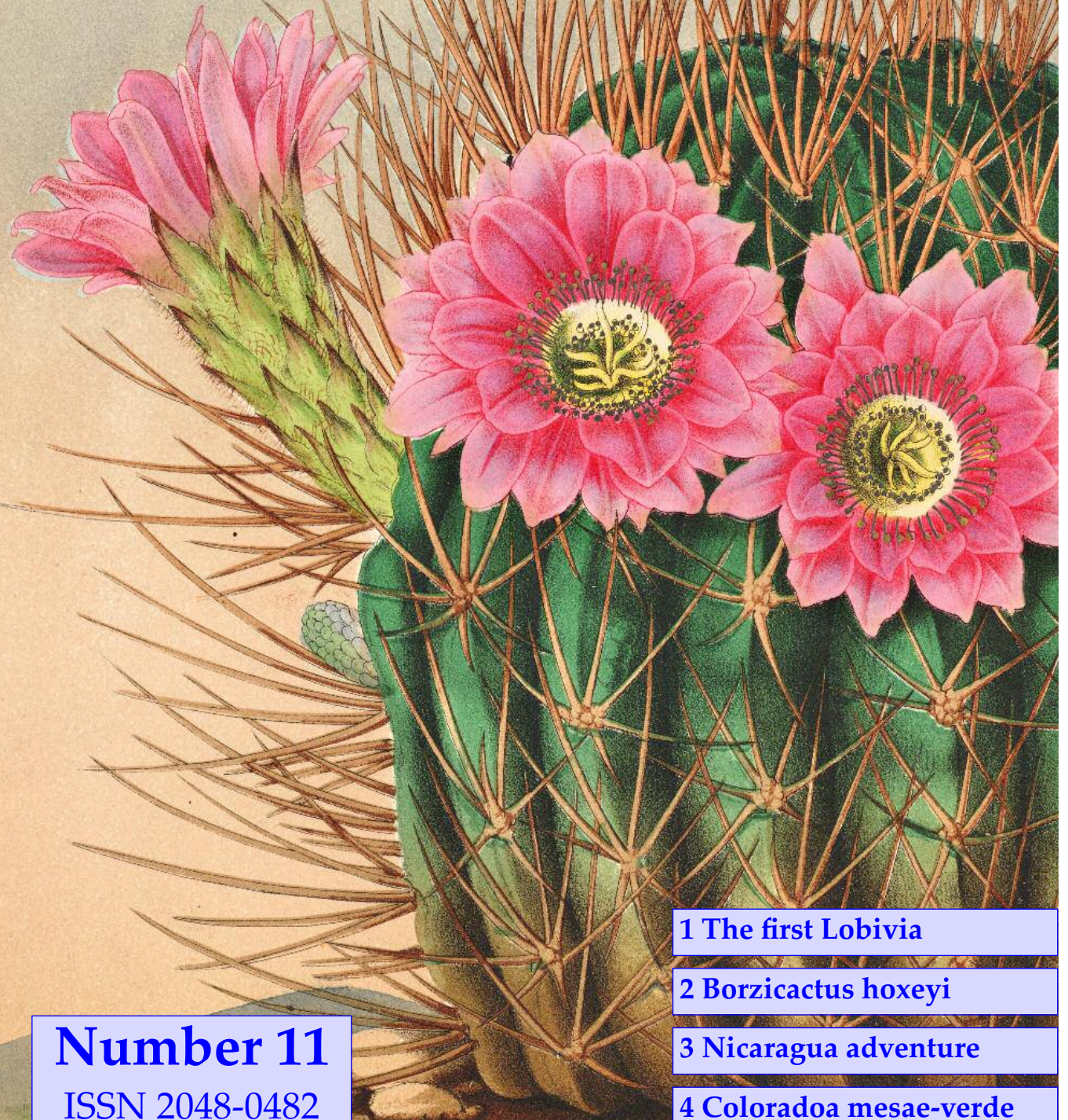


The Cactus Explorer

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



Number 11

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April 2014

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2 Borzicactus hoxeyi

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

Cover Picture Lemaire's illustration of *Echinopsis Pentlandi* from his L'Illustration Horticole of 1859. See Martin Lowry's [article](#) about the first Lobivia.

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 maximum 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 4 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 the benefit of readers. Adverts are placed at the discretion of the editorial team, based on their relevance to the readership.

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This issue published on
April 5th 2014

INTRODUCTION

A New Growing Season

Again, I must apologise for the late publication of this issue. I have been helping a friend start a new business and it has taken much of my time.

I think this is my favourite time of year. The sun is starting to feel warm and the plants are showing signs of life. This winter has been unusually wet in England with many gales and flooding. Compared to the last two winters, it has been much warmer with only a few light frosts and no snow. In the garden, the early bulbs are putting on a bright show and I am optimistic that all the plants outside will have survived to again please us with their summer displays.

It had been some time since I last went to look for cacti in South America, so I was delighted to be able to visit Peru again in November. My companions were Chris Pugh and Paul Hoxey, both with the experience of multiple previous visits to the country.

Each time we go to Peru we see that there have been improvements to the road network. This time, we saw major works in progress to upgrade some of the old roads which have struggled to cope with the growing number of vehicles. The Peruvian government website <http://www.mtc.gob.pe/estadisticas/index.html> is a useful place to look to see what is happening. The site also has good maps of Peru as free pdf downloads. They are quite up to date and show many usable minor roads, good places to explore for plants.

Our trips are always an adventure but this time was the first occasion I had actually got trapped on a mountain road. One afternoon, Paul had taken us to see a habitat of *Matucana* that he had visited before. While we were there, I could hear thunder and saw black clouds approaching. We headed back to the car and just as we got there, it started to rain.

We headed back the way we had come,



along a road on the side of a mountain with a rock wall on one side and a drop into a valley on the other. The rain was very heavy and we started to hear small pebbles falling on the roof of the car. Then, as we rounded a bend, there was a big rock fall in front of us which blocked our way.

Knowing there was a big town beyond the habitat we had visited, we turned around only to find that since we had passed, another huge pile of rocks had been washed across the road. So we were trapped on a few hundred metres of road for the night so we found a place to park where the cliff above looked stable. We had some food and beer so it was not that much of a hardship. The following day was sunny and hot and by late morning a digger came to clear the road and we could continue our adventure.

Please write up your own adventures for the readers of the **Cactus Explorer** to enjoy. I am happy to help with the English and am prepared to translate your articles from German, French or Spanish if necessary.

Best wishes for the growing season!

Graham Charles

The next issue of the **Cactus Explorer** is planned for June 2014. If you have not already told me and would like to be advised when it is available for download, please send [me](#) your E-mail address to be added to the distribution list.

NEWS AND EVENTS

The Annual Meeting of the Tephrocactus Study Group (TSG) Sunday 11th May 2014



Coddington Village Hall, Main Street,
Coddington, Newark, Notts. NG24 2PN
(not the new community centre)

Doors open at 10.30 for an 11am start.
The meeting will close at about 4pm.
Admission is free to everyone.

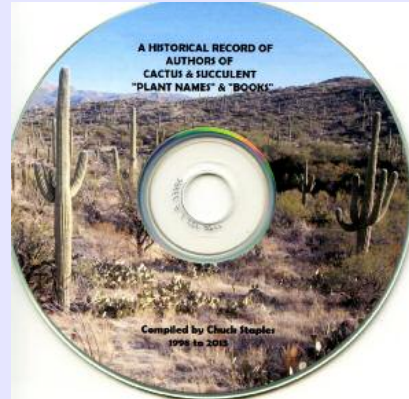
Talks by *John Arnold* and *Tony Roberts*.

Tea and coffee will be available but you are advised to bring a packed lunch or visit the nearby "Inn on the Green" for an excellent carvery priced around £8.

Please advise John Betteley by 9th May if you plan to attend. Tel.: 01636 707649, or by email: johnbetteley4@gmail.com
See the website : www.tephro.com

A Historical Record of C&S Authors by Charles J. Staples

The culmination of 15 years of detailed research.



Readers will be familiar with the name Charles Staples. He is the historian & library archivist of the Cactus & Succulent Society of America (CSSA). He also writes the 'Cactus People Profiles' in the **Cactus Explorer**, much enjoyed by our readers.

Charles has been working on a historical record of authors of C&S publications and plants for years and now he is offering it for sale as a PDF file on CD. It runs to 680 pages. See my review on [page 15](#).

You can purchase this valuable work from the [author](#) for \$40 within the USA or \$45 anywhere else. Payment is only by US dollar cheque payable to 'Charles J Staples' or by US dollar bank notes sent by registered mail to 3417 Bel Aire Rd. Des Moines, IA 50310-4910 USA. Note that payment by Credit card or PayPal is not accepted.

Wanted!

I would like to increase my collection of documented epiphytic cactus species, so if anyone has cuttings for sale or exchange, please contact me. ISI clones are of particular interest.

Thank you, [Graham Charles](#)

COULEURS CACTUS

Le salon des cactus et plantes succulentes

Découvrir. Apprendre. Collectionner

24 - 25 mai 2014

Égliseneuve Près Billom

ENTRÉE GRATUITE

Agave sp. de Brandon

Acanthocalycium spiniflorum de Christine

Le Couleurs Cactus Club présente la 7ème édition de Couleurs Cactus

24 - 25 mai 2014

9h-12h30 et 13h30-18h

Centre culturel
Égliseneuve-près-Billom
30km à l'Est de Clermont-Ferrand
GPS 45.721593,3.391958

Venez découvrir en famille la beauté et l'extraordinaire diversité de ces plantes adaptées aux milieux arides. Les exposants et les bénévoles de l'association seront heureux de vous faire partager leur passion

Exposition de plantes de collection
Bourse d'échange et de vente de plantes
Buvette sur place
Conférences :

- Samedi 15h : Les succulentes du Massif central, par Jean-François Thomas
- Samedi 19h : Carnet de voyages en Amérique, par Philippe Corman
- Dimanche 15h : Découvrir les plantes succulentes, par Jacques Brun

Tirages de la tombola :

- Samedi 16h30
- Dimanche 16h30

+ des tirages surprises...

Mammillaria schiedeana de Christine

Euphorbia enoplo de Christine

Égliseneuve Près Billom

Plus d'infos :
www.couleurs-cactus.fr
contact@couleurs-cactus.fr

Au Cactus Francophone
cactuspro.com

Cactáceas Nativas de Chile

Florencia Señoret Espinosa &
Juan Pablo Acosta Ramos

A free online book about Chilean cacti

Available for download as a pdf file from
http://www.corma.cl/file/material/cactaceas_chilenas_2013.pdf

This book showcases the cactus flora of Chile with excellent photography and informative Spanish text.

See Paul Hoxey's review on [page 20](#).

Gymno Day

Eugendorf Gasthof Holznerwirt, Austria

11 - 13th April 2014

Gymnocalycium bodenbenderianum
and related species

Details from Helmut Amerhauser
dha.gymno@aon.at

Note that in 'Gymnocalycium' Issue 4 (2013) the advertised date is wrong. The correct date is 11th to 13th April 2014.

BCSS annual General Meeting

Winstanley High School and Community
Centre, Braunstone, Leicester

12th April 2014

You may not think that you would enjoy the AGM but, as well as BCSS business, there are plants and books for sale.

You can also enjoy the
Hampshire/Dunn Memorial Lecture:
'Agaves' by Dr. Colin Walker

This is now the only BCSS business meeting to which all the members are invited so do yourself and the Society a favour by planning to attend.

It is a good time to book your place at
The BCSS International Convention.

11 - 13th July 2014.

Stamford Court, University of Leicester, UK.

The venue is a new purpose-built state of the art facility adjacent to high quality single room accommodation. It is conveniently situated near to junction 21 of the M1 about 90 miles north of London and is part of the pleasantly landscaped halls of residence of Leicester University.

Speakers are *Woody Minnich* from the USA;

Dr Olwen Grace from RBGK;

Ernst Van Jaarsveld from Kirstenbosch B.G., S.A.;

Guillermo Rivera from Argentina;

and *Roger Ferryman* UK

In addition, there will be mini-talks given by Pete Arthurs, Dr Gillian Evison, Dr Olwen Grace, Dr Terry Smale & Dr Colin Walker.

The Convention will commence on Friday afternoon and conclude with afternoon tea on Sunday. All the main lectures will be held in the spacious new lecture theatre with comfortable seats, a cinema-sized screen and state of the art technology. The mini-talks will also be held in additional new facilities

There will be large sales areas where both nurserymen and amateurs can offer plants and associated items. Everyone is encouraged to participate and full-time delegates (whether residential or non-residential) can request a free sales table.

There will be a number of special exhibits and displays staged by members on various topics associated with our hobby. It is also planned to display the winners of the recent Photographic Competition organised by the Society.

On Saturday evening the charity auction of plants, books and associated items will be held in the dining room which is immediately opposite the bar. The proceeds of the sale will be used to boost the BCSS Conservation and Research Fund. Delegates are invited to donate plants or other saleable items to this worthy cause.

Full Delegate Package [£260] includes two nights in an en-suite single room, full breakfasts, buffet lunches and evening meals and refreshments during the day. It also includes use of the facilities, access to all lectures, plant sales and special exhibits.

Non-Residential Package [£160] includes buffet lunches, evening meals and refreshments during the day. It also includes use of the facilities, access to all lectures, plant sales and special exhibits.

For on-line booking, visit the [website](#).

BCSS Zone 9 Convention

Zone 9 is holding its Annual Convention on Sunday 27th April 2014 at Hardwicke Village Hall, Hardwicke, Gloucester.



Speakers are:

Ivor Crook 'Rebutias: A personal view'

Harry Mays 'Kenya'

Tony & Suzanne Mace 'Our collection'

There will be the usual range of plant sales plus lunch and afternoon tea.

Tickets are £15 and are available from all Zone 9 Branch Secretaries or the Zone Rep.

Full details on our Zone web site at

www.zone9.bcss.org.uk

The 17th HAVERING CACTUS MART

(The Original and the Best)

Saturday 10th May 2014

Open from 10am to 3pm

Admission – £1

North Romford Community Centre,
 Clockhouse Lane, Collier Row,
 North Romford, Essex RM5 3QJ
 13 leading nurseries in a large hall.
 Refreshments and snacks available all day

For map/details and parking please

see [this file](#) or send a S.A.E. to:-

Mr E A Harris, 49 Chestnut Glen,
 Hornchurch, Essex RM12 4HL

The International Organization for Succulent Plant Study (IOS).

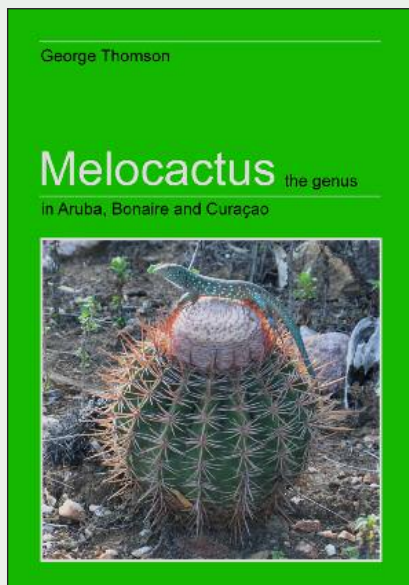
Repertorium Plantarum Succulentarum

The latest issue of RPS, number 63, compiled by Urs Eggli & Reto Nyffeler, is now freely available for download on the IOS website (iosweb.org). RPS is a useful index to new names and significant articles published for succulents and including cacti. There are 466 new names and 527 literature references in this issue, all relating to the year 2012.

33rd IOS Congress 7–12 April, 2014 at the Desert Botanical Garden, Phoenix, Arizona.

It has also been announced that the next IOS Congress will be held next year. More details are available from the IOS Secretary (David Hunt) secretary@iosweb.org

Melocactus book reprinted



In **Cactus Explorer** 9, I reviewed George Thomson's book about Melocactus of the ABC islands. Partly as a result of this review, not only did he sell lots of copies resulting in the need for a reprint, but the new edition has a bibliography that I so much wished had been in the first edition. Thank you George!

A5, 72 pages, softback, colour throughout. £15 + £2.50 p. & p. ISBN 978 09540891 8 4 Available directly from the author: email georgethomsonbooks@gmail.com

**europaean
cactus & succulent convention
12-13-14 sept. 2014**

**lectures
plant sales
free admission**

**duinse polders
blankenberge / belgium**

**info: www.elkcactus.eu
info@elkcactus.eu**

CONVENTUS EUROPAEUS SUC-
CULENTARUM
49
ELK
CACTUS SUCCULENTARUM COLLEGIUM

The Cactician 4 published

The generitaxa of the Cactaceae: An annotated index.

A comprehensive reference to the names published for cactus genera and lower ranks. Useful to authors of such names who wish to check if any competing names exist to their proposed new taxa, or if there is a historical usage of a name that may be replaced or recombined.

Reference is made to 63 broadly conceived genera and 51 nothogenera derived from them. 17 new nothogenera are proposed in order to correct for changes to the rules of nomenclature and to make the system proposed here internally consistent. These are a basis for a conservative system of nomenclature as an antidote to the very liberal and unstable systems that are in present-day usage.

Roy Mottram

Download pdf: 3.59MB from

<http://crassulaceae.ch/index.php?TPL=10398>

RECENT NEW DESCRIPTIONS

Paul Hoxey has made many trips to Peru in search of cacti and he has developed a strong sense of where to look for them. His tenacious searching of an arid region near the coast of southern Peru was rewarded by a remarkable discovery.

Photographs by Paul Hoxey



Fig.1 *Borzicactus hoxeyi* in habitat at the Morro de Sama, Prov. Tacna, Peru

It was in January 2010 that Paul was looking for cacti on the lower slopes of the Morro de Sama in southern Peru. Plants of *Neoraimondia arequipensis* and *Haageocereus decumbens (australis?)* were common in the dry, sunbaked environment but he spotted another, rarer plant which he did not recognise.

The stems were somewhat similar to the sympatric *Haageocereus*, but there were small, unfertilised flower remains that were only 25mm long compared to the 50mm of the *Haageocereus*. The identity of the dehydrated plant was a mystery but the small flower



Fig.2 The small flower remains which first gave Paul Hoxey the clue that this was something different.

suggested a possible relationship with *Mila*, a genus found in coastal Peru further north and characterised by its small yellow flowers, adapted for bee pollination.

Paul returned to the area in March 2012 for a more detailed investigation of the Morro de Sama and he found a second population of the mystery plant at higher elevations on inland slopes. When compared to the specimens found in 2010, the plants were a little smaller, with thinner stems, but they also had the distinctive small flower remains.



Fig.3 On the left is *Borzicactus hoxeyi* and on the right *Haageocereus decumbens* which grow together on the Morro de Sama



Fig.4 Map showing the location of the Morro de Sama, near the coast in southern Peru.



Fig.5 The brightly coloured flower of *Borzicactus hoxeyi* which is assumed to attract humming birds in its arid habitat.

When open flowers were observed, it became immediately apparent that this species was new to science characterised by its small hummingbird adapted flower, reminiscent of the flower of *Lobivia maximiliana*. Initial thoughts that the species was a *Mila* were not supported by the flower and fruit morphology, so I described it [1] in *Bradleya* 31 as a new species; *Borzicactus hoxeyi*. The discovery extends the range of the genus by about 100km southwards.

This new species is remarkable and really distinct. Its large tuberous roots and short tubular flowers have no precedent in the area. If it had been found by Ritter or Backeberg, I suspect that they would have erected a new genus for it. However, molecular studies have shown us that a single genus can include species with different pollination syndromes (e.g. *Micranthocereus*) and other morphological adaptations (e.g. cephalia) which traditionally were used as the grounds for defining a different genus.

I chose to use the genus *Borzicactus* because the recent inclusion of these cerei from the Peruvian coastal valleys in the genus *Cleistocactus* has been shown by molecular studies to be wrong [2]. The genus historically used for these zygomorphic flowered cerei is *Loxanthocereus*, but its inclusion in the older genus *Borzicactus* has not yet been established by gene studies. It may turn out that this new species would be better placed in the genus *Loxanthocereus* if that is upheld as distinct from *Borzicactus*.



Fig.6 The flowers of *B. hoxeyi* are only 35-40mm long and resemble those of *Lobivia maximiliana*, another cactus found in southern Peru but at high altitude.



Fig.7 The 100mm long flower of *Borzicactus sextoni-anus*, the geographically closest *Borzicactus* species to *B. hoxeyi*.

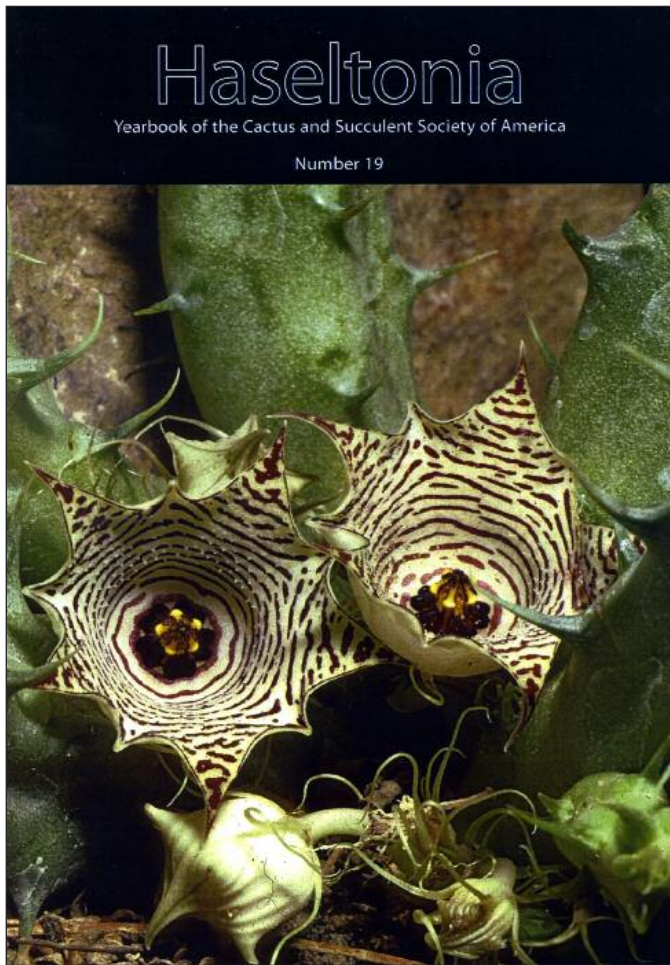
Joël Lodé has already created the new combination *Loxanthocereus hoxeyi* (G.Charles) Lodé in preparation for his forthcoming book 'The Taxonomy of Cactaceae' since he will uphold the genus *Loxanthocereus* as separate from *Borzicactus*. It is interesting to see that molecular studies are resulting in the re-establishment of genera which were subsumed in others by the recent so-called 'lumping'. I hope that we shall manage to achieve a stable classification before too much longer.

GC

References

- [1] **Charles, G. (2013)** A new miniature species of *Borzicactus* (Cactaceae) from southern Peru. *Bradleya* 31:25-30
- [2] **Schlumpberger, B.O. & Renner, S.S. (2012)** Molecular phylogenetics of *Echinopsis* (Cactaceae)..... *American Journal of Botany* 99(8):1335-1349

JOURNAL ROUNDUP



Haseltonia 19

The latest edition of the CSSA's yearbook *Haseltonia* has just appeared and contains the usual high quality mix of academic articles. After a break of four years, Root Gorelick has returned as editor. He has organised the articles into four sections: (1) Anatomy/morphology; (2) Ecology; (3) Physiology and (4) Taxonomy.

The nine articles include something to appeal to everyone. We learn about the embryology and seed development in *Pereskia lychnidiflora*, a tree-like leafy cactus from south-eastern Mexico which we rarely hear about.

Root writes about axillary branching of lateral cephalia in Cactaceae with reference to *Espostoa*. An article about morphological and nectar traits in *Echeveria rosea* linked to hummingbird pollination includes pictures of the birds visiting the flowers.

If you have visited Baja California, you must have been amazed by the Boojum trees, (*Cirio*) *Fouquieria columnaris*. The distribution of this iconic species is explained in a well-illustrated article including pictures taken decades apart and showing the slow pace of change in the landscape. It is suggested that the Cirio can live for 300-400 years.

The 'Prickly Pear' *Opuntia sulphurea*, a species widespread in Argentina, is discussed as a potential food source. There is also a review of micropropagation of cacti, surely an important tool in the maintenance of rare plants in cultivation.

It is remarkable that so many new species of *Aloe* have been described recently and here is another, *Aloe ithya*. Tom McCoy and Len Newton have described this novelty from the Imatong mountains of southern Sudan.

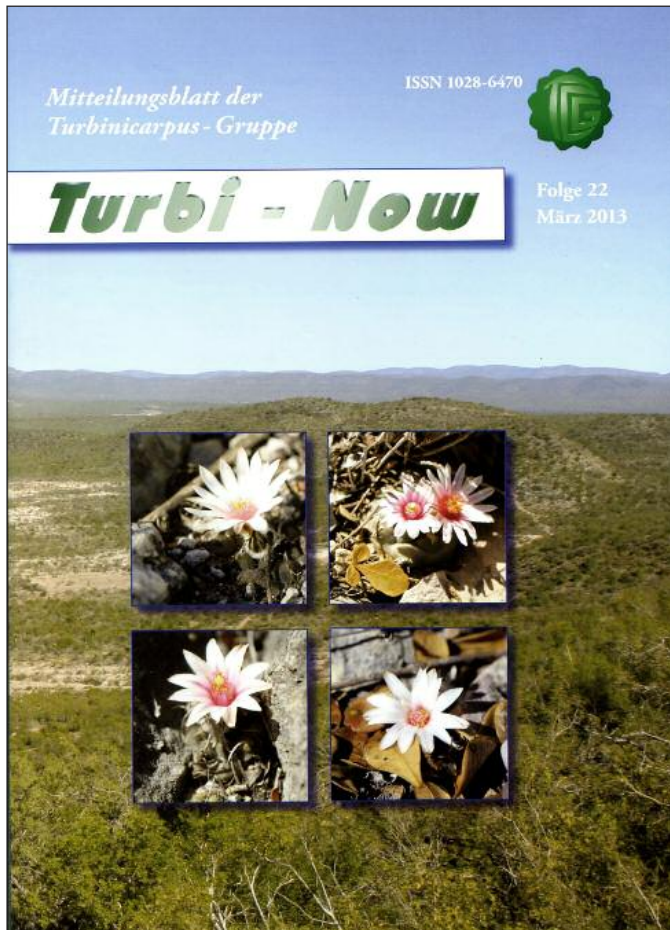
For Stapeliad lovers, Darrel Plowes reviews the small-flowered species of *Huernia* from the Horn of northeast Africa and the adjacent Arabian peninsula. He describes four new species: *H. sudanensis*; *H. delicata*; *H. yemenensis* and *H. baradii*, all illustrated with his usual clear pictures.

Finally, we learn about a new species of *Agave* from Baja California, *Agave azurea*. It is a narrow endemic from the Picachos de Santa Clara. The authors compare it to the other *Agave* species in that part of Baja, explain the differences and provide a distribution map.

As Root Gorelick says in his editorial, the two main English language succulent societies, the BCSS and CSSA, are mutually supportive, helping each other whenever possible. I wish him well in his return to the editorship of *Haseltonia* and assure him of continued co-operation in the future.

You can buy *Haseltonia* 19 for \$50 from the [website](#) of the Cactus and Succulent Society of America. All the back issues of this valuable publication are still available.

GC



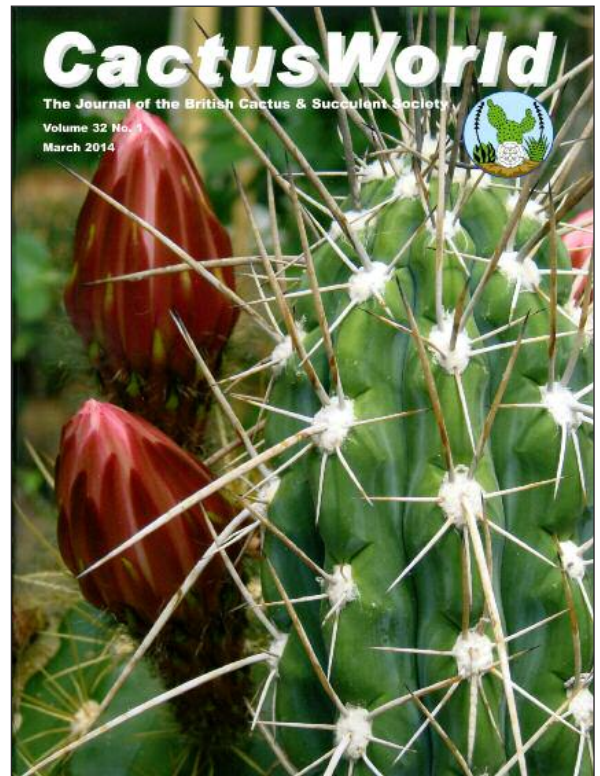
Turbi-Now No.22

After No.20 appeared in 2006, I thought that this journal had ceased publication but then, in April 2011, issue 21 was sent to me. The poor quality of the cover printing made me wonder if it would really be resurrected, so when issue 22 recently arrived, I was pleasantly surprised.

This issue contains articles (in German) about *Turbinicarpus mombergeri*, a natural hybrid between *T. pseudopectinatus* and *T. laui*; *Turbinicarpus schmiedickeanus* ssp. *bonatzii*; Travels in Mexico; and Cacti in Amacura, Venezuela.

Gerhard Jantschgi invites us to subscribe to future editions, two per year for just 10 Euro per year. Number 23 will feature *Turbinicarpus viereckii*; locations of gypsum; seed and pollen morphology. Looking forward to No.24, it will be about the biodiversity of Cuatro Ciénegas. I hope that the excellent seed offers will also make a come back!

Send subscriptions to Gerhard Jantschgi, Rieding 67, A-9431 St Stefan, Austria. He can be contacted at tcg.ja@aon.at



CactusWorld

When the journal of the British Cactus and Succulent Society arrived recently, I had to open it straight away because I was puzzled by the cover illustration. I thought the plant looked like *Stetsonia coryne* but I didn't think its flower buds looked like that. Well, they don't, because these buds belong to a nearby *Trichocereus*!

The issue is the usual mix of articles, bound to please everyone. Tony Roberts tells us about his search for Gasterias in habitat. The pictured *G. excelsa* is certainly easy to spot, it's huge. Ricardo Garbarini describes his experiences in northern Uruguay, a country we rarely hear about.

Among the other articles, I was struck by John Cox's account of the Sherman Hoyt House at Kew which I visited as a boy. It's good to read that Milan Kúrka found *Lobivia walteri* in Escoipe where I had failed to see it. The look round Gillian Everson's collection shows us why she is so successful at shows and provides even more incentive to me to tidy up my glasshouse! And there is lots more to entertain you.

Subscription 2014: £15 or £20 outside UK. [Bradleya is extra] See <http://www.bcsc.org.uk>

ON-LINE JOURNALS

On-line Journals for you to download free

Publishing journals on the web is becoming more popular and the number is increasing. Here are some links for you to download and enjoy.



Xerophilia

The seventh issue of Xerophilia appeared early in December 2013. It is published in Romania but most of the content is in English as well as Romanian. It is intended to focus on cultivation with articles about growing and propagating our plants.

This edition has 106 pages and includes articles about The use and abuse of Peyote; Andreas Laras 'The Aramberri enigma'; *Turbincarpus* of Tamaulipas; *Austrocactus*; South African bulbs; *Lophophora williamsii*; in vitro propagation of Mexican cacti; *Ortegocactus macdougalii*; *Mammillaria albiflora*; *Salvacactus* of Mexico; Carl Spitzweg; and *Mammillaria herrerae*.

The latest special issue (March 2014) is about a new subspecies of *Turbincarpus schmiedickeanus*. The magazines can be downloaded as pdf files from

<http://xerophilia.ro>

Contact: xerophilia@xerophilia.ro

ECHINOCEREUS Online-Journal

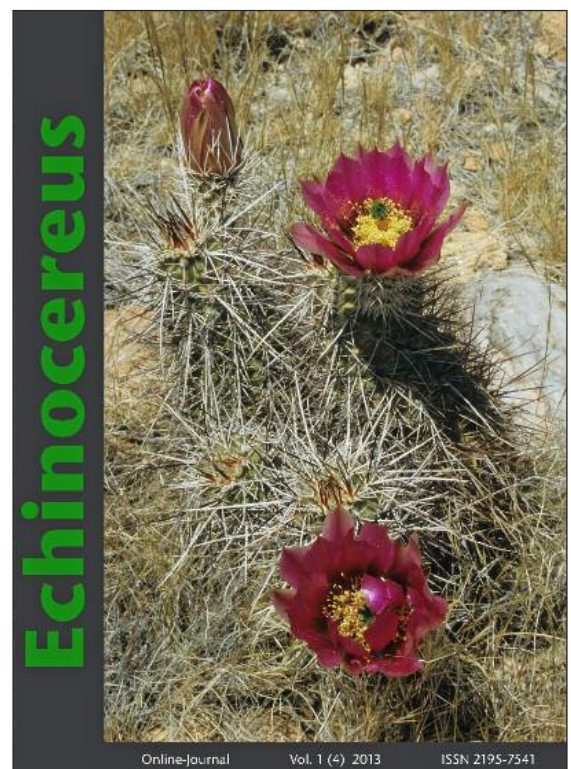
The new German language on-line journal for Echinocereus lovers.

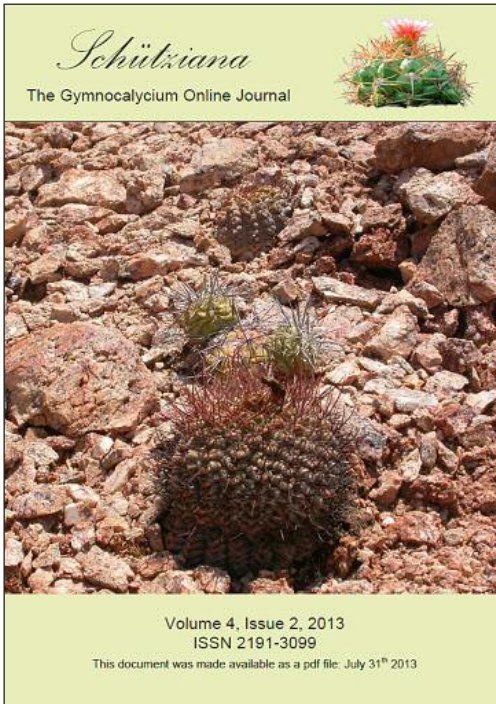
The goals of this new journal are to study the genus Echinocereus, to publish articles about the continuous research on these plants (classification, morphology, evolution) as well as to protect the genus Echinocereus by reproduction from seeds and distribution of the seedlings.

In this fourth issue there are well-illustrated articles about *E. koehresianus*, *E. ortegae*, *E. bonkeriae* and *E. rectispinus*. Text in German with English summaries. There are many large pictures of good quality making this a very attractive publication.

The downloaded pdf file now allows printing, but does not permit copying of the content. This means that for those of us who do not understand German very well, it is not possible to copy and paste the text into a translation program. This is a major benefit of online journals and I think it is a pity that this is the only one I know which prevents this useful feature.

See website: www.echinocereus.eu





Schütziana

The latest issue of Schütziana, the specialist on-line journal for *Gymnocalycium* enthusiasts. deals exclusively with *G. ferrarii*. The article discusses the plants near Mazan in the Argentine provinces of La Rioja and Catamarca.

The text of this valuable publication is in English and the pictures and distribution maps give a clear insight into the plants found in habitat and culture.

You can download free all the issues from:

www.schuetziana.org

Avonia-News

Free German language on-line newsletter of "Avonia", the quarterly journal of the German Society for other Succulents.

See website: www.fgas-sukkulenten.de

Annual seed list for members and much more.

Special interest groups for *Aloe* (incl. *Haworthia* etc.), *Ascleps*, *Euphorbia*, *Mesembs* and *Yucca*/winter-hardy Succulents.

For membership and further information contact:

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praesident@fgas.sukkulenten.de or

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geschaefsstelle@fgas.sukkulenten.de



Succulentopi@

The eighth issue of this free online journal has recently appeared. This was the first online journal published in French. The quality is excellent as you would expect from Yann Cochard and his very active team. It is available as a free PDF download from:

<http://www.cactuspro.com/succulentopia>

This issue includes a photo gallery; The genus *Adenium*, *Conophytum*, *Lithops & Co*, *Schlumbergera*, Moroccan Stapelias, the seeds of cacti, Philately and the CactusPro Library.

The usual interesting mix of subjects and produced to a high quality.



Sansevieria Online

Another new online journal for growing number of enthusiasts for this genus.

A small group of *Sansevieria* enthusiasts have published the first *Sansevieria* online journal in German. 1 or 2 issues per year are planned. They welcome contributions (systematics, morphology, physiology, evolution etc.). The main theme of the first issue deals with the rediscovery of *Sansevieria burmanica* that is said never to have been cultivated since its first description in 1915.

The publisher of this online journal have set themselves the goal of contributing more to clarify this wonderful genus . The *Sansevierias* still offer a lot of potential, there are very interesting taxa still waiting for their first descriptions.

Download the PDF from www.sansevieria-online.de

Acta Succulenta

Vol. 1 No.2 of this new online journal differing from others by its landscape format and notable for its professional page designs. This is what you would expect from Davide Donati. It is also available in Italian and French, as well as English.

This 147 page edition includes articles about Big Bend National Park; *Sempervivum soculense*; *Agave montana*; *Honckenya peploides*; *Schlumbergera buckleyi* and *Sempervivum wulfenii*.

You can download the PDF of this impressive journal from <http://www.acta-succulenta.eu>




Bulletin of S.L.C.C.

This long-running Spanish language journal is a mine of information about cacti and succulents of the Caribbean, Mexico and South America.

Each issue contains details about events taking place in the region. There are reports of meetings and field trips. Scientific papers are published and illustrated with interesting pictures, often of cacti we rarely see in print.


A very useful regular feature is the list of recent articles about succulents that have been published in scientific journals. These studies can be difficult to find out about, but this listing often reveals fascinating insights into little-known plants.

Free PDF downloads of all the issues from <http://www.ibiologia.unam.mx/slccs/www/boletin.htm>



Boletín de la Sociedad Latinoamericana y del Caribe de Cactáceas y otras Suculentas

Volumen 10 / N° 2 May.-Ago. 2013



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¿Por qué estudiar interacciones ecológicas en cactáceas?

Rodrigo Medel

Universidad de Chile, Santiago, Chile

Correo electrónico: medel@uchile.cl

Si bien el concepto de biodiversidad ha sido definido de diversas maneras en la literatura, en todos los definiciones las interacciones entre poblaciones de especies cobran un papel relevante. De este modo, la biodiversidad ya no es solamente un inventario de especies presente en un ecosistema delimitado, sino que incluye además el conjunto completo de interacciones en las cuales participa cada una de las especies. Esta definición inclusiva hace necesario comprender no sólo la diversidad taxonómica y filogenética de los ambientes, sino la manera en que las especies se relacionan con su entorno ecológico. Naturalmente, los cactáceas como grupo filogenéticamente definido y acotado no es la excepción a esta definición. Si bien comenzamos a conocer algo de los determinantes históricas del grupo y subgrupos mediante la elucidación de una compleja taxonomía y filogenia, actualmente es mucho menos lo que sabemos de las relaciones ecológicas que los cactáceas establecen con otras especies. Bajo esta premisa, es probablemente pertinente estimar la investigación en el componente ecológico de la biodiversidad; es decir, en la naturaleza de las interacciones mutualistas y antagonistas en las cuales los cactáceas participan. La pregunta es, ¿por qué estudiar las interacciones? Lina

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Tillandsia sp. en Edo de México, México. Foto: R. Medel

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 aims to provide you with inspiration.

A HISTORICAL RECORD
of
AUTHORS
of
CACTUS & SUCCULENT



Pereskia aculeata

"PLANT NAMES" & "BOOKS"

[with other 'limited' historical data]

for the **AMATEUR Hobbyist**


Volume 1 A -- K

Compiled by: **Charles (Chuck) J. Staples**
Des Moines, Iowa
USA


10 December 2013

Page 2 **Volume 1 A--K** **C&S AUTHORS**


You will find detailed information on these three significant authors of a number of books and many succulent plant names—along with many other authors throughout these two volumes of people of the hobby.



Carolus Linnaeus
1707-1778



John Ray
1691-1703



Augustin Pyramus de Candolle
1748-1841

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Edited by: author
Des Moines, Iowa USA

Page 3 **Volume 1 A--K** **C&S AUTHORS**



Sir John E. Smith
1878-1963

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Edited by: author
Des Moines, Iowa USA

A Historical Record of Authors of Cactus & Succulent "Plant Names" & "Books"

by Charles J. Staples

Readers will be familiar with the name Charles Staples. He is the historian & library archivist of the Cactus & Succulent Society of America (CSSA). He also writes the 'Cactus People Profiles' in the **Cactus Explorer**, much enjoyed by our readers. Charles has been working on this historical record of authors of C&S publications and plants for 15 years and now he is offering it for sale as a PDF file on CD. It runs to 680 pages.

The thoughtful 'Foreword' by Professor Leonard E. Newton sums up the objective of this book. As he says, all the plants we know were discovered by someone, described and named by someone and eventually accounted for in a monograph or flora. This book catalogues these people with biographical details and their contribution to the world of cacti and succulents.

It must have been a monumental effort to amass so much information. There have been some articles written about the famous personalities who have been active in the field

of cacti and succulents, but this volume also tells us about the less well-known people who have left their mark.

It is organised into two volumes, A to K and L to Z. The entries are alphabetically organised by the surname of the individual. Following biographical information, each entry lists the plants described by the person comprising:

- a) The plant name
- b) Its habitat distribution
- c) The year it was described
- d) The discoverer of the plant
- e) Who the plant was named after

For books written:

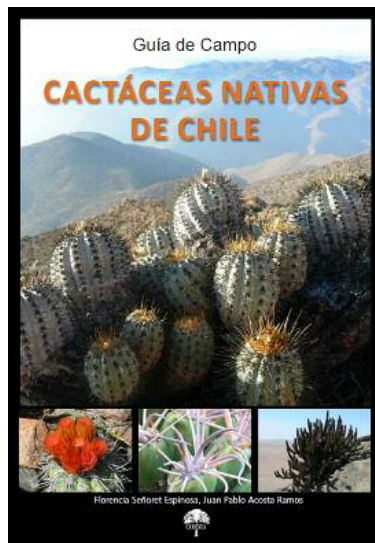
- f) The year of publication
- g) The title of the book
- h) Where it was published
- i) The language of the book
- j) The number of pages in the book

You can purchase this valuable work from the [author](#) for \$40 within the USA or \$45 anywhere else. Payment is **only** by US dollar cheque payable to 'Charles J Staples' or by US dollar bank notes sent by registered mail to 3417 Bel Aire Rd. Des Moines, IA 50310-4910 USA.

GC

Cactáceas Nativas de Chile

Florencia Señoret Espinosa &
Juan Pablo Acosta Ramos



Sometimes while browsing the Internet an unexpected surprise crops up and this publication is one such example. Juan and Florencia have produced a wonderfully well illustrated book of the cacti of Chile. After a short introduction on the family in general and the genera to be found in Chile, the guide covers a good proportion of the species and subspecies of cacti found in Chile with a double page spread given over to each taxon.

One page describes the plant, principal synonyms, distribution, the origins of the name and some comments based on habitat observations. The second page has three high quality habitat pictures, usually showing plants in flower or fruit. The final few pages briefly discuss conservation status and where to see plants in habitat. There are 247 pages in all.

Although the text is in Spanish, it is possible to copy it into a translation engine, such as Google Translate, to allow non-Spanish readers to access the text. This is certainly one major advantage of electronic distribution compared to a printed book written in a foreign language

Juan and Florencia are to be congratulated on producing a publication to showcase the cactus flora of Chile with such wonderful photography and informative text. Their

time in habitat studying and photographing the plants has clearly been put to very good use. The book will be a great companion to anyone considering a visit to Chile to help with plant identification and of course can be enjoyed at any time by those armchair visitors at home.

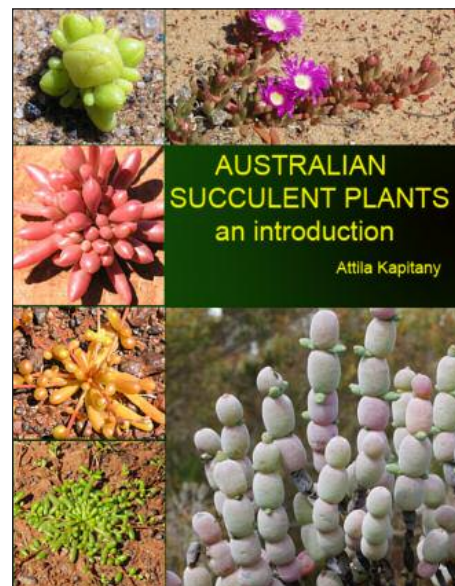
[Paul Hoxey](#)

Available for free download as a pdf file from http://www.corma.cl/file/material/cactaceas_chilenas_2013.pdf

I understand that the book has also been published in printed form but am currently unaware of how to buy it. If I find out, the details will be published in a future edition of the **Cactus Explorer**.

GC

Australian Succulent Book Project



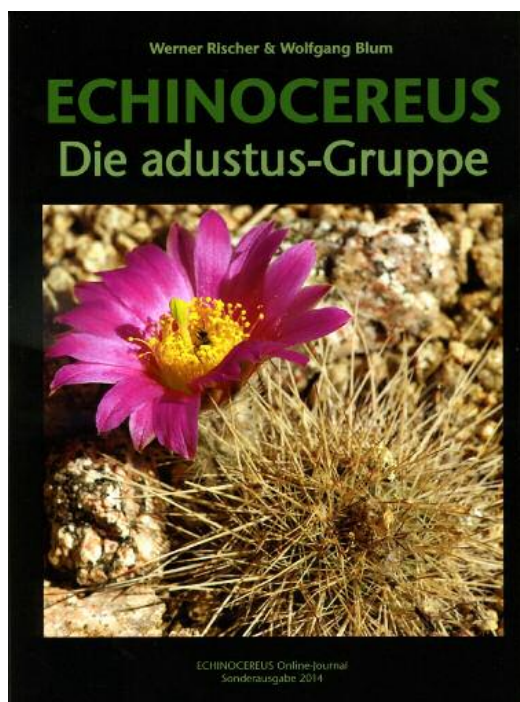
The well known specialist in the succulents of Australia, Attila Kapitany is planning another book. He has just launched a campaign to raise the money for the project.

He says 'This book will be a guide to Australia's succulent plants. Many regard the continent's interior as a wasteland. I'd like to change this perception'.

You can read about his plans at his [website](#) where you have the chance to contribute.

GC

The *Echinocereus adustus* group



Werner Rischer and Wolfgang Blom

This is the latest in the series of books published by the German *Echinocereus* study group, each volume about one group of the genus *Echinocereus*.

Like the previous volumes, this is a very well produced and thorough treatment of the group in question. It covers three species; *E. adustus*, *E. laui* and *E. parmanesiorum*. The authors recognise two heterotypic subspecies for *E. adustus*, ssp. *roemerianus* and ssp. *schwarzii*, and one for *E. parmanesiorum*, ssp. *bonatzii*.

The work is based on extensive field studies and is lavishly illustrated with pictures of excellent quality. The history of each taxon is explained in great detail with images of the herbarium sheets. The characteristics of the taxa are compared and illustrated, including SEM images of the seeds. A distribution map shows the approximate localities of the known populations.

This book will be a joy to those interested in *Echinocereus*. The text is in German but when you purchase the printed book or the E-book version you get a file of the text so that with the aid of a translation program, you can get a

good impression of the content. This is a thoughtful and welcome initiative by the publishers. The price is reasonable and the print run is limited to 200 copies so you need to be quick!

Total cost incl. shipping:

	Germany	EU
Printed Book	€ 21.45	€ 23.45
Printed Book + e-Book	€ 31.80	€ 33.40
e-Book	€ 11.85	€ 13.45

You can pay by bank transfer or PayPal, see the [website](#) for details.

Other Books in the same series

Some of the other titles, all in the German language, are still available:

Echinocereus - Die parkeri-Gruppe (2011)

Echinocereus - Die Sektion Wilcoxia (2008)

Chihuahua - Kakteenreise durchs Tarahumara-Land (2007)

Der *Echinocereus reichenbachii* - *fitchii* - Komplex (2004)

Die *Echinocereen* der Baja California (2000/2001)

See the [website](#) for more information

GC

Succulent Paradise

Twelve Great Gardens of the World

by Gideon Smith and Estrela Figueiredo

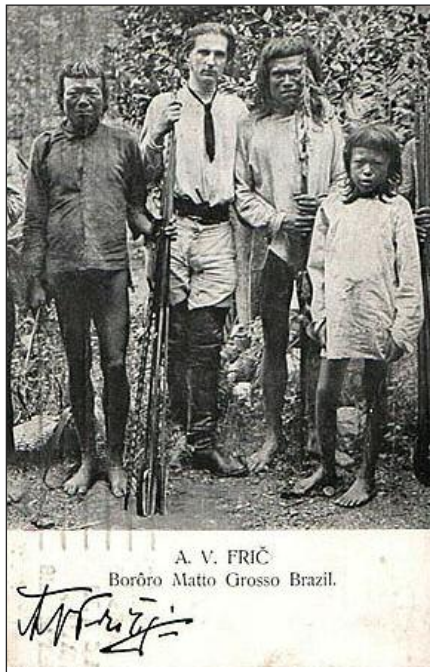
I have not see this book but it is reviewed in detail by Colin Walker in the latest BCSS journal (32)1:62.

The review doesn't say where you can buy this book but it is available on [Amazon](#) for about £16 or \$22. There is a Kindle edition as well.

GC

CACTUS PEOPLE HISTORIES

Charles Staples continues his series of articles about personalities in the world of succulents. This time he introduces Alberto Vojtěch Frič, a remarkable and controversial figure who challenged the establishment in the 19th Century.



The following brief biography touches mainly on the aspects of the life and career of Alberto Vojtěch Frič as it relates to his contributions to the cactus and succulent plant world. This person made wider contributions than have been included here, but I hope that for interested succulentists, this will provide a sufficient introduction to the achievements of the individual.

Alberto Vojtěch Frič (1882–1944) was a Czech cactologist, ethnologist and commercial grower of plants from mostly South America. He was born in Prague on 8 September 1882 and became interested in cacti at an early age. By the time he was age 19 he set out on his first trip to South America, on foot and horseback through the upper regions of Argentina, into Paraguay and the southern areas of Brazil — exploring the flora and fauna and becoming interested in the life of local Indians, learning several of the tribal languages — becoming interested in the use of medicinal native plants. He spent 16 months on this first journey to South America. By 1929 he had made 8 trips to

the American continent — Argentina, Paraguay, Uruguay, Brazil, USA (Texas) and Mexico. Alberto was supported in his travels to America by various countries of Europe, e.g., Czechoslovakia, Russia, and Sweden. He had shipped plants to famous nurseries such as De Laet and Haage.

In describing his plants, Alberto had a tendency to ignore the Code of Nomenclature upsetting many of the leading botanists of the time. He was the first to segregate genera north and south of the equator.

Alberto wrote a number of books about cacti and the lives of the Indians of South America. He described genera, among which were *Cylindrorebutia* (*Rebutia*), *Neowerdermannia* & *Obregonia* along with species such as *Echinocactus* (*Gymnocalycium*) *mihanovichii*, *Neowerdermannia vorwerkii*, *Obregonia denegrii* and *Rebutia einsteinii* — named (in order) in honour of Pierre Rebut (1830-1898), Erich Werdermann (1892-1959), Álvaro Obregón (1880-1928), Nicolás Mihanovich (1844-1929), Wilhelm Vorwerk (1873-1936), Roland Denegri



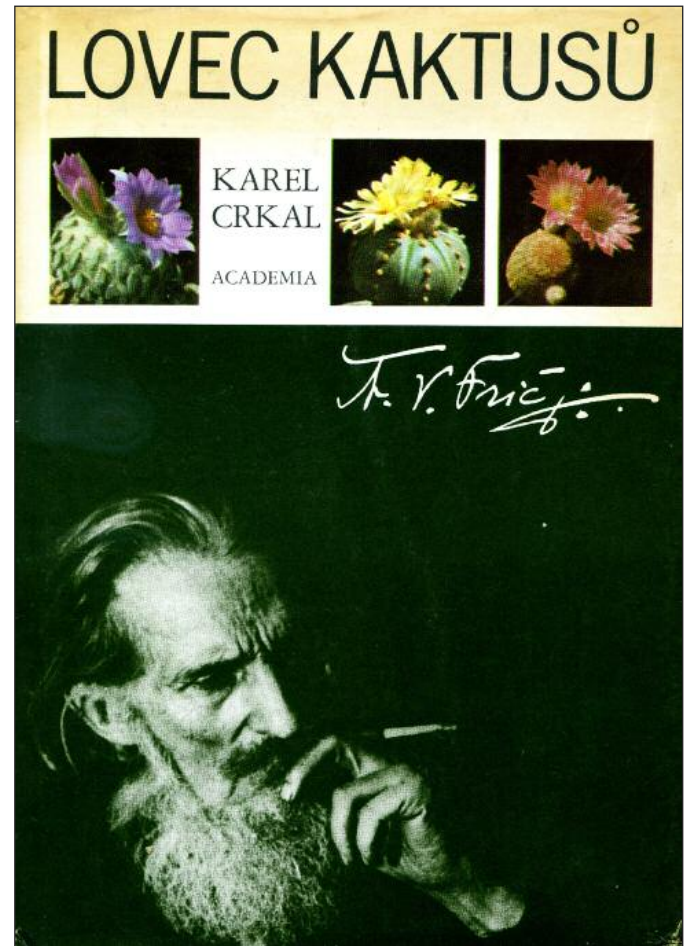
The drawing representing the life of Frič that appeared as the frontispiece of the book *Lovec Kaktusů*.

(?), and Albert Einstein (1879-1955). Rowley (1997) tells us that Frič created more than 500 new names but most are invalid and only 10 truly new (Zázvorka & Sedivý 1991).

Stenocereus fricii was named in Alberto's honour by Hernándo Sánchez-Mejorada in 1973 – and Alberto discovered a couple of Argentine species, *Echinopsis chrysantha* and *Gymnocalycium marsoneri*, the latter named after Oreste Marsoner, an Argentinian botanist.

A Czech language book about his life, *Lovec Kaktusů*, was written by Karel Crkal and published in 1983. It contains a list of all Frič's new names (pages 389-405). It is a pity that his pioneering work on cactus exploration has remained largely inaccessible to the world because so much was published in the Czech language.

Alberto died in Prague at age 62 on 4 December 1944 from an infected puncture wound to his hand. He was a noted scientist and scholar during his lifetime.



The dust jacket of *Lovec Kaktusů*, Karel Crkal's book about the life of Frič.



Some examples of the catalogues published by Frič in the 1930s.

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Zázvorka & Sedivý (1991) *Jména kaktusů A.V.Frič*. *Aztekia* 14:1-122

[Chuck Staples](#)

NICARAGUAN FIELD NOTES (2)

SOMOTO CANYON

Leland Smith continues his account of his adventures in Nicaragua, this time to the Somoto Canyon in the north of the country.

Pictures by the author



Fig.1 The view of Somoto Canyon from Lookout One. Notice the dryness of the south-facing side of the canyon on the right.

In January of 2014 I made a one day trip to Somoto Canyon (1) in northern Nicaragua just a few miles east of the Honduran border. It is a sparsely populated farming area (corn, beans, cattle) long known locally by its Nahuatl name of Namancambre. In 2004, geologists working in the area saw the tourist potential and started promoting it as Canon de Somoto. It was soon proclaimed a national monument and has seen incremental increases in the infrastructure to support tourism. It still remains a wilderness or adventure tour area because access is by



Fig.2 A mature *Mammillaria* showing ripe fruit at bottom.

foot, horse, and rowing boat.

The Coco River level was low enough that we were able to cross it just walking on dry stones. As we got up to the primitive road going along the ridge on the north side of the canyon we came to the first cacti of note, a group of *Mammillarias*. The growing tips had central spines that were reddish-brown or white with dark tips surrounded by 7 smaller radial spines that varied from white to white with dark tips. The older parts of the plant had grey or black spines. The tubercles were pronounced and roughly pyramidal (4-sided) and deep green. The areoles had white wool. A few small red fruits were visible on one plant. On a second plant, which was damaged, it was possible to see that the individual stems were coming from the near base of the plant and were much longer than wide. Based on the descriptions and photos in Veliz (2) I decided these were *M. karwinskiana* ssp. *collinsii*.

Next, obscured under some brush, where it did not photograph well, we found another *Mammillaria* that looked very different, more consistently green and cylindrical rather than globular. Further investigation found a small conical section on the back side that had the



Fig.3 A damaged *Mammillaria* showing the base of the plant.

reddish spines and other features similar to the first two plants. I tentatively concluded that this plant was the same as the others but a very old plant in a protected location. Later we found another more photogenic plant like this, also in partial shade, with the largest stem being about 20 cm high. It appears to be a very mature plant with no new stems.

As we continued the hike we came upon another plant that appeared to be of the same species, but with huge central spines over 4 cm long.

At this time I think these are all the same species, with a footnote that one plant has a spine size and the other a stem size longer than specified in the literature. Something more to investigate in depth on a future trip and I would like to see them in flower to verify that what I am seeing is just variation within a species.

Early in my project to photograph the native cactus of Nicaragua I decided to specialize in



Fig.4 This appears to be a very old specimen of *Mammillaria*.



Fig.5 *Mammillaria* specimen showing large central spines



Fig.6 Some mature *Pilosocereus*.

the cactus family and not spend time on the other succulents. I do occasionally photograph and identify some, such as *Agave seemanniana* (3), which is locally common in rocky areas. It is common enough. I would have trouble keeping it out of my pictures even if I wanted to.

Along the way, we found some decent specimens of *Pilosocereus*, the one group with much white "hair" and the other taller and



Fig.8 *Agave seemanniana* is common in the area.



Fig.7 A tall young specimen of *Pilosocereus*

with a different appearance. For many years, the *Pilosocereus* native to Nicaragua was listed as *P. maxonii* but is now included with *P. leucocephalus*. Whether there is any difference in these two at the subspecies level or otherwise I do not know.

After admiring the view for a while from Lookout Point 1, we started making our way down a small trail where we saw a green and white vine snake in a tree. He gave us a good look and left promptly through the branches. I made a mental note to walk with my camera on point focus and the flash turned on to try to catch the occasional wildlife shot.

As we came near the canyon floor we had access to some *Pachycereus aragonii*. Generally, these had thinner stems and more corky material on the stems than some populations I have seen elsewhere. I attribute this to the location on the cliff side—full afternoon sun and reflected light and heat from the rocky hillside. Some of the smaller plants in the brush had a greener and plumper look. A



Fig.9 A group of *Pachycereus* on the sunny side of the canyon.

quick check of one plant showed nine ribs. The photo of a growing tip shows the spination and the white felt on the areoles. This felt is usually found only on new growth and the spines turn greyish with age.

Down by the river we could see some local boys playing a game. They would each pick up a rock on one bank and swim with it to the other side and deposit it on the far bank. A throwback to the days before television and video games?

All and all a good day, with more to see further up the canyon.

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- (1) <http://www.sinia.net.ni/wamas/documentos/PM/PMFinalCanonSomoto.pdf> viewed January 13, 2014
- (2) **Véliz Pérez & Mario Esteban (2008)**. Las Cactaceas de Guatemala, Universidad de San Carlos de Guatemala, p.53-4
- (3) MOBOT, www.tropicos.org/Name/1201447?projectid=7 viewed January 13, 2014

[Leland Smith](#)



Fig.10 Growing tip of *Pachycereus* showing details of areoles and spines



Fig.11 Local children playing in the river.

THE FIRST LOBIVIA

Martin Lowry explains the confused history of *Lobivia pentlandii* and relates it to his own observations in habitat. Photographs by the author.

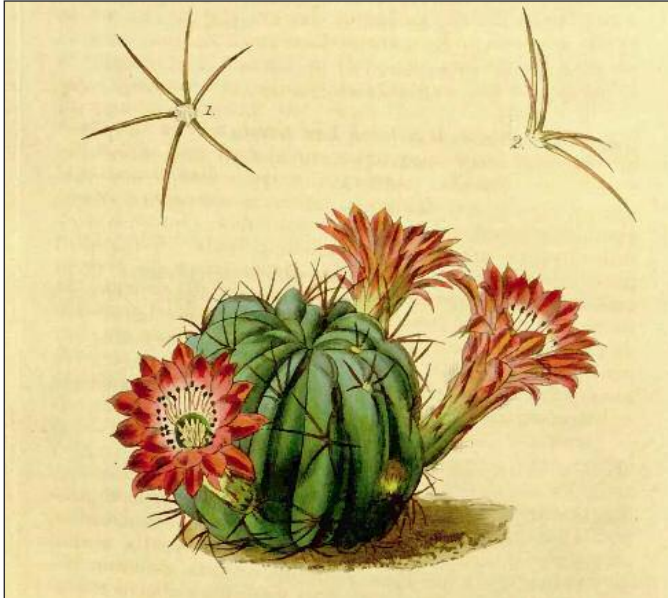


Fig.1 Hooker's illustration from Curtis's Botanical Magazine XVII t. 4124, considered as the holotype.

Sometime in the years 1826-1827 or 1836-1839, whilst surveying Lake Titicaca Joseph Barclay Pentland discovered and collected seed of a small spherical cactus that is now very well represented in our collections. The exact date of collection is unclear but I suspect the later period whilst he was based in La Paz as consul-general of the Peru-Bolivia Federation, since following his return to England in 1839, Pentland supported the cultivation of Andean plants at the Royal Botanic Gardens at Kew.

It may have taken some time for Kew to grow and establish specimens capable of flowering for it was not until December 1844 that the plant was recognised as new and

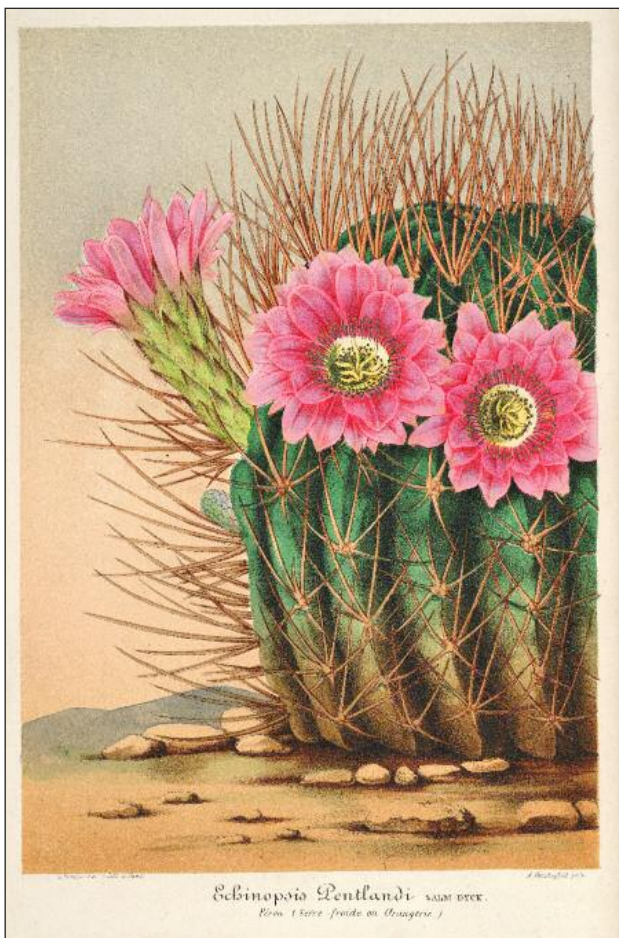


Fig.2 Lemaire's illustration in his L'illustration Horticole of 1859.



Fig.3 T. Gurke's painting published as part of Schumann's Blühende Kakteen in 1903.

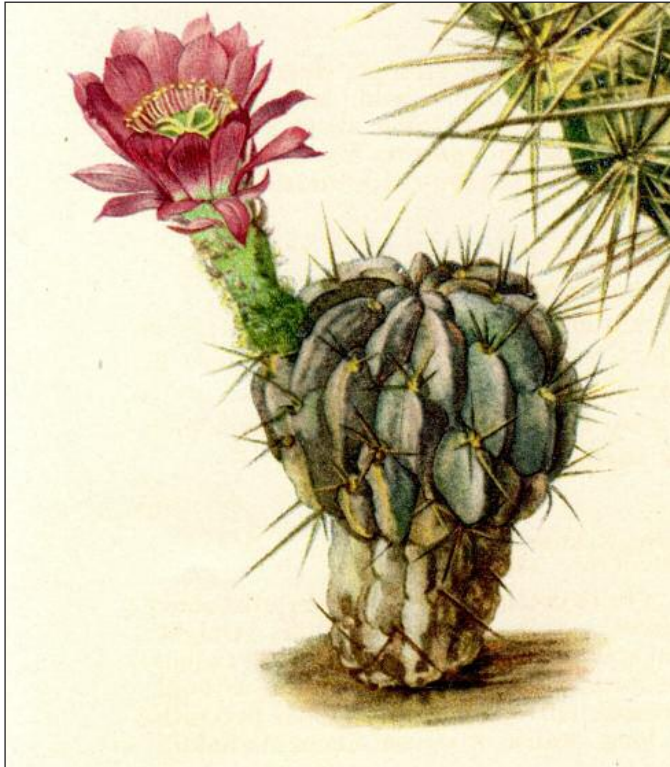


Fig.4 Mary Eaton's painting from the plate in Britton & Rose's "The Cactaceae" 1922.

described by William Hooker in Curtis's Botanical Magazine as *Echinocactus pentlandii* [Fig .1]. Unfortunately, by that time Kew no longer had any information regarding the history of the collection so we have no precise type locality. It is worth noting that the plant illustrated by Hooker had very few, short, recurved spines and red flowers arising from lateral areoles.

By 1845 the plant had spread to Germany and reached the eyes of Prince Salm-Dyck, an avid collector of cacti and succulents, perhaps as a gift from Hooker since the 1844 volume of the Botanical Magazine had been dedicated to the Prince. Although heavily influenced by previous monographers, by the 1840s Salm Dyck had developed his own classification system for the Cactaceae which was being followed by many of his correspondents.

In his system Echinocactaeae was reserved for species in which the flowers arose apically. With its long-limbed flowers arising laterally, Hooker's new species clearly belonged in his tribe Cereastrae, so in his 1844 catalogue (published 1845) he made the new combination *Echinopsis pentlandii*. Commenting on the illustration published by Hooker, and



Fig.5 *Lobivia pentlandii* BLMT001.01 with long dark spines and red flowers a few kilometres north of Calamarca, Bolivia.



Fig.6 A cutting from BLMT001.01 from north of Calamarca, Bolivia flowering in cultivation.



Fig.7 A pair of *Lobivias* at Batallos, Bolivia (BLMT106) on the road from La Paz to Lake Titicaca. Believe it or not, on the left is *L. maximiliana* and on the right is *L. pentlandii*!

perhaps with Salm-Dyck's words in his head, Albert Dietrich published this combination in an article in the August 1846 edition of *Allgemeine Gartenzeitung* giving "Salm." as the authority.

Here begins an unfortunate and long lasting confusion as Dietrich discusses *E. pentlandii* in

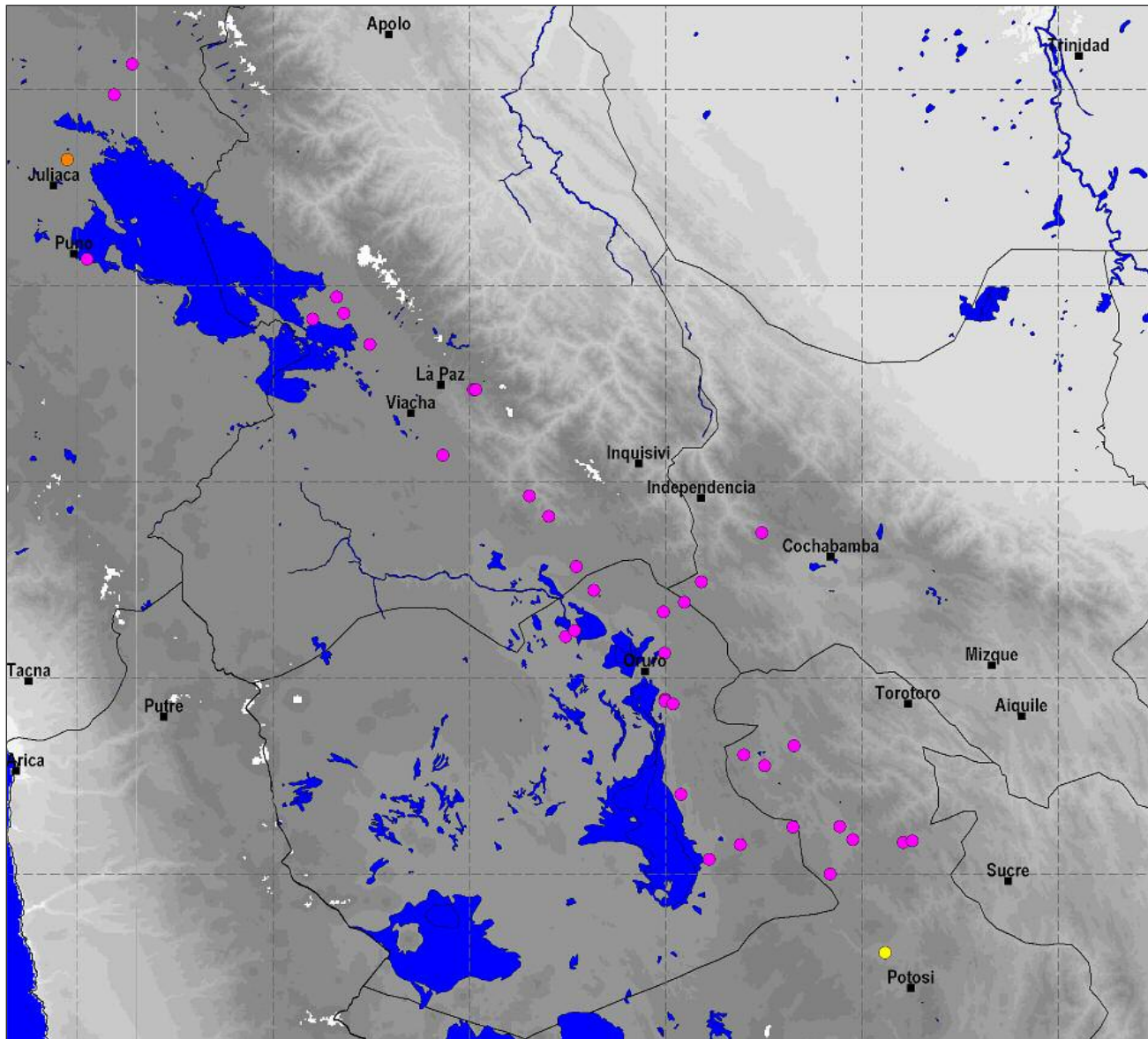


Fig.8 Locations of *L. pentlandii* observations in Peru and Bolivia. The grid spacing is 1° in latitude and longitude which, at this latitude, represents roughly 100km.

the same article in which he introduces another new species, *Echinopsis maximiliana* Heyder, saying that the species are quite similar and may be no more than varieties. Salm-Dyck was obviously influenced by this and records *E. maximiliana* Heyder as the basionym of a new variety of *E. pentlandii*, "*β. coccinea*", in his 1849 catalogue (published 1850).

With the exception of Rümpler (1886) all later authors, including Schumann (1903), Britton & Rose (1922), Berger (1929) and, amazingly, Backeberg (1959 and 1966) continued this confusion by including *Echinopsis maximiliana* Heyder in the synonymy of *Echinopsis pentlandii* (Hook.) S.D. ex Dietr.

In many cases the wrong species was illustrated, for example Rauh's photograph in Backeberg's *Die Cactaceae* (Vol. III, Abb.1324) is actually of *Echinopsis maximiliana*, as also are the following three illustrations! In the first 60 years after its description, few illustrations of the true species were published. One of the first, a rather exaggerated drawing [Fig.2], in Lemaire's "*L'Illustration Horticole*" in 1859 was followed by a more careful and accurate painting by Gurke [Fig.3] in Schumann's *Bluhende Kakteen* in 1903. However, all these early illustrations were paintings and appear to be based on the original published by Hooker which shows a small, probably immature specimen.

It is perhaps not surprising that the



Fig.9 *Lobivia pentlandii* BLMT502.02 with pale spines near Puno, Peru.

confusion persisted since the exact habitat was unknown and few explorers travelled in the Andes. So it was not until 1914, when Joseph Nelson Rose visited Bolivia to research the cacti of South America for Nathaniel Lord Britton, that the first plants of the species were seen in habitat. Not surprisingly, he didn't recognize the mature long-spined, many-headed clumps as identical with Hooker's species. He took specimens back to New York but even there, when compared with a plant of *Echinopsis pentlandii* received from Berlin, the two of them failed to identify the plants.

By 1922 when Britton and Rose published their monumental work "The Cactaceae" they had come to the conclusion that some of the newly described species of *Echinopsis* did not fit well in that genus and had decided to create a new genus for them. They called this new genus *Lobivia*, alluding to the home of many of the new species, and chose Hooker's *Echinocactus pentlandii* as the type species making the new combination *Lobivia pentlandii* (Hook.) Br. & R.

They illustrated their specimen received from Berlin with a painting by Mary Eaton [Fig.4]. Rose's collection from Bolivia was described as a new species, *Lobivia boliviensis* Br. & R., alongside several other new species, one of which, *Lobivia ferox* Br. & R., Rose had found growing together with *L. boliviensis*. They even referred Lemaire's illustration [Fig.2] to their new *L. ferox* presumably because of the "long stout upturned spines"!

Since that time *L. pentlandii* has accumulated



Fig.10 Large flowered hybrid between *L. pentlandii* and *L. maximiliana* found near Juliaca, Peru (BLMT501). Although this plant has large flowers like *L. pentlandii* it has stamens arranged tightly around the style as does *L. maximiliana*.



Fig.11 Small flowered hybrid between *L. pentlandii* and *L. maximiliana* found near Juliaca, Peru (BLMT501). The unusual white flowers on this plant are very small like those of *L. maximiliana*.

a plethora of synonyms, primarily through the activities of Backeberg, Cardenas and Ritter. Unfortunately, Backeberg's view of *L. pentlandii* was so tainted by its confusion with *L. maximiliana* that he placed his new species as allies of *L. boliviensis* rather than *L. pentlandii*.

It took until 1975 and the publication by Walter Rausch of his three volume treatise "Lobivia, the day flowering Echinopsidae" (see Graham's article in the **Cactus Explorer** 10) for the confusion to be resolved.

My own affair with *L. pentlandii* began in 1996 when I visited Bolivia for the first time along with Brian Bates, Tim Marshall and Ralph Tomlinson. We had travelled only about 80km south of La Paz but were eager to find cacti so stopped near a ridge of low hills alongside the Pan Americana. There we found



Fig.12 *L. pentlandii* BLMT631.03 at Rose's location for *L. boliviensis* in the hills east of Oruro where it grows with *L. ferox* Br. & R.

several low mounds of the species, all with long straight flexible spines [Fig.5]. A small offset returned to the UK with me and regularly produces large crimson flowers [Fig.6] demonstrating the incredible variability in flower colour originally remarked upon by Lemaire and Rümpler and later illustrated by Rausch and Ritter.

After 4 weeks and nearly 4000km we returned to La Paz and made a short trip west towards Lake Titicaca. Here again we found several populations of *L. pentlandii*. At most locations around here they were growing sympatrically with *L. maximiliana* [Fig.7]. Several further visits to Bolivia later, I now have a fairly clear picture of the distribution of the species [Fig.8]. In general it occurs in the mountains along the eastern rim of the Altiplano and prefers a better drained niche than does *L. maximiliana*. The westernmost populations are found along the west shore of Lake Titicaca in Peru where nearly all the plants produce pale magenta flowers [Fig.9]. Again, in one or two places, they do grow with *L. maximiliana* and at one special place just north of Juliaca, Ivor Crook, John Arnold and I found a hybrid swarm in 2002. Offsets collected from this location have produced flowers intermediate in form between the two and in a variety of colours [Figs.10 & 11].

In the central part of its range south and east of Oruro the plants grow into large mounds, have very long straight spines and magenta flowers. In 2003 I visited the 'hills east of Oruro' with John Carr and Moises



Fig.13 *L. rossii* var. *bustilloensis* BLMT173.01, a synonym of *L. pentlandii* described by Ritter, growing near Lallagua southeast of Oruro, Bolivia

Mendoza to investigate Rose's 1914 location. We easily found both his species (*L. boliviensis* and *L. ferox*) there [Fig.12] and even thought we could recognise some hybrids. This central region is also where another synonym, *L. rossii* var. *bustilloensis* Ritter can be found [Figs.13 & 14]

In the extreme southwest of its distribution the situation becomes quite complicated as here *L. pentlandii* approaches the boundaries of three other *Lobivia* distributions; to the east there is *L. cinnabarina*, to the southeast *L. pugionacantha* var. *rossii*, and to south *L. versicolor*. The latter two have at times both been included within *L. pentlandii*. In this region *L. pentlandii* produces bright yellow flowers like some plants in the area between La Paz and the Peruvian border. These were given the name *Lobivia hardeniana* by Boedeker in 1936. I've only found them once, on my first trip in 1996 [Fig.15], but they are said by Rausch to be quite frequent around Potosi. One of his collections, WR298, is particularly attractive for its exceptionally long spines that can be over 15cm long [Fig.16].

In cultivation *L. pentlandii* is easy to grow if given sufficient space for its fleshy roots to develop, plenty of water in the growing season and a completely dry winter rest when it can easily take temperatures to just below freezing. It is worth accumulating several examples to appreciate the huge variability of this species. I have about 50 plants and what a glorious sight they are when they are all in flower!

ML



Fig.14 *L. rossii* var. *bustilloensis* BLMT173.01 flowering in cultivation.



Fig.15 *L. pentlandii* var. *hardeniana* BLMT098.01 flowering in cultivation and showing the more woolly and robust flower tube than seen on plants from near La Paz.

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Author's note: By now some of you will be wondering how and where I came by all the



Fig.16 *L. pentlandii* var. *hardeniana* WR298 demonstrating the exceptionally long spines that can be produced by nearly all forms of *L. pentlandii*.

information in this article, particularly the historical details hidden in very rare books. Several of the books I have on my bookshelves but surprisingly most can now be found on the internet and can be downloaded for free. Two very useful websites in this respect are

www.botanicus.org and www.plantillustrations.org

The Rausch Lobivia Books

In the **Cactus Explorer** 10, I reminded readers about the Lobivia books written by Walter Rausch (page 23).

The original books are now quite difficult to find second hand so it is helpful that Daniel Schweich reminded me that Cactuspro have the three part series online at <http://www.cactuspro.com/biblio/en:rausch1>

Lobivia 85 is not yet translated into English but they do have the text in French.

GC

TRAVEL WITH THE CACTUS EXPERT (10)

Zlatko Janeba continues his adventures in the US. To find some localised species, it certainly helps to know the right people.

Photographs by the author



Fig.1 A young plant of *Sclerocactus parviflorus* some 14 miles west of Farmington, New Mexico.

The morning mood (on 6th May) was still kind of badly affected by the failure of the previous night when we tried to contact any of the local cactus experts to show us some places around Farmington (NM). Later on I finally succeeded in contacting Olda Fencel, a friend of mine, living in Albuquerque (NM) at that time. We had a nice chat and moreover, he provided us with one more location of *Sclerocactus mesae-verdae* north of Shiprock, which we decided to visit later, on our way to Utah. But, even without the so desired help of Ken Heil, we did not want to give up the search for “coloradoas” in that area and we made the

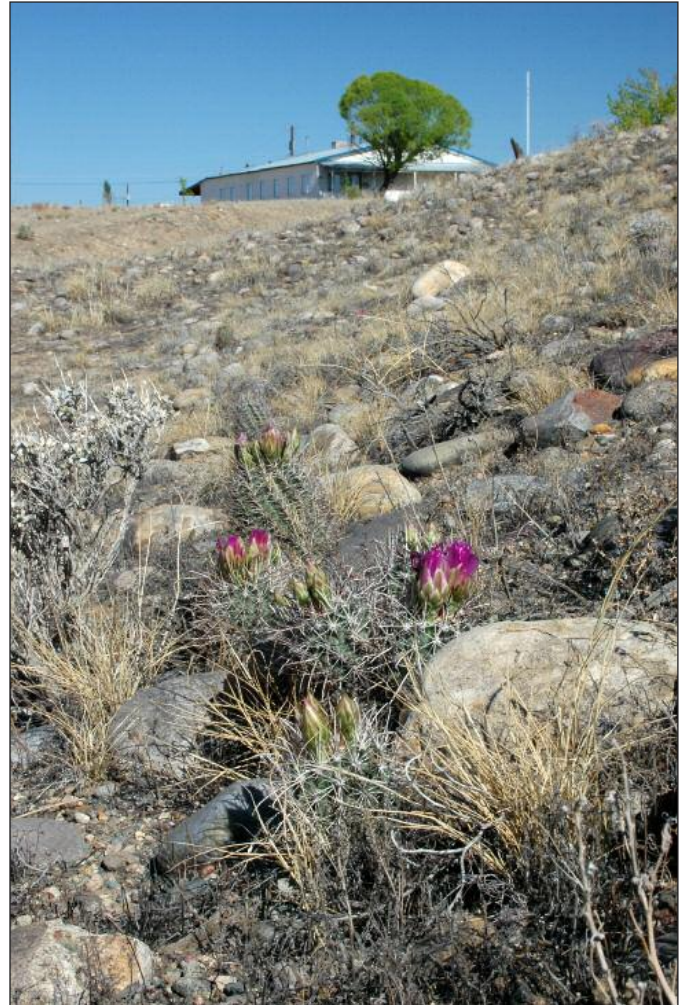


Fig.2 A healthy population of *Sclerocactus parviflorus* (14 miles west of Farmington, New Mexico) was located close to the main road (U.S. 64), among the houses, within a fenced area. Unfortunately, it seemed to be doomed as sooner or later it would probably be superseded by more construction work.

decision to try on our own.

We made two attempts but without seeing any “coloradoas” at all. At one hilly area some 14 miles west of Farmington, north of the U.S. 64, we could observe a plentiful population of *Sclerocactus parviflorus* (at an elevation of some 1590m). There were certainly hundreds of plants of all possible sizes, from tiny and numerous seedlings to larger plants in full flower [Fig. 1]. Unfortunately, the place was



Fig.3 There were hundreds of tiny sclerocactus seedlings there all over the place and it was almost impossible to stroll around without stepping on them (14 miles west of Farmington, New Mexico).



Fig.4 Josef Busek and Ken Heil in the habitat of "coloradoas", at the Hogback area, some half way between Farmington and Shiprock along the U.S. 64, New Mexico.

located among several freshly built houses [Fig. 2] and we were apparently observing our plants on one of the building sites as we had to climb over a new fence.

Thus the future of those plants did not seem to be bright and I wonder what this place looks like nowadays. During our visit it was not easy to move around with knowing that we must have been stepping on copious seedlings barely visible from the upright position. Only when kneeling down to shoot pictures of plants with their beautiful magenta flowers could one notice the youngest generation of this *Sclerocactus* species sprouting up [Fig. 3].

And since we did not encounter a single Mesa Verde fishhook cactus (*S. mesae-verdae*) on our own, we finally gave up and decided to leave that area and to move further on, keeping in mind the place suggested by Olda



Fig.5 This *Sclerocactus mesae-verdae* specimen at the Hogback area was still in flower. The flowering season was almost over and majority of the plants bore numerous unripe fruits. Notice the single hooked centrals (up to 2 cm long) on this plant.



Fig.6 Tiny seedlings were plentiful and the population of *Sclerocactus mesae-verdae* seemed to be very viable at the Hogback area. Notice the clay soil in which this cactus species is growing.

Fencl. So we were heading back to the west and, while passing Shiprock, we were looking for the intersection with U.S. 491 (formerly U.S. highway 666) where we were supposed to turn to the north.

Then, at about 10 a.m., my cell phone started to ring. I answered it while driving ... and Josef just thought I was kidding him when I told him I had Ken Heil on my 'phone. So, we had an immediate change of plans. We agreed on meeting with Ken at 11 a.m. at the Conoco gas station some 20 miles west of Farmington. I instantly made a U-turn.

It was an exciting meeting. Josef and Ken had not seen each other for ages and I had never met him before. After having a nice chat and refreshment at the gas station market, Ken took us directly to the location of *Sclerocactus*



Fig.8 The habitat of *Sclerocactus mesae-verdae* near the Chimney Rock, Colorado. The Shiprock formation (New Mexico) can be seen in the distance.



Fig.7 This splendid specimen of *Sclerocactus mesae-verdae* (The Hogback area, New Mexico) with flattened globose body, decorated with white regular spination, fairly resembles some of the *Discocactus* species.

mesae-verdae near Waterflow. To my big surprise we took the same dirt road as with Josef in the morning of that same day and even with an old friend of mine Jiří Kroulík several years before. But clearly we did not have enough experience before to choose the right ecological niche as we always searched there without any result.

The difference was that we used to search rocky and gravelly hills (where usually other plants are growing, e.g. *S. parviflorus*) but with Ken we stopped along sparsely vegetated or almost barren badlands of clay soils [Fig. 4]. There, at an elevation of 1570 - 1580m we encountered numbers of these highly specialized cacti growing on low rolling hills, usually on hilltops and benches. The clayish soil was soft and easily eroding but it clearly enables these cacti, especially the smaller ones, to shrink during harsh conditions and retract back into soil and thus, survive hostility of either too hot or too cold periods of droughts. The only associated vegetation included small bushes of the genera *Atriplex* (*A. corrugata* being the most dominant one) and *Artemisia*, as well as several perennial grasses. We also found *Opuntia polyacantha* there.

The *S. mesae-verdae* population there seemed to be in quite healthy condition as there were plants of all sizes, from large adults (up to 9 - 10cm in diameter) with numerous unripe fruits or the last flowers [Fig. 5] to diminutive seedlings [Fig. 6]. I could also see a quantity of large black seeds spread around the mature



Fig.9 The Mesa Verde fishhook cactus loaded with fruits, near the Chimney Rock, Colorado.



Fig.10 Near the Chimney Rock we could see huge old multi-headed specimens of *Sclerocactus mesae-verdae* together with copious tiny seedlings.

plants, evidently from previous fruitful years. We also noticed metallic labels next to many older plants as this population used to be (and probably still is) a part of regular surveys run by U.S. Fish and Wildlife Service and related offices. There was actually even a sign which said: "The Hogback (ACEC) area with federal listed endangered plant species".

Although the Mesa Verde fishhook cactus is being usually distinguished from other *Sclerocactus* species by a total lack of central spines, sporadically there can be seen plants bearing a single hooked central spine per areole [Fig. 5]. Unfortunately, we saw only two plants with flowers and they were not fully open (even at noon). So we went to have lunch together at one of the common fast food stores (I do not remember which one, but it really does not matter) and we thanked Ken for his time spent with us.

Josef and I then returned back to the same



Fig.11 Big barrels of *Sclerocactus parviflorus* near Aneth (Utah) were getting ready for a splendid flower show.

flowering plants in the hope that the flowers would be more open so that at last we could shoot some great pictures, but the tepals had not move a bit and nor did a plastic bottle help in this instance (and it was already 13:30). It was slightly disappointing in the end, but fully worthy of a great experience.

So we eventually passed Shiprock and turned north on the U.S. 491 towards Cortez (CO), and after couple of miles we stopped at the spot recommended by Olda Fendl. The habitat was really very similar to the previous one, with the same elevation (1550 - 1560m), so it was not much of surprise that in a while we saw countless Mesa Verde fishhook cacti and also several plants of *Opuntia polyacantha*. The flowering season was over again.

Then we crossed the New Mexico – Colorado border and just before the U.S. 491 and U.S. 160 intersection, near photogenic Chimney Rock, we noticed a very similar habitat to those visited before and we decided to stop again and try our luck. After a while, we did indeed discover another very rich population of *Sclerocactus mesae-verdae*. It was at an elevation of some 1600m and when looking back to the south we could see the Shiprock formation in the distance [Fig. 8]. The plants were again loaded with unripe fruits [Fig. 9] and the whole population looked very prosperous too.

Sclerocactus mesae-verdae is commonly reported as single-stemmed cactus with branched taproot, while multi-stemmed plants are commonly the result of meristem damage,



Fig.12 A smaller plant of *Sclerocactus parviflorus* near Aneth (Utah) with open flowers.

usually caused by insect or mammal herbivores. To my surprise, the majority of large and old specimens at the site near the Chimney Rock were multi-headed, having offsets either on the side or at the bottom of the cactus stems, without any apparent damage to the growing tip [Fig. 10]. These huge plants (with heads up to 12cm in diameter and clusters much bigger) must have been really very old and there were again many seedlings all around them.

Fully satisfied, we drove west along the U.S. 160 and then northwest on the SR 41 and when Josef started to fall asleep, we finally entered the state of Utah. Near Aneth (UT), I noticed flowering barrels of *Sclerocactus parviflorus* next to the road and I stopped so suddenly that Josef woke up a little bit worried at first. But he calmed down quickly when he saw more cacti.

Some of the scleros were 25cm tall chaps loaded with buds and just opening flowers [Fig. 11], while the smaller sclerocacti usually only had about 4 to 5 flowers [Fig. 12]. Also clumps of *Opuntia polyacantha* decorated with red flowers [Fig. 13] and a *Yucca* species with very narrow leaves were growing there at an elevation of some 1440 - 1450m. And while on the road again, we could see from our car more and more flowering sclerocacti spread on the hills for many more miles, almost up to Montezuma Creek (UT).

We passed Montezuma Creek and then, in the middle of nowhere, we saw a pumpjack, apparently abandoned, but after coming closer we realized it was fully operational [Fig. 14].



Fig.13 Flowering *Opuntia polyacantha* near Aneth (Utah).

Pumpjacks, also called pumping units or jack pumps, can be often seen in the deserted oil-rich areas of the SW of the USA and they used to be common during the oil boom of the early 20th century. They mechanically lift liquid out of the well in case there is not enough bottom pressure for the liquid to flow all the way up to the surface.

Later, some 20 miles east of the junction of SR 262 and U.S. 191 we observed yet another population of *Sclerocactus parviflorus* in full flower [Fig. 15]. The plants were widespread on low hills just next to the road at an elevation of some 1520m. But as it was getting quite late, we were pestered by thousands of tiny flies and in couple of minutes we were forced to seek the shelter of our car. That was a very unpleasant experience as we had to shoot a couple of pictures in a rush and the fly stings were really very painful.

So we started to look for a place to camp and meanwhile, we could see from time to time huge clusters of *Echinocereus triglochidiatus* ssp. *mojavensis* adorned with dozens of claret cups, trying to hide among sagebrush, junipers and small pine trees. As I had known that area almost by heart I decided to end our trip for that day at near Recapture Dam which is located just north of Blanding (UT). We took the Radio Hill Rd and set up our camp not far from the water. Just before sunset I even managed to see some more flowering *Echinocereus triglochidiatus* ssp. *mojavensis*, *Opuntia polyacantha*, and also several sclerocactus mummies. And I have to admit that after several nights spent in hotels it was a



Fig.14 One of the pumpjacks we encountered during our trip through the SW of the USA. The picture is static, but the pumpjack was actually running. This one was along the SR-262, west of Montezuma Creek, Utah.



Fig.15 Young flowering *Sclerocactus parviflorus* along the SR 262 in Utah.

very enjoyable and quiet outdoor experience.

[Zlatko Janeba](#)

MAIHUENIOPSIS GLOMERATA

Graham Charles discusses the application of the name *Maihueniopsis molfinoi* Speg. Recent molecular studies have clarified relationships in *Maihueniopsis* from Argentina. Photos: Philippe Corman, Marcel & Inès Jourdan and Frédéric Mierzwa and GC

Much has been written about *Maihueniopsis* recently and the Argentinian species appear to be largely understood following a recent molecular study (Ritz et al. 2012) but only one collection from Chile, *M. domeykoensis*, was included so the standing of the various named species from there remain to be ascertained.

Spegazzini (1925) created the genus *Maihueniopsis* in *Nuevas Notas Cactológicas* and the type species *M. molfinoi* illustrated with the drawing in Fig. 2. The locality was given as near Santa Catalina, prov. Jujuy, Argentina at 3650m.

The oldest name now included in the genus *Maihueniopsis* is *Opuntia glomerata* Haworth published in 1830. Kiesling (1984) included *M. molfinoi* in the synonymy of *M. glomerata* (Haw.) Kiesling. However, he neotypified the name with a specimen from the north of Argentina. The distribution of similar plants extends into southern Bolivia and I believe these are different from the true *M. glomerata* which is thought to have been collected by Gillies in Mendoza where it makes large hemispherical mounds, the likely origin of the name.

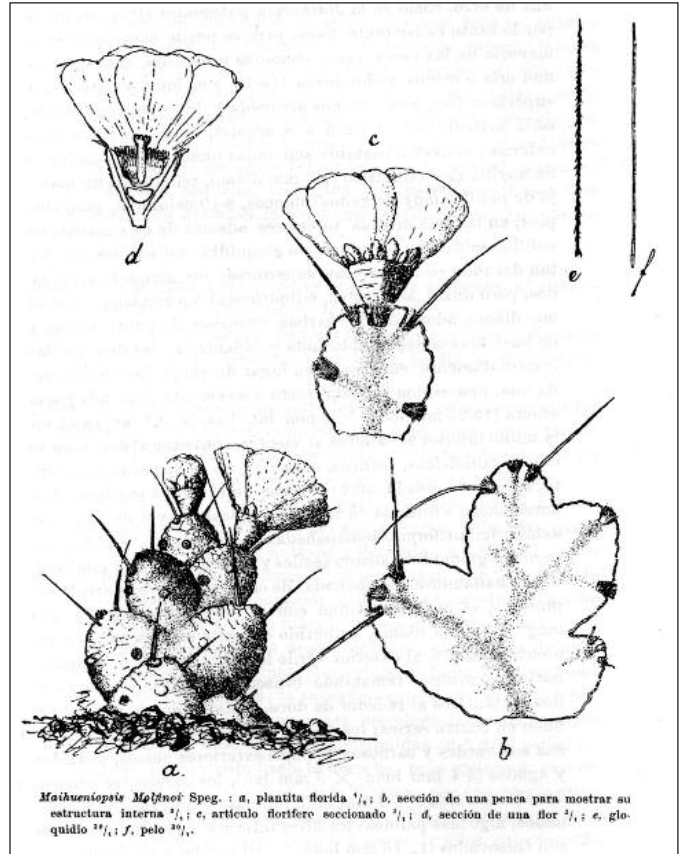


Fig. 2 The illustration with the first description of *Maihueniopsis molfinoi* Speg. from *Nuevas Notas Cactológicas*: 87 (1925)



Photo: G. Charles

Fig.1 *Maihueniopsis glomerata*, cultivated seedling of the type form from Mendoza, Argentina.

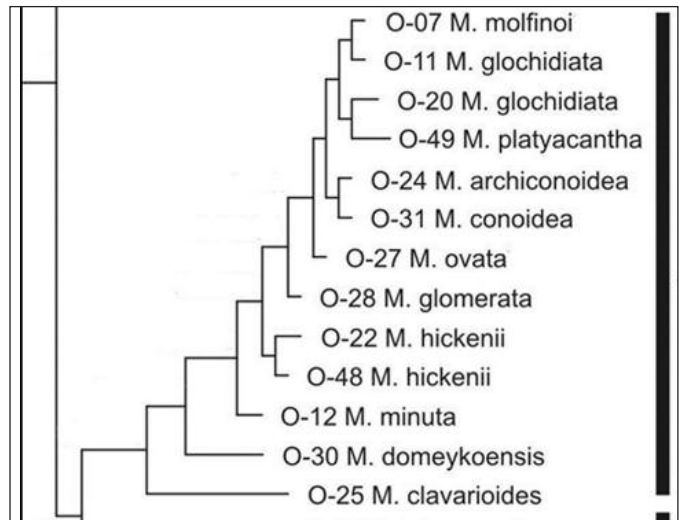


Fig. 3 Some of the results of the Ritz et al. study (2012) showing that *M. glomerata* ssp. *hypogaea* (here called *M. molfinoi*) is distinct from *M. glomerata*.

Photo: G. Charles



Fig.4 *Maihueniopsis glomerata* ssp. *hypogaea* = *M. molfinoi* in cultivation from east of Yavi, Jujuy, Argentina in culture

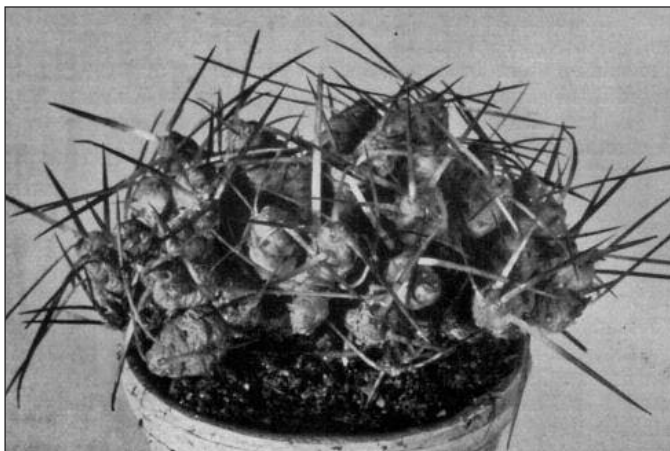


Fig.5 The neotype illustration of *Opuntia hypogaea* Werd. from Monatschrift der DKG (1932)

You can read my reasoning and my rejection of Kiesling's neotype from this region in *Bradleya* 26:71 (2008). I created the new combination *M. glomerata* ssp. *hypogaea* (Werd.) Charles for these plants, based on *Opuntia hypogaea* Werd. described in 1931.

The subspecies *hypogaea* is distinguished from the type by usually having a single spine at each areole and making smaller, flatter clumps. The single spine can be seen in the Spegazzini illustration of *M. molfinoi*. Examination of the known localities of the two subspecies shows a significant separation where neither is recorded, although it is possible that the inaccessibility of suitable habitat is at least in part the reason for this.

It was not until the publication of the study "Molecular phylogeny and character evolution in terete-stemmed Andean opuntias (Cactaceae Opuntioideae)" that my assertion was



Fig.6 *Maihueniopsis glomerata* West of Las Flores, San Juan, Argentina 2650m

Photo: P. Corman



Fig.7 *Maihueniopsis glomerata* South of La Iglesia, San Juan, Argentina

Photo: P. Corman



Fig.8 *Maihueniopsis glomerata* Young plant West of Uspallata, Mendoza, Argentina

Photo: M. & I. Jourdan

confirmed by the molecular data [Fig.3].

Because the Spegazzini location for *M. molfinoi* lies within, or certainly near to, the distribution of *M. glomerata* ssp. *hypogaea*, I believe that at species level, *M. molfinoi* is the oldest name for this plant and this was the name used in the study. So, in light of the study findings, *M. glomerata* and *M. molfinoi* are probably best treated as separate species.



Photo: M. & I. Jourdan

Fig.9 *Maihueniopsis glomerata* West of Uspallata, Mendoza, Argentina



Photo: M. & I. Jourdan

Fig.10 *Maihueniopsis glomerata* West of Uspallata, Mendoza, Argentina

Photo: M. & I. Jourdan



Fig.11 *Maihueniopsis glomerata* West of Uspallata, Mendoza, Argentina

I hope that the molecular study can one day be extended to find out if the various Chilean populations of *Maihueniopsis* are indeed just synonyms of *M. glomerata*. In future articles, I plan to discuss some of the *Maihueniopsis* from Chile which Philippe Corman has seen and has sent me pictures to share with our readers.

There is a great interest in the smaller opuntias at present. *Maihueniopsis* species are really good plants to grow and you can put them outside in the summer to encourage strong spination. In winter, a cold glasshouse is adequate except in the very coldest of winters so long as the plants are dry. They easily root from cuttings and I have even managed to get seeds to germinate.

For this article, I am grateful to Philippe Corman, Marcel & Inès Jourdan and Frédéric Mierzwa for the use of their pictures.

GC

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Fig.12 *Maihueniopsis glomerata* from Tocota, Tallingasta, San Juan, Argentina in cultivation

Photo: F. Mierzwa



Fig.13 *Maihueniopsis molfinoi* GC444.07 East of Abra Pampa, Jujuy, Argentina 3900m

Photo: G. Charles



Fig.14 *Maihueniopsis molfinoi* GC167.05 Tres Morros, Jujuy, Argentina

Photo: G. Charles

- Spegazzini, C. (1925)** *Maihueniopsis* Speg. (n. gen.) *Nuevas Notas Cactológicas*: 118
- Werdermann, E. (1931)** *Opuntia hypogaea* Werd. nov. spec. in *Backeberg Neue Kakteen*: 64

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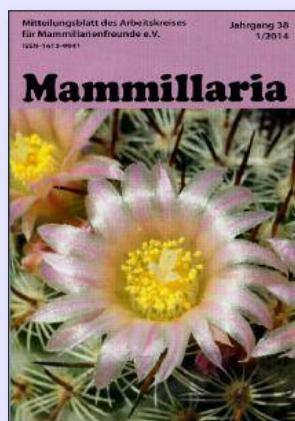
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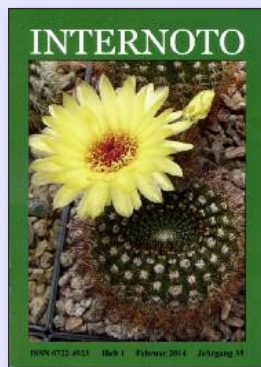


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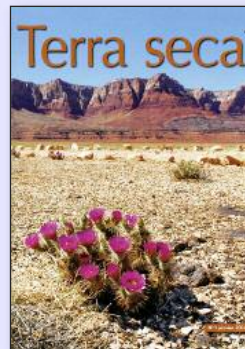
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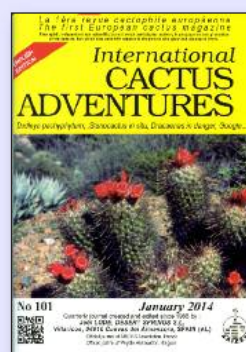


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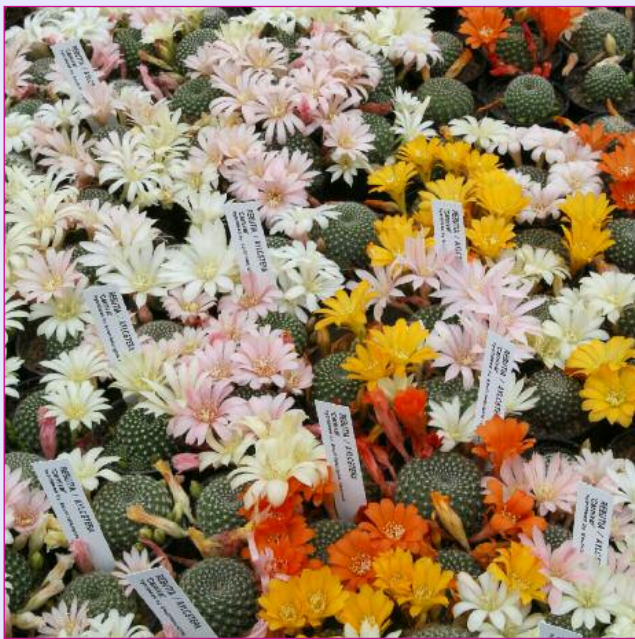
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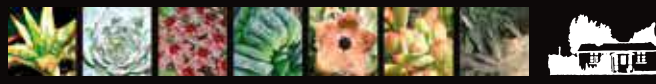
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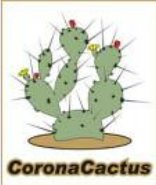
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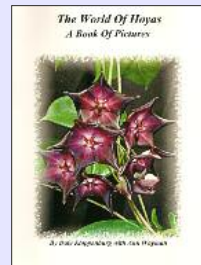
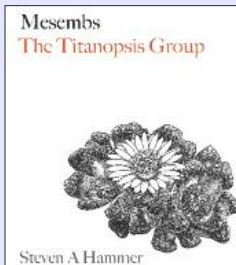
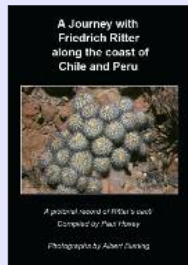
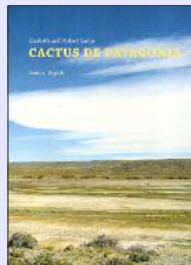
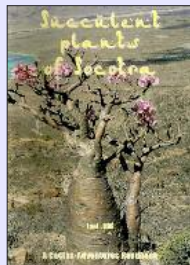
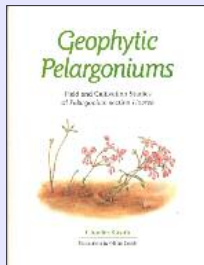
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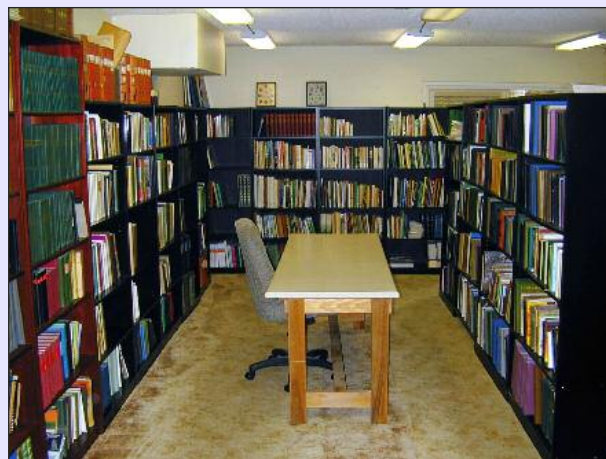
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