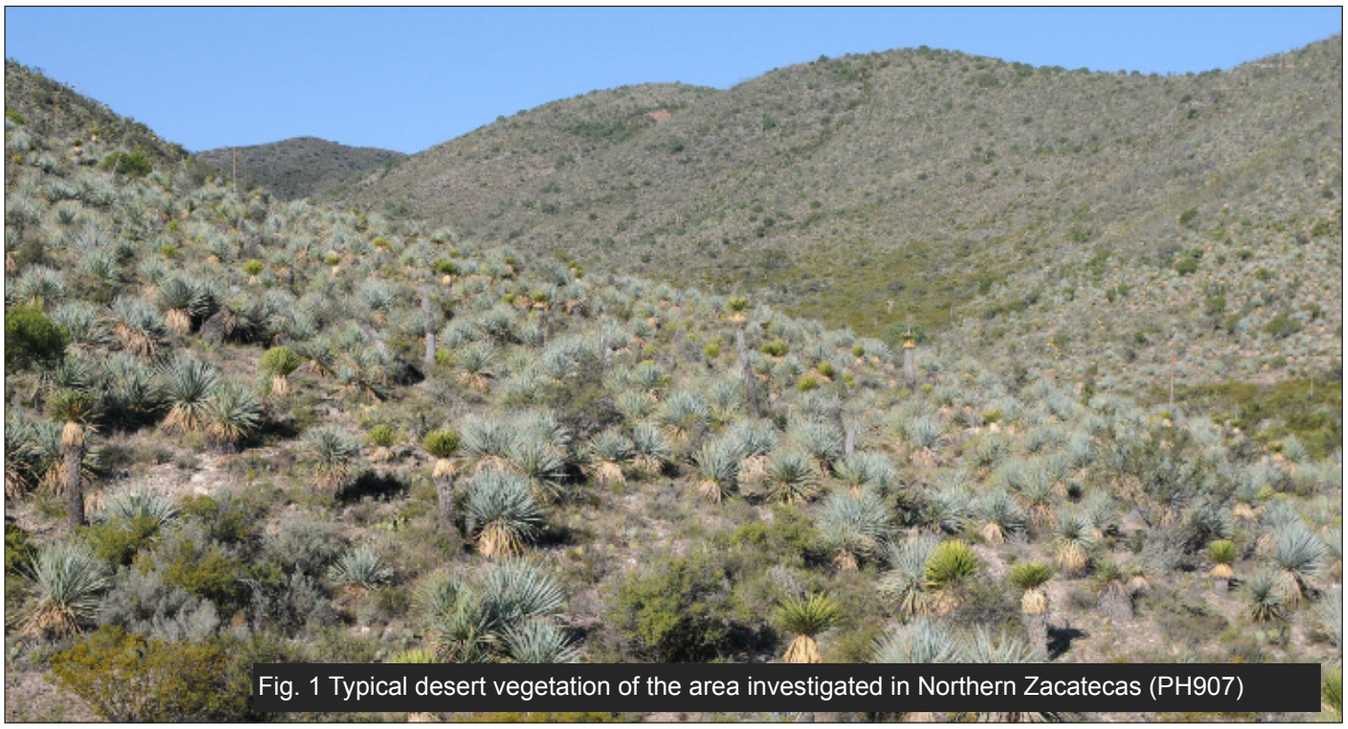


Fig. 1 Typical desert vegetation of the area investigated in Northern Zacatecas (PH907)

During my trip to Mexico in October 2010 I visited the region to the west of the small town of Mazapil in northern Zacatecas. I was exploring for cacti when I met a local man, Horacio, who had grown up and lived in the area all his life. I mentioned my interest in cacti and he offered to accompany me for a morning exploring in the nearby hills. Horacio owns a herd of 200 cattle, grazing in another part of the valley, but as a boy had spent a lot of time in the hills tending to a flock of goats so he knew the area intimately. It quickly became apparent that Horacio was also a fountain of knowledge on the local plants and their uses. Agave lechuguilla is extremely common in the area and Horacio explained how the leaf contains strong fibres called Ixtle. Skillfully, he removed the spines off one leaf and then used the serrated edge of another to remove the outer flesh to leave the internal fibres exposed. The fibre is extremely strong and it is still used to this day for making ropes and mats.

Horacio also explained to me the many medicinal uses of the local plants.

Fig. 2 Horacio holding a leaf from *Agave lechuguilla* with the internal fibres exposed
Fig. 3 A large growing *Ferocactus pilosus* PH907.05 known locally as Bisnaga
Fig. 4 *Glandulicactus uncinatus* PH907.06, also known locally as Bisnaga

Fig. 5 - 8 Removing the spines and skin from a specimen of *Glandulicactus uncinatus* PH907.06

Unfortunately, my Spanish was not good enough to understand all the different ailments the local plants could relieve or the preparation techniques undertaken on the plants. It is a shame that Horacio's knowledge, passed down through the generations, is likely to be lost in the future. The majority of his children have moved to the cities of Saltillo and Monterrey in search of better educational and work opportunities, and western medicine is now available and replacing tradition remedies in rural communities.

The cacti seen on the trek were typical of those found in the region; *Neolloydia conoidea, Mammillaria pottsii, Echinocereus pectinatus, Ferocactus pilosus, Glandulicactus uncinatus, Mammillaria formosa, Stenocactus phyllacanthus, Coryphantha delicata, Echinocactus platyacanthus, Echinocactus horizonthalonius,* and *Ferocactus hamatacanthus*. Horacio knew all the cactus species by sight. Not all the cacti have individual local names but Bisnaga is a term used for the large barrel cacti; Ferocactus pilosus (Fig. 3) and *Echinocactus platyacanthus*. He also used that name for *Glandulicactus uncinatus*, a much smaller-growing plant with long hooked spines (Fig. 3) and took me by surprise when he gave a plant a gentle kick with his boot. The species is shallow rooted with a relatively weak root system so this specimen was easily dislodged from the soil. Horacio then proceeded to remove the spines with a sharp penknife whilst using the roots as a convenient place to hold the plant (Figs. 4, 5 & 6). Once all the spines had been removed, the skin was carefully removed to reveal the extremely juicy pale green flesh (Fig. 7) Horacio then chopped this up into cubes which we then ate. The taste was not unpleasant but slightly bitter, however, more importantly, the flesh was very watery. For anyone spending all day in this dry environment, these small cacti appear to be ideal snack and a useful source of water.

It appears the term Bisnaga is used quite generally for the group of cacti which are edible. *Glandulicactus uncinatus*, is a plant that has proved difficult to classify and has been placed in many genera over the years. Recent DNA studies have repeatedly placed it close to Ferocactus and it is probably best included there, rather than in Sclerocactus were it is included in the New Cactus Lexicon. Its edible

Figs. 9 & 10 *Ferocactus hamatacanthus* PH907.10 the plant and its fruits.

nature which it shares with Ferocactus is, perhaps, also a confirmation. Not all cacti are edible (or at least not palatable). I asked about a nearby *Echinocereus pectinatus* and Horacio stated they could not be eaten.

Less surprisingly, Horacio also showed me that fruits are also edible. Firstly, he pointed out the fruits of *Ferocactus hamatacanthus* (Figs. 8 & 9) which he removed from a plant with a sharp knife. The fruits are smooth and spineless and are about 5cm long. Horacio then proceeded to find a stick long enough to dislodge the fruits from a large tree-like Yucca filifera.(Fig. 11). The ripe fruits (Fig. 12) have an extremely sweet outer flesh which can be nibbled. Inside the large black seeds are dry and left uneaten. I imagine the fruits have evolved to drop onto the ground to be eaten whole by a mammal, after which the seeds are distributed in the faeces.

Fig. 11 Dislodging fruits from *Yucca filifera* (above)
Fig. 12 A fruit of *Yucca filifera* (below)

My time with Horacio passed all too quickly and I regret that I was not able to benefit from all this knowledge due to my lack of Spanish. We often look at cacti in isolation and fail to appreciate the full ecosystem. Horacio opened my eyes to how people have traditionally used the local plants for generations and, although I failed to find any of the more exciting cactus species, it was one of my most memorable times in Mexico.

PH

Retail Therapy

Your place to advertise spare plants, seeds, journals, books etc.

Entries are free so please send me the text of your advert which can include links to a web page or a document which you should also send me.

Keith's Cactus Books


For the widest range of books on Cacti and Other Succulents


And a wide range of other plant and gardening books
Delivery worldwide


Please visit
www.keithscactusbooks.co.uk
As easy to browse as a paper catalogue

click on the book images for more details

For the lovers of strange Astrophytum cultivars from Japan.
Link to Seeds
Link to Plants

Star Astrophytum, Roman Pavlica,
Majdalenky 21a, 638 00 Brno, Czech Republic

Richard and Wendy Edginton
SEEDLING CACTI INTERNET ORDERS,
The Nurseries, Station Road, Flordon,
Norwich, Norfolk, NR15 1QR, UK
Telephone: (+44) 01508 470153 Fax (+44) 01444 454061
Web Site: http://www.edginton-cacti.com
Contact us by email - click here

Auction of Jack Voase' collection 28th August 2011

Graham's 2011 Seedling Offer

This year's list features many Mexican cacti with location data, rare cerei from habitat-collected seed, and Gymnocalycium with location data.

The list can be viewed and downloaded here.

Plants can only be sent to EU countries.

Gymnocalycium
IN HABITAT AND CULTURE

Copies of my book are still available from dealers around the world or from me.

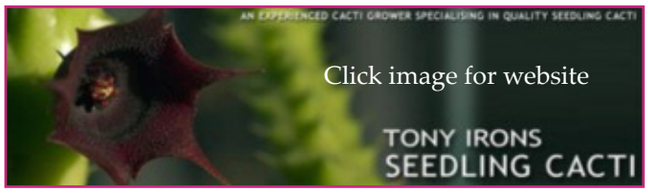
If you would like me to sign it, please ask!

Graham Charles

Gymno Book Website

Connoisseurs' Cacti

John Pilbeam's latest lists of plants and books
here
Address for corresponence; John Pilbeam,
51 Chelsfield Lane, Orpington, Kent, BR5 4HG, UK



Cactus France
This important journal was published in 88 parts from 1946 to 1967 and many issues are difficult to find for sale. Here is a list of my spares, £5 each. G.C.

The next issue of the Cactus Explorer is planned for November 2011. If you would like to be told when it is available for download, please send me your E-mail address.
Contributions to any of the regular features, articles, adverts for events, plants etc. are all very welcome.

Thank you for your support!