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for Succulent Plant Study

Organización Internacional  
para el Estudio de  
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Organisation Internationale  
de Recherche sur les  
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Internationale Organisation  
für Sukkulenten-Forschung

# IOS

## BULLETIN

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**May 2015**

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**Front cover:** *Parodia microsperma* in close-up, Argentina, prov. Salta,  
Abra de Pucará, 2650 m, 24 Jan 2015. (photo: David Hunt)

*This issue of IOS Bulletin compiled and edited by the Secretary*  
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## Message from the President

Following the 33rd IOS Congress at the Desert Botanical Garden, Phoenix, Arizona, arrangements were made to organize a meeting of the new Executive Board at the Jardin des Plantes, Muséum National d'Histoire Naturelle, Paris. I should like to thank the Director, Dr Eric Joly, for providing the necessary facilities for the meeting. Also, thanks to the Curator, Denis Larpin, for offering and organizing a tour to the Chevreloup Arboretum, where the institution's collection of succulent plants is housed .

One of the conclusions arising from the meeting in Paris was that IOS should consider the possibility of modifying the style and periodicity of its habitual biennial congress. Despite efforts by the members of the Board and the respective co-organizers, the last four IOS congresses have suffered a low participation of members, although attendance in general has been in most cases acceptable. Consequently, holding formal congresses every three or four years, and preferably in conjunction with other meetings or organizations has been envisaged as an alternative. Options are being considered to organize the next IOS Congress, perhaps somewhere in Mexico.

Another topic that has recurrently arisen in the discussions of the Board is the lack of an informative website. The inexcusable sequestration of the original IOS webpage by the former Assistant Secretary has caused tremendous damage to our Organization, and unfortunately the Board has so far been unable to set the bases to restructure the indispensable webpage. However, it is good news that one of our members, Dr Rolando Bárcenas, has recently offered to build a new webpage and to act as Webmaster. Hopefully, in the following few months we will start seeing progress in this important communications tool.

Professor Len Newton, former IOS President, has recently agreed to organize the membership archives and papers currently kept in the Secretary's office. This is an extremely positive project that certainly will result in the preservation of the historical memory of our organization. The incorporation of Dr Bárcenas and Professor Newton, as Webmaster and Archivist respectively, would imply the expansion of the IOS Executive Board from five to seven members.

Finally, I would like to express my conviction that IOS should continue with its role of supporting succulent plant research through the provision of small grants. During the last two years the Board has approved four such grants: two in South America, one in Mexico and one in Africa, and this effort should ideally be expanded. However, in order to maintain the IOS budget in a healthy balance, means of obtaining additional donations will need to be explored in the near future.

*Héctor M. Hernández*



### **Report of the Meeting of the IOS Executive Board, Paris 26 September 2014**

*Due to the fact that most members of the retiring IOS Executive Board were unable to attend the 33rd IOS Congress at the Desert Botanical Garden in April 2014, there was not a quorum for the customary Board meeting. Subsequently, arrangements were made to hold a meeting of the new Board on 26 September 2014, at the Museum of Natural History in Paris, France.*

**Venue and attendance.** The meeting was held at the offices of the Jardin des Plantes, Muséum National d'Histoire Naturelle, Paris, by kind permission of the Director, Dr Eric Joly. All members of the new Board, elected earlier in the year by postal ballot (the first in the history of IOS) were present except the former Assistant Secretary, Rainer Mecklenburg, who had resigned prior to the Congress. The President, Héctor M. Hernández, was joined by the new Vice-President, Mats Hjertson, David Hunt (Secretary), Sara Oldfield (Treasurer) and Niko Schröder (Assistant Secretary) (*see below*). Also present, by invitation of the President, were Urs Eggli (editor of *Repertorium Plantarum Succulentarum*) and Olwen Grace, who had participated in the Congress and contributed her impressions to the 2014 Bulletin (pp. 7–8).

**Reports.** Reports of the previous meeting and the Congress at the Desert Botanical Garden had been approved and given in the Bulletin, and the results of the ballot for the new Executive Board were announced by the President in an e-mail circulated to the membership on 4 March 2014. The report of the scrutineers was also published in the Bulletin (IOS Bull. 16(1): 28. 2014).

**Resignation and replacement of Assistant Secretary.** Immediately prior to Congress, the Assistant Secretary (Website Manager), Rainer Mecklenburg circulated the IOS membership by e-mail to announce his resignation. In accordance with Art. 8 of the IOS Statutes, the vacancy created by the resignation was filled by the Board's nominee, Christof Nikolaus (Niko) Schröder (University of Heidelberg).

**Audit.** The General Meeting at the Congress elected two Mexican members, Emiliano Sánchez and Carlos Gómez-Hinostrosa, to audit the accounts for the year ending 31 December 2013 and their report dated 23 July 2014 was appended to the summary statement published in the Bulletin (page 25). The full credit balances in the Organization's GBP and Euro cash accounts had been transferred to the Central Reserve Account, and the two accounts closed prior to the Congress. Funds from the Swiss Postbank account had been also transferred to the Reserve Account later in the year, leaving a small balance in the US \$ cash account held by Dr Dorsch.

**Suspension of Membership Fee.** The General Meeting had also endorsed the President's proposal to suspend the membership fee, with the suggestion that expert advice should be sought on the management of the funds (to gain interest etc) and means of obtaining donations explored.

**Membership list.** Following the suspension of the biennial Membership Fee, the Secretary proposed to circulate a message to all current members requesting them to respond positively if they wished to remain on the membership list for the next biennium. This was agreed by the Board. (*The renewal message was circulated in November 2014.*)

**IOS Website.** The unilateral action of Rainer Mecklenburg in taking down the IOS web pages after resigning had been deplored by those attending the Congress. Mr Mecklenburg subsequently failed to respond to requests from the President and Secretary to release the domain name *www.iosweb.org* so that it could be re-registered to a new appointee as webmaster. This could only be interpreted as action against the interests of IOS, in contravention of Article 6 of our Statutes, and was unanimously condemned by the Board and without precedent in the history



Before the Board Meeting the participants were given a conducted tour of the glasshouses of the *Jardin des Plantes* at Chevreloup Arboretum by the Curator, Denis Larpin (*left*), with Mats Hjertson, Niko Schröder, Sara Oldfield, Olwen Grace, Urs Eggli and Héctor Hernández. (photo: David Hunt)

of IOS. The withdrawal of his membership would have been inevitable had he not resigned voluntarily. As reported in the Bulletin (page 27), ICANN (the Internet Corporation for Assigned Names and Numbers) and their Accredited Registrar were contacted but replied that they have no power to enforce a domain transfer without the consent of the Registrant concerned.

**New website.** In the circumstances the Board were obliged to discuss possible arrangements for the creation of a new website. As a temporary measure, the Secretary had registered the domain name *www.iospr.org* and set up a basic web page with information about IOS and a Membership Application form. Discussion followed on whether it would be desirable to choose a new domain name that did *NOT* start with the initials 'IOS' as there are numerous other websites using this acronym. This matter was left open pending progress with the new permanent website. The name of a volunteer who had offered to help in designing and managing a new website for us was put forward by Dr Grace and it was agreed to pursue this possible solution.

**IOS publications.** A link to the electronic version of IOS Bull. 16(1) had been circulated by Group Mail to all members on 29 July 2014, and similarly a link to the electronic version of Rep. Pl. Succ. 64 on 1 September. Subsequently the latter was made available 'open access' on the *www.iospr.org* website. Printed paper copies of both publications were displayed. 20 printed copies of RPS 64 were given to Dr Eggli for distribution by SSZ leaving a small stock for members and libraries requiring them. Requests from members for paper copies of the Bulletin have diminished to a handful, but a small stock of these is also held by the Secretary (*see p. 48*).

**Future meetings.** No venue had yet been suggested for the next IOS Congress. Although very attractive venues had been chosen for the previous four Congresses (Natal, Brazil 2008, Gran Canaria 2010, Havana 2012 and Phoenix 2014), all offered with the prospect of an interesting post-Congress field-trip, none of them attracted more than 10 IOS members. At short notice the 2010 venue was changed to the University of Bonn and was attended by twice that number of



members, but became more in the nature of a round-table meeting, with the members seated around a row of tables in a seminar room. Reluctantly, therefore, the Board concluded that IOS could no longer attempt to convene meetings biennially that might justifiably be termed ‘Congresses’ unless in conjunction with, or participation in, meetings arranged by other organizations. To hold formal meetings less frequently (say once every three or four years, perhaps) might be an alternative.

**Amendments to IOS Statutes.** In the light of the above experience and management difficulties caused earlier in the year by dissenting members of the previous Board, various amendments to the Statutes and Byelaws were suggested. Such amendments would require the approval of a future General Meeting, but the Executive Board has the power to make Byelaws ‘to assist the operation of the Statutes’ (Statutes Art. 7) and some matters to do with the website, use of the Membership List, data protection, funding for research, etc could be dealt with more urgently and at least temporarily via new Byelaws. For example, it was recommended that in view of the sparse attendance of IOS members at the most recent IOS Congresses there should be a statutory quorum (preferably a percentage of the membership being present) for any decisions taken by vote at any general meeting of members or else provision made for postal voting. Measures should be agreed by the present Board prior to any future statutory meeting.

**Dr Eggli’s ‘Vision’ paper.** Urs Eggli was thanked for his paper ‘A vision for a revived IOS 2014–2017’, earlier circulated to those present, containing thoughtful and constructive suggestions for the management of our Organization during the ensuing four years.

**Next Board meeting.** A possible venue for the Board’s next meeting was suggested and accepted pending further details and choice of a date convenient to all the officers.

**Vote of thanks.** On closing the meeting the President warmly thanked Dr Joly and members of his staff for the accommodation and facilities kindly provided for us.



After the meeting (*L. to R.*) Olwen Grace, Denis Lapin, Niko Schröder, Héctor Hernández, Mats Hjertson, Sara Oldfield, Urs Eggli, David Hunt. *(photo by a member of the Chevreloup Arboretum staff)*

## Secretary's Notes

Having served as Secretary between Congresses many years ago, it is not a surprise to me that, on the face of it, nothing much seems to have happened in the latest inter-Congress year, 2015, especially as the 33rd IOS Congress voted to suspend Inter-Congress meetings and no plans for a Congress in 2016 had been made (IOS Bull. 16(1): 27). The several *publications* (IOS Statutes Art. 2.b) mentioned below on pp.41–43 may nevertheless reassure members that there has been plenty of *collaboration* (IOS Statutes Art. 2.c) among us in pursuit of the original objects of IOS, and we have tried to fulfil Art. 2.d (*facilitation* and support of the work of appropriate organizations and individuals) by giving or offering monetary grants to individuals associated with appropriate organizations.

***Membership Renewal Form.*** Following the suspension of the IOS Membership Fee by the 33rd Congress, and as proposed in the report of the 2014 Board Meeting, I circulated a message to all current members requesting them simply to respond 'YES' if they wished to remain on the membership list. The Group mail was circulated in mid-November 2014. Only about 50 positive responses were received, one further resignation, and a complaint from one dissident. It is not the wish of the Board to exclude formerly loyal members who did not respond, however, and another reminder is being sent to them by e-mail with notice of the present Bulletin.

***Membership Archive.*** Former IOS President Len Newton, whose suggestion it was to compile this archive, has now returned from Kenya to England and has agreed to take over the membership archives and papers currently stored in the Secretary's office. It is proposed that he should be invited to join the Executive Board as our official Archivist. He hopes to make progress with the project in collaboration with Chuck Staples (US) who has already compiled an extensive archive of biographical data on people prominent in the field of succulent plant-collecting, cultivation and research.

***New Website.*** Following the indefensible action of the former Assistant Secretary in taking down the IOS website, and refusing to release the domain name for our continued use, a temporary website at [www.iospr.org](http://www.iospr.org) was created as a means by which interested non-members are able to contact us. Until recently no progress was made for want of a volunteer with the necessary skills to set up a new website and act as webmaster but one of our members has recently offered to do this and we hope to announce the new domain name and website in the near future.

***Informal meetings of members of the Executive Board.*** A formal meeting of the Board was to have taken place at the Royal Gardens of Hannover-Herrenhausen, Germany on 11 September 2015, by courtesy of the Curator, BORIS SCHLUMBERGER, prior to international conferences in Abu Dhabi and Berlin the following week that were also to be attended by members of the Board (see p. 41). Unfortunately, a few days earlier, the President was obliged to change his travel plans and fly to Abu Dhabi via New York rather than Germany, and was unable to visit Hannover. The Assistant Secretary, who had been in hospital and was convalescing, also gave his apologies, as did the Treasurer (also travelling to Abu Dhabi). Thus the meeting, with only Vice-President and Secretary present, was inquorate, but a summary of their discussion was sent to Abu Dhabi where the President and Treasurer were also able to discuss IOS matters.

***Funding applications.*** Two applications were received in December 2015. Both were approved by the Board and the grants paid. Details follow along with reports of three other projects that have received grants in recent years,

**Changes to the IOS Statutes.** The desirability and indeed necessity of changes to several of the IOS Statutes was suggested by the Secretary at the 2014 Board meeting. Among the points mentioned were the desirability of expanding the Board from 5 to (say) 7 members and the need to set a quorum for future General Meetings.

**Travel expenses.** The existing arrangements should continue for the time being.

**Future meetings.** It was also agreed that for various reasons that IOS should no longer attempt to arrange independent Congresses or events except possibly in conjunction with those of larger organizations.

*A short report of the above discussions was forwarded to Abu Dhabi for the attention of the President and Treasurer at the IUCN meeting. Dr Hernandez responded on 18 September expressing his thanks, having had “a good conversation about IOS matters” with Sara Oldfield.*

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### **Caryophyllales 2015 meeting**

Following the informal meeting at Herrenhausen a somewhat larger group of IOS members met (though not as ‘official’ IOS representatives) at the Botanical Garden and Botanical Museum Berlin (BGBM) on 13 September 2015. At the next higher rank in the taxonomic hierarchy, the Cactaceae and several other succulent plant families are classified as members of the Order Caryophyllales, more traditionally called the Centrospermae, and BGBM has launched a networking project among molecular systematists to stimulate and coordinate research on the Order internationally. The first ‘Caryophyllales Conference’, held at BGBM on 13–19 September attracted more than 70 participants and observers from more than 20 countries.

This BGBM project is intended to be part of the ‘Global Strategy for Plant Conservation’ for 2011–2020 (the United Nations Decade on Biodiversity) initiated by the Convention on Biological Diversity at its Nagoya conference in 2010. By 2010, the Global Strategy had already achieved its first target of developing “a widely accessible working list of known plant species as a step towards a complete world flora” (<http://www.theplantlist.org>) and so ‘Target 1’ was updated at Nagoya to achieve “an online Flora of all known plants” by 2020. A ‘World Flora Online’ Council (WFO) had been formed with 27 participating institutions including Kew, BGBM, the Missouri and New York Botanical Gardens, and so on. ‘Integrated expert networks’ providing taxonomic treatments to WFO is an important component of the Council’s strategy and the BGBM initiative aims to be one of these.

The initial aim of the Berlin project was to compile a generic checklist of all 39 families in the order, of which the most diverse at generic level are stated to be Cactaceae and Aizoaceae (28 of the others containing between one to six genera only). That aim was duly achieved online by BGBM just prior to the conference (and available subsequently in *Willdenowia* 45: 281–383). Though the initial compilation of the list (nearly 750 genera in total) was done by the first-named author, Patricia Hernández-Ledesma (seconded from Mexico), and others at BGBM, overall authorship of this ‘taxonomic backbone’ is credited to a total of 22 contributors and a bias favouring phylogenetic hypotheses rather than taxonomic practicalities and nomenclatural stability was not unexpected. For more information see [www.caryophyllales.org](http://www.caryophyllales.org).

The cactologists at the meeting included Salvador Arias, Urs Eggli, Nadja Korotkova, Reto Nyffeler, Boris Schlumberger and myself, all of whom had influenced the content of the treatment in the checklist, though in my case only in the final review stage, as did also Nigel Taylor, though he was not able to be present in person. Salvador Arias, Nadja Korotkova, Reto Nyffeler and I also gave short presentations and we all met briefly afterwards with the editor of *Willde-*



nowia, Nicholas Turland, largely to confirm our common feeling that there is currently some consensus in favour of recognizing no more than an overall total of between 120 and 130 genera, and not being too hasty in accepting the taxonomic implications of molecular data.

D.H.

### Update on projects associated with IOS

*Note: These projects are now listed under three headings in the order they contribute to the fulfilment of the Objects of IOS mentioned in Art. 2 of the IOS Statutes (see page 49 below). When first mentioned, names of authors, co-authors and participants in these projects who are IOS members are listed in small capital letters.*

### Recent publications by IOS members

#### ***Biodiversity and Biogeography of Cacti***

WILHELM BARTHLOTT'S long-standing interest in these topics has finally borne fruit in a special edition of the German Cactus Society's occasional publication *Schumannia* [vol. 7 March 2015: ISSN 1437-2517/ISBN 978-3-7308-1144-3. Pp. 210 x 297 mm (A4), 205 pp., 55 col. illus., 333 maps]. The text is bilingual (English/German) and is divided into eight main sections as follows:

1. **Introduction** Wilhelm Barthlott
2. **Cactus ecology and biogeography** Jens Mutke
3. **Phylogeny, evolution and systematics** NADJA KOROTKOVA.
4. **Mapping the diversity of cacti** Jens Mutke, KIRSTEN BURSTEDDE, Jan Laurens Geffert, Andrea Miebach, M. Daud Rafiqpoor, Anke Stein, & Wilhelm Barthlott
5. **Patterns of diversity and endemism** (*authors as Section 4*).
6. **Conservation and hotspots: cactus diversity in change** Pierre Ibisch & Jens Mutke
7. **Distribution maps of Cactaceae** (*all the above authors; additional data and revisions contributed by* RALF BAUER, GRAHAM CHARLES, PAUL HOXEY, DAVID HUNT, MARTIN LOWRY and NIGEL TAYLOR.
8. **References**

#### ***Further studies in the Opuntioideae (Cactaceae)***

Succulent Plant Research vol. 8 2014. (170 × 245 mm, pp. 224, numerous col. illus and maps). ISBN 978-0-9933133-0-7. dh books, Milborne Port, GB.

This sequel to vol. 6 (2002) contains the following papers contributed by IOS members and is dedicated to the memory of our member JAMES ILIFF (1923–2014) who inspired and sponsored the publication of SPR vol. 6.

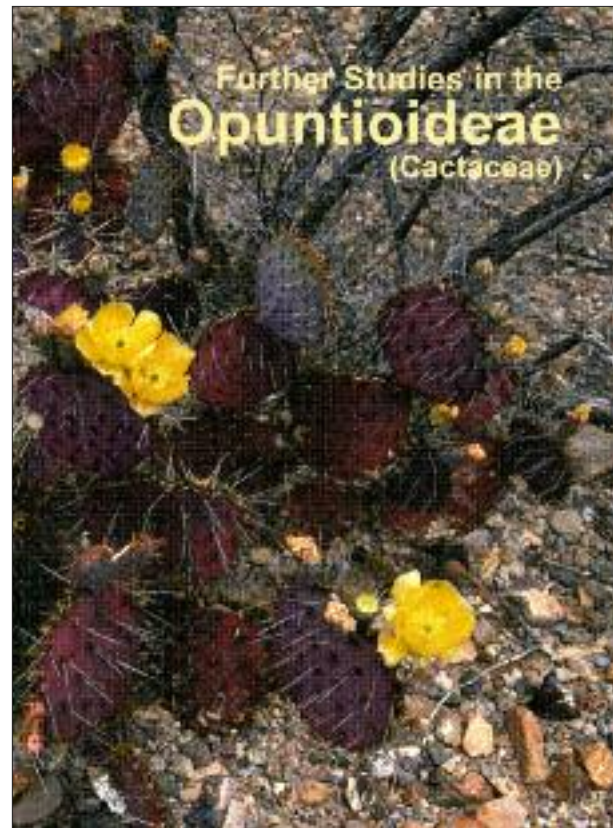
**Phylogenetic relationships and morphological evolution in *Opuntia* s. str. and closely related members of tribe Opuntieae** LUCAS C. MAJURE & Raul Puente; a follow-up to the important paper by Majure et al. in the American Journal of Botany (2012).

**Cytogenetic characterization of southern South American species of *Opuntia* (Cactaceae–Opuntioideae)** M. Florencia Realini, ALEXANDRA M. GOTTLIEB, FABIÁN FONT, Pablo I. Picca, Lidia Poggio & Graciela González.

**A revision of *Opuntia* series *Armatae* K. Schum. (*Opuntia* ser. *Elatae* Britton & Rose) (Cactaceae–Opuntioideae)** FABIÁN FONT.

**Northern hemisphere *Opuntia* and *Cylindropuntia* species (Cactaceae) naturalized in Argentina – and the riddle of *Opuntia penicilligera* †** BEAT ERNST LEUENBERGER & SILVIA ARROYO-LEUENBERGER.

**Further observations on the Andean Opuntioideae** CHRISTIANE RITZ & DAVID HUNT. A follow-up to Ritz et al., *Molecular Phylogenetics and Evolution* 65: 655–681 (2012).



**Mapping the Andean Opuntioideae** MARTIN LOWRY. A commentary by Lowry on the biogeography of the relevant genera (excluding *Pterocactus*) with 17 dot-maps showing the known distribution of the 50 or so individual species.

**Illustrations and observations on the Chilean Opuntioideae** FRED KATTERMANN; A re-compilation of Fred's comprehensively illustrated series of articles in the US Cactus & Succulent Journal.

**A checklist of the subfamily Opuntioideae (Cactaceae) in North and Central America** HÉCTOR M. HERNÁNDEZ, CARLOS GÓMEZ-HINOSTROSA, ROLANDO T. BÁRCENAS, Raúl Puente & Juan Antonio Reyes-Agüero.

**An interim checklist of the subfamily Opuntioideae (Cactaceae) in the Caribbean region and South America.** DAVID HUNT.

**Mapping the Cacti of Mexico: Part II Mammillaria** HÉCTOR M. HERNÁNDEZ & CARLOS GÓMEZ-HINOSTROSA. Succulent Plant Research vol. 9, July 2015. (170 × 245 mm, 169 pp., 5 figs., 54 maps, 34 col. illus.) ISBN 978-0-9933133-1-4. dh books, Milborne Port, GB.

Using 4397 geographically referenced *Mammillaria* records, the best available set of verifiable data taken from herbarium specimens, the authors present 54 range maps displaying the global distribution of all the 155 species of *Mammillaria*, the largest genus in the cactus family, and one of the largest and most emblematic in the Mexican flora. In order to ensure the verifiability of data used in the mapping process, a list of all herbarium records is included in an Appendix and a further Appendix lists the herbarium records for the specimens mapped in Part I of the series.

### **CITES Cactaceae Checklist ed. 3.**

Following the initial meetings of the IOS 'working party' in 1984–1987, IOS was asked to prepare a Checklist of the Cactaceae for the use of the Scientific Authorities responsible for



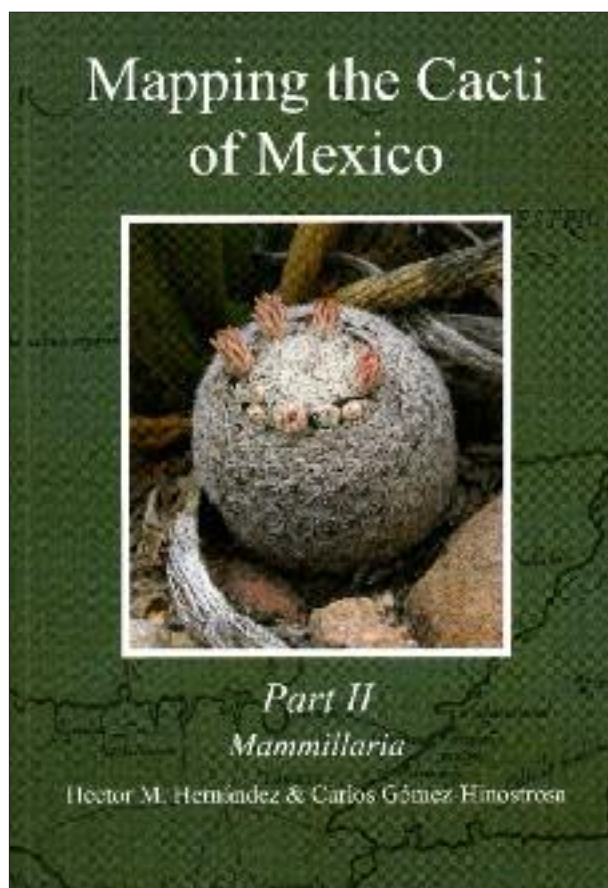
implementing the provisions of the Washington Convention on International Trade in Endangered Species of Fauna and Flora (CITES), and this was completed and first published in 1992, with a second edition in 1999. More recently a third edition has been requested by the CITES authorities and this is now available as a download from the CITES section of the Kew Gardens website.

***High proportion of cactus species threatened with extinction***

GOETTSCH, B. et al. (2015). Nature Plants 15142. DOI: 10.1038/NPLANTS.2015.142.

As with Wilhelm Barthlott's mapping project, BARBARA GOETTSCH used the list of approximately 1480 species accepted in the *New Cactus Lexicon* as the foundation of her project to provide definitive Red List assessments of the conservation status of all the species. Having copied the NCL data into the IUCN Species Information Service (SIS) database along with data from other sources, she organized a series of workshops between 2009 and 2012 with local contacts in Mexico, USA, Monaco, Brazil, Argentina and Chile. Like Barthlott's team she also generated range maps to distribute to the participants to re-draw according to their personal knowledge. Her report lists the resulting assessments, which are broadly congruent with those previously published in NCL (approximately 50% of the species are similarly categorized as 'Least Concern' (LC) but with rather more as 'Vulnerable' (VU), 'Endangered' (EN) or 'Critically Endangered' (CR), thus backing the statement that "the reported percentage of threatened species of cacti presented in this paper is a best estimate (31%) within a range of possible values" (28-37%). The report generated somewhat alarmist reaction in the world's press that "nearly a third of the world's cacti face extinction" including "Cactus-strophic extinction ahead", for which illegal trade was highlighted as a principal cause. From my personal experience, I would judge urban expansion and increasing agricultural land-use as far more serious threats.

D.H.





### **PUBLICATIONS IN PREPARATION**

***IOS Repertorium Plantarum Succulentarum.*** (Editor: Urs Eggli). Publication of issue no. 65 (for 2014) has been delayed by the editor's commitment to the development of special exhibits at Zürich's Succulent Plant Collection, including a new one due to open shortly.

***Illustrated Handbook of Succulent Plants ed. 2.*** (Editor: Urs Eggli). Progress with this is ongoing but has likewise been handicapped by the editor's other priorities.

***New Cactus Lexicon 2nd edition*** (compiler David Hunt)

The new edition of the 'Atlas' volume of illustrations published in August 2013 has proved very popular. A revised edition of the text volume is in preparation and will adopt the classification and nomenclature preferred for the new CITES Checklist.

***Ritter's Cacti in Colour*** (David Hunt, Paul Hoxey, Urs Eggli)

It remains the aim to publish this work as a series of fascicles, the first fascicle being devoted to *Copiapoa*, but publication is currently 'on hold' while an attempt is made to improve some of the images and pending discussion of recent research on the genus..

### **Collaboration with other Organizations**

**IUCN-SSC Cactus & Succulent Plants Specialist Group.** This group sprang out of the IOS Conservation Section in the 1970s following the *Succulents in Peril* symposium at the Royal Botanic Gardens Kew during the 1973 IOS Congress and produced the substantial 'Status Survey and Conservation Action Plan' for Cacti and Succulents edited by the then Group Secretary SARA OLDFIELD in 1997. The Group is currently chaired by IOS President HÉCTOR HERNÁNDEZ. Latterly the Group has been strongly involved in the *Global Cactus Assessment* project led by BÁRBARA GOETTSCH whose report entitled 'High proportion of cactus species threatened with extinction' was published in the new journal *Nature Plants* in October 2015 (see page 44).

### **IUCN- SSC Leaders Meeting at Abu Dhabi 15-18 September 2015**

The 3rd SSC Leaders' Meeting was held in Abu Dhabi, 15–18 September 2015 and was attended by HÉCTOR HERNÁNDEZ, SARA OLDFIELD and our recent new member PABLO DEMAIO. The meeting was supported by the Environment Agency Abu Dhabi (EAD), and was an opportunity for the leadership of the SSC to meet and to network, to forge new collaborations and build on existing ones, to learn new things and to pass on experience and knowledge on. As well as building a new sense of teamwork and vision for the SSC leadership, the objectives were:

- To allow the SSC leaders to get to know each other better and develop new collaborations;
- To develop partnerships with IUCN Commissions, Programmes, Regional Offices, Members and Partners;
- To assess the effectiveness of SSC's actions on biodiversity conservation and consider how this might be increased;
- To develop major new initiatives to address critical conservation issues;
- To learn about new products and tools;
- To have an opportunity to consult on developing policies, guidelines and standards;
- To complete plans for SSC's work in 2017–2020;
- To celebrate the volunteerism of the Chairs, to acknowledge their contribution to global species conservation and to inspire and encourage them in the vital work of species conservation;
- To use the opportunity to network!

The constant turnover in the SSC leadership presents challenges in maintaining a close network of experts and so the opportunity to bring together the members of this diverse group was truly momentous. Additionally, Chairs of Task Forces, as well as a number of full-time Specialist Group Programme Officers, all of whom play a crucial role in the activities of IUCN and the SSC, were invited to take part in the meeting.

An ambitious agenda befitting the calibre of the group was developed through an interactive process, including with EAD. The agenda was built on the lessons learned from the 2008 and 2012 meetings. There was also an opportunity for the SSC to prepare its own input into the planning of the 2017–2020 IUCN Programme, which will include the 2017–2020 IUCN Species Strategic Plan.

#### **Botanic Gardens Conservation International (BGCI).**

IOS has been a ‘partner’ of BGCI since 2009 in joint pursuit of our Reserve Collections Initiative directed at the ‘organization and support of Reserve Collections of living plants’ as required by Art. 2.e of our statutes and the aim of ensuring all endangered cacti and succulents are in genetically-representative and well-maintained *ex situ* collections, to support research and species recovery in the wild (IOS Bull. 16(1): 29. 2015). In 2013 BGCI invited Botanic Gardens indicating a special interest in succulent plants to say how many accessions they had with source data and whether or not they were involved in specific cultivation or restoration programmes. Numerous gardens responded but BGCI has a very big agenda and limited resource so IOS now needs to take a more pro-active role in determining which gardens merit ‘Reserve Collection’ status and providing practical support when requested.

#### **Facilitation and support of the work of appropriate organizations and individuals**

**Cytogenetic characterization of southern South American species of *Opuntia* (Cactaceae–Opuntioideae)** M. Florencia Realini, ALEXANDRA M. GOTTLIEB, FABIÁN FONT, Pablo I. Picca, Lidia Poggio & Graciela González. [Published in Succ. Pl. Research 8: 31–50. 2014].

For the above project the group at the University of Buenos Aires received an initial IOS grant of US \$1000 in August 2011, followed by a supplementary grant of US \$700 (£437.50) in 2013.

#### **Taxonomic relationships of the *Aloe morijensis* complex**

*Mark Uleh*

*Department of Plant Sciences, Kenyatta University*

*P.O. Box 43844, Nairobi 00100, Kenya*

The applicant thanks IOS for providing £250, which was used to fund fieldwork in Kenya and some laboratory requirements. This was the applicant’s MSc project, supervised by Len Newton. He graduated in June 2015 and two papers have been published, the first to establish a new variety of *Aloe morijensis*, var. *ojonokae* Uleh which differs from the type variety by the robust stems and growth habit, the larger leaves with dense arrangement and lacking maculation, the cylindrical racemes and the longer flowers. It grows on the eastern escarpment of the Rift Valley, whereas var. *morijensis* is known from localities west of the Rift Valley and in Tanzania. The second paper concludes for several reasons that *A. morijensis* is unlikely to have been the ancestor of the shrubby *Aloe* species further north, as had been supposed by some earlier authors.

ULEH, M. & NEWTON, L.E. (2015). A new variety of *Aloe morijensis* S. Carter & Brandham in Kenya. *CactusWorld* 33: 123–124.

ULEH, A.M., NEWTON, L.E., MBUGUA, P.K. & GATHERI, G.W. (2015). On the ancestry of the tetraploid shrubby aloes in Kenya. *Haseltonia* 21: 56–59.

### **Molecular systematics of *Eriosyce sensu lato* (Cactaceae)**

*Pablo Guerrero* [IOS grant 2013: Euros 2000].

*Instituto de Ecología y Biodiversidad, Universidad de Chile.*

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*Progress report dated 2 July 2015:* During the last year, we standardized a protocol for DNA extraction using spines of areoles and tepals of flowers. These procedures avoid cutting the body of cacti and thus are less harmful because reduce pathogen infections. An exhaustive taxonomic sampling within *Eriosyce* is one of the major virtues of our project, and much of the effort was oriented in obtaining DNA from almost all described taxa, including those very hard to find in nature. Our first analyses (in *Eriosyce* and other Chilean cacti) have revealed that using insufficient taxonomic sampling can produce erroneous phylogenetic conclusions. To solve this problem we successfully sequenced more than 100 samples of Cactaceae, including samples of *Eriosyce sensu lato*, and samples from other Notocactae (i.e. *Parodia maassii* (Heese) A. Berger). Specifically we sequenced cDNA from the three genetic markers: *rpl32-trnL*, *trnL-trnF* and *ycf1*; only this last has been partially analyzed. We expect to finish all the lab work during the next month. Phylogenetic analyses have been performed using *rpl32-trnL* and *trnL-trnF* retrieving the main infrageneric groups, but it is necessary to incorporate the *ycf1* marker to conduct more robust analyses. The concatenation of the three markers is require to produce an accurate phylogenetic hypothesis with confidence, because using partial information could easy lead to spurious taxonomic conclusions. New analyzes are revealing promising results and are going to be submitted for publication in a scientific journal.

### **Molecular phylogenetic relationships among the Cactineae: the evolution of the glucosyl-transferase nuclear gene involved in the betalamic acid pathway of betalains.**

*Rolando T. Bárcenas*

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This project aims to estimate the phylogenetic relationships of the Cactineae with the use of nuclear sequences of the gene glucosyltransferase involved in the molecular synthesis of the betalain pigments characteristic of the Cactaceae and Portulacaceae (Caryophyllales) as two important families where succulence is the prevailing characteristic. The majority of the phylogenetic reconstructions in the Caryophyllales have used plastidial markers but the nuclear markers have been relegated to non-coding intergenic spacers (such as ITS) or only a few representatives of particular families have been sequenced for other nuclear genes such as PPC. There have been no attempts to reconstruct the evolutionary history of the group using a nuclear marker that is directly involved in the synthesis of betalains. Here we present a project proposal that includes a nuclear betalain-related gene and the collaboration of three researchers that are currently involved in the systematic and conservation studies of several taxa of the Caryophyllales including the Cactaceae, the Portulacaceae and other families in the Caryophyllales in an attempt to discover new relationships among the families of the suborder Cactineae with particular emphasis in the succulent plant families Cactaceae, Portulacaceae and Anacamptserotaceae.



## **Molecular phylogeny and evolution of the genus *Eulychnia* (Cactaceae)**

Isabel Larridon

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e-mail: I.Larridon@kew.org

The proposed research aims to test DNA markers of the chloroplast and nuclear genomes to reconstruct the evolutionary relationships in *Eulychnia*, a relatively small genus of Cactaceae with ca. 8 species occurring in Chile and one species in Peru (*E. ritteri*). These majestic species grow along the Pacific coastline of the Atacama Desert influenced by coastal fog, with some species also occurring more inland. The evolutionary relationships between the species of this genus have not yet been examined by means of DNA research.

During this project, we have the intention to determine the evolutionary relationships between all recognized *Eulychnia* species by means of DNA extraction, amplification and sequencing. DNA will be extracted from cortical tissue or young spines. About 10 marker regions from the nuclear and chloroplast genome will be tested for their suitability to reconstruct the phylogenetic relationships in *Eulychnia*. Using a significant number of markers may be needed due to the limited genetic variability found in a pilot study using a limited sampling of *Eulychnia* species.

All necessary equipment and facilities are available at the CeMoFE lab where the molecular phylogenetic study will be carried out. The principal investigator and two skilled CeMoFE lab technicians\* have experience with obtaining good results in similar studies of Chilean cacti (see the first paper listed below). Also, samples of all *Eulychnia* species are already available for study at the CeMoFE lab collected by the applicant during fieldwork with the Chilean National Botanic Garden, and from samples from known wild origin collected in botanic gardens in Europe, the USA, Chile and Peru.

Research Laboratory Ghent University Centre for Molecular Phylogenetics and Evolution (CeMoFE lab). \*Laboratory technicians: Pieter Asselman and Viki Vandomme

Relevant publications (Cactaceae):

LARRIDON, I. et al. (2015). An integrative approach to understanding the evolution and biodiversity of *Copiapoa* (Cactaceae), a threatened genus from Chile's coastal desert. *Amer. J. Bot.* 102 (9): 1506–1520.

LARRIDON, I., et al. (2014). Is there a future for the Cactaceae genera *Copiapoa*, *Erioseye* and *Eulychnia*? A status report of a prickly situation. *Biodiversity and Conservation* 23 (5): 1249–1287.

## ***Two studies on the pollination ecology of South-African succulents***

Florent Grenier\*\*

16 rue d'Assas, 71200, Le Creusot, France

e-mail florent.grenier@ens.fr

\*\*Affiliated to Stellenbosch University for the duration of the project, concerning (1) ecological and evolutionary consequences of plant-pollinator interactions in Succulent Karoo mimicry communities involving *Pelargonium* species and (2) *Conophytum* pollination ecology in a community context.

In August 2015 IOS offered Florent Grenier a grant of Euros 2000 to assist these studies but the offer was not taken up and the offer is deemed to have expired as of 31 December 2015. A previous offer to Grenier in connection with a proposed study concerning *Haworthia* was also withdrawn as he was able to raise adequate funding from other sources.

### ***Phylogeny of the Hylocereeae (Cactaceae)***

*Thomas Borsch & Nadja Korotova*

An initial grant of Euros 1000 was offered by IOS in 2011 with the expectation of further support as the project progressed. The offer was not taken up, however, and Professor Borsch subsequently contacted the Secretary to explain that in the event external funding had not been needed.

### **Membership matters**

**New members.** We are pleased to welcome the following new members who joined IOS in 2015: Root Gorelick (USA, a former editor of *Haseltonia*) and Pablo Demaio (Argentina).

**Obituary.** It is with much regret that we record the passing of several of our long-standing members:

JAMES ILIFF (4 January 1923–11 July 2014), professor of harmony and composition at the Royal Academy of Music, London, and author of *The Andean opuntias, an Annotated Checklist of the indigenous non-platyopuntioideae opuntias (Cactaceae-Opuntioideae) of South America* (Succ. Pl. Res. 6: 133–244. 2002); see dedication of volume 8 of *Succulent Plant Research* (2014) and illustration (p. 224)

DIETRICH (DIETER) SUPHUT (1935–2015) joined IOS in 1974, having become Director of the Städtische Sukkulente Sammlung, Zürich in succession to Hans Krainz. In 1976 he joined the IOS board as Hon. Treasurer, and continued in that role until his retirement the year 2000. He attended nearly all IOS meetings and travelled widely with other IOS members, gaining a comprehensive knowledge of the diversity of succulent plants and enriching the collections at Zürich. Monaco awarded him the *Cactus d'Or* in 1990.

WERNER UEBELMANN (16 March 1921–1 March 2014), Swiss entrepreneur and nurseryman founded the Su-ka-flor AG nursery at Zufikon in 1957 and became well-known for his collection of Brazilian cacti, made with Leopoldo Horst during numerous trips to Brazil. He is commemorated in the name of the genus *Uebelmannia*, named in his honour in 1967.

WALTER ('FITZ') FITZ MAURICE (1924–2015) and BETTY FITZ MAURICE (d. 2015). Following his retirement c. 1986 as area manager of the Bendix company, 'Fitz' and Betty travelled widely in San Potosí and the neighbouring states, recording localities for Mammillarias of the Stylothelae group.

GERALD (JERRY) BARAD (1923–2016), professionally a New York gynaecologist, became a major international figure in the world of succulents via his hobby of creating and photographing unusual stapeliad hybrids. For a personal appreciation of him by Myron Kimmach, see *Cact. Succ. J. (US)* 88(2): 82–83 (2016).

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### **Paper copies of IOS Bulletin and Repertorium Plantarum Succulentarum**

A few copies of all IOS Bulletin issues from 2006 to the present and Rep. Pl. Succ. nos. 58–64 are available to IOS members for the cost of postage only. Enquiries, please, by e-mail to me:

David Hunt ([dh@newcactuslexicon.org](mailto:dh@newcactuslexicon.org))

## **For discussion: Revision of the IOS Statutes and Byelaws**

As a voluntary and non-profit organization, with its principal objectives clearly set out since its foundation more than 60 years ago, and commonality of purpose, IOS should not need complex and legalistic rules for its governance. Nevertheless, it has become clear that the wording of some of the existing Statutes and Byelaws needs revision to take better account of the revolution in methods of global communication that has occurred in recent decades and the resultant social changes that have affected the way our Organization operates. The current suspension of the membership fee, for instance, affects the wording of several of the statutory Articles and that of Byelaw 2, and the wording of Art. 11 needs changing to clarify the procedure for election of the Executive Board in the event that more than one nomination is received for any post.

The Executive Board invites all members to read or re-read the current version of the Statutes, printed below, and to offer *constructive* suggestions on how they might be improved or changed.

### **IOS STATUTES**

*Version ratified by the IOS Congress August 2008 and amended by the Congress 2010*

**Art. 1. Name:** The name of the Organization is ‘International Organization for Succulent Plant Study’ (‘Internationale Organisation für Sukkulanten-Forschung’; ‘Organisation Internationale de Recherches sur les Plantes Succulentes’; ‘Organización Internacional para el Estudio de Plantas Suculentas’)

**Art. 2. Objects:** The objects of IOS shall be to promote the study and conservation of succulent and allied plants and to encourage international collaboration amongst those interested in them.

The objects of IOS will be achieved by the following means:

- a. congresses;
- b. publication and distribution of information, reports and other scientific publications;
- c. promotion of all possible collaboration between members;
- d. facilitation and support of the work of appropriate organizations and individuals;
- e. organization and support of Reserve Collections of living plants, herbaria, reference libraries and the exchange and introduction of plant material.

**Art. 3. Status:** IOS is a member of the International Union for Biological Sciences (IUBS).

**Art. 4. Membership:** IOS consists of:

1. Personal Members
  - a. Ordinary Members
  - b. Student Members
  - c. Honorary Members
  - d. Retired (*Emeritus*) Members
  - e. Regional/National Representatives
2. Institutional Members

**Art. 5. Admission:** Applications for Personal Membership shall be submitted on an official form provided by the Secretary or downloaded from the IOS website. All applications shall be considered by the Executive Board, at whose discretion admission shall be granted

Applications for Student Membership shall be approved and countersigned by the student’s Supervisor.

Student Membership shall be for two years in the first instance, renewable on request for a further two years only. Student Members shall have the same privileges as other Personal



Members but shall not be required to pay the biennial subscription and shall not have voting rights.

Honorary Membership may be conferred on individuals who have rendered the IOS services or to IOS members who have excelled in succulent plant activities. Nominations shall be submitted to the Secretary at least three months before a Congress. Nominations approved by the Executive Board shall be ratified by the Congress.

Application for Institutional Membership may be made by any recognized Institution or Organization wishing to support the objectives of IOS, receive its publications and/or participate in its activities. Applicants are requested to provide the name(s) and postal and e-mail address(es) of persons to whom IOS should send its publications and other communications including subscription renewal invoices.

If the partner of an IOS Ordinary or Emeritus Member wishes to participate in IOS activities they may do so, and be included in the membership list, without applying for personal membership or paying the subscription, but will not be entitled to vote at the General Meeting.

**Art. 6. Withdrawal of membership:** Membership of IOS may be terminated by resignation, by non-payment of the subscription, or by decision of the Executive Board when the member no longer fulfils the conditions stipulated in these Statutes or acts against the interest of IOS, subject to appeal at the next Congress.

**Art. 7. Management:** The management of IOS shall be vested in an Executive Board consisting of the President, Vice-President, Secretary, Assistant Secretary and Treasurer.=[

The Executive Board shall be responsible for putting into effect the decisions of the Congress, for preparing the Organization's budget and carrying out its provisions, and shall assist the President in every activity that furthers the aims of the Organization. The Executive Board shall have the power to make, amend or delete bye-laws to assist the operation of the Statutes. Bye-laws may also be deleted by a simple majority vote at the Congress. It is desirable that the Executive Board should be composed of members of different nationalities.

**Art. 8. Vacancies:** Vacancies in the Executive Board occurring between Congresses shall be filled by nomination from the Executive Board.

**Art. 9. Tenure:** All members of the Executive Board shall hold office between two consecutive Congresses. The officers shall be eligible for re-election, but the President and Vice-President shall not normally serve more than two consecutive terms of office.

**Art. 10. Board Meetings:** The Executive Board shall meet in person at least once per year. The quorum for a meeting shall be three members.

**Art. 11. Election of Executive Board:**

Written nominations, proposed and seconded by members of IOS and bearing the consent of the member nominated, shall be invited prior to each Congress for the posts of President, Vice-President, Secretary, Assistant Secretary and Treasurer. Nominations in writing must be in the hands of the Secretary not less than three months before a Congress. If more than one nomination is received for any post, there shall be a postal ballot of all members, to be decided by a simple majority.

**Art. 12. Finance:** The activities of IOS shall be financed by the subscriptions of members and by donations, bequests and such other income as may be available. The amount of the subscription for the succeeding two years shall be fixed by the Congress.

**Art. 13. Exemptions:** Honorary and Student members shall not be required to pay the subscription. Members who have been fully paid-up members for at least ten years and have attained 70

years of age, and who wish actively to continue supporting the IOS, may apply for exemption from payment of the subscription when renewing their membership.

**Art. 14. Congresses:** Congresses shall be held (so far as is possible) biennially.

**Art. 15. Congress Venue and Organization:** The venue for the Congress shall be chosen by the Executive Board taking account of the wishes of members. A Local Organizer shall be appointed to act in liaison with the Executive Board. All financial and programme arrangements shall be subject to the agreement of the Executive Board.

**Art. 16. General Meeting:** A General Meeting of members shall be held at each Congress for the transaction of the following business: Presentation, discussion and ratification of the Organization's reports and accounts for the preceding inter-Congress period and plans for the future, with the appropriate budget; election of Honorary Members; election of the Executive Board for the ensuing inter-Congress period; election of auditors; fixing of the subscription for the following two years; discussion of other matters raised by or submitted to the Executive Board prior to the Congress.

All Members except Student Members shall have one vote. The chairman of the Meeting shall have the casting vote.

**Art. 17. Amendments to Statutes:** Amendments to these statutes may be proposed by the Executive Board or in writing by at least four members. Proposals must be in the hands of the Secretary at least three months prior to a Congress. To be adopted, any proposal involving a change to the Statutes, or the dissolution of the Organization, must be supported by two-thirds of the members present at the General Meeting.

**Art. 18. Disposal of Assets and Properties:** In the event of the dissolution of the Organization, the Executive Board shall be empowered to dispose of the Organization's assets and properties to one or more kindred organizations.

## IOS BYELAWS

1. **Language.** The official language of IOS is English, but contributions in other major scientific languages are acceptable, and it is desirable that a translation should be given of important notices and other communications.

2. **Subscription.** The biennial subscription is due on 1 January following a Congress, payable in Swiss currency or the full equivalent amount in other currencies. All bank charges, commission etc are payable by the subscriber.

3. **Publications.** The Organization's official publications are IOS Bulletin and Repertorium Plantarum Succulentarum, which shall be issued annually and normally free of charge to members. Members wishing to receive printed copies of publications distributed to the majority of members electronically may be asked to contribute to the cost of printing and mailing in addition to the basic biennial subscription.

4. **Research material.** Members are recommended to donate type material of succulent plant taxa described by them, along with complete documentation and relevant publications, to the Zurich Succulent Collection (Zürich Sukkulente-Sammlung) and/or other major botanical institutions associated with IOS.'

5. **Reserve Collections.** IOS, in association with Botanic Gardens Conservation International (BGCI), will promote the establishment of a network of ‘Reserve Collections’ of living cacti and other succulent plants and measures to assess and enhance the potential of these collections as a resource for research and conservation.

6. **IOS Research Fund.** The IOS Research Fund shall be administered by the Executive Board assisted by external assessors as necessary. Application for grants may be made at any time to the Secretary, but at least four months before funds are required. Applications should include a Project Plan, timetable and budget, names of collaborators, institutional contacts, other actual or potential sources of funding, and names of referees. Successful applicants will be expected to present a written report and/or oral presentation at an IOS Congress and part of their grant may be allocated as a contribution to travel expenses incurred in presenting the report to an IOS Congress.

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### **The IOS Code of Conduct: Needing revision or replacement?**

The IOS Code of Conduct was drawn up by members of the original IOS Conservation Committee following the IOS Congress in 1973. Although national and state controls were already in force in some countries it initially predated CITES and was, so far as known, the first such voluntary Code of Conduct for plant collectors. Following its adoption and publication in the IOS Bulletin 3(4): 127–129 (1975) followed by 2nd edition (l.c. 4(3): 113–115 (1988) and was published by several cactus and succulent hobby societies in various languages. With the introduction of CITES in 1976 and the benefit of feedback from users, the text of the Code was somewhat revised but its recommendations have remained unchanged, as has the unwritten rule and requirement that applicants for IOS membership agree to observe them, any member failing to do so being liable, under the wording of Article 6 of the Statutes, to expulsion on grounds of “acting against the interests of IOS”.

With the provisions of CITES in force since 1976 and more recently those of the Convention on Biological Diversity and the Nagoya Protocol, coupled with stricter national regulations and enforcement, some of the basic recommendations in the Code have become legal obligations, at least for the law-abiding, on pain of confiscation of collected plants and plant materials, financial penalties and potential incarceration. Of the other recommendations, some were included with the aim of discouraging the commercial exploitation of wild populations, and some to encourage establishment of *ex situ* institutional or private collections of well-documented plants for research or comparative study, but a guide to the current international legislation and to regulations in countries popular with succulent plant enthusiasts would be more useful. The booklet by Andrew Gdaniec and Olwen Grace “Growing Cacti for successful *ex situ* conservation” (2014), the first publication under the joint auspices of IOS and BGCI (Botanic Gardens Conservation International (BGCI) points in this direction with short chapters on the role of *ex situ* collections in conservation, cactus distribution and ecology, cultivation and *ex situ* conservation, management of specialist collections and reserve collections and it is to be hoped a more comprehensive Manual could be produced by IOS/BGCI, if not the IUCN SSC.

As a reminder of the original ‘Code of Conduct’ and its ‘Do’s and Don’ts’ it is here reprinted on the following two pages.

D.H.



## The IOS Code of Conduct

### **To the Collector in the Field:**

#### ***Before collecting anything:***

- DO acquaint yourself with CITES and national and state controls, and find out which species are protected.
- DO obtain all necessary permits, both for collecting and for export and import to other countries.
- DO notify interested local organizations of your intentions.

#### ***Then:***

- DO strictly observe restrictions on what may be collected (which species, how many specimens, what kind of material). Where possible, collect seed, offsets or cuttings, not the whole plant.
- DO leave mature plants for seed production. They are needed to perpetuate the wild population, and are unlikely to transplant successfully.
- DO collect discreetly. Don't lead local people to believe the plants are valuable, or encourage or pay them (or their children) to collect for you.
- DO make careful field-notes, including precise locality, altitude, type of vegetation and soil, date of collection and your own field number. Try to assess the number of individuals and extent of the population, the amount of seed-setting and the frequency of seedlings.
- DO note possible threats to the habitat, e.g. through grazing, drainage or cultivation, urban spread or road-widening.
- DO take photographs and/or preserve representative herbarium material. Submit this material, with a copy of your notes, to an appropriate institution or organization.
- DON'T underrate the value of your field observations: carefully recorded they will be a useful contribution to science and to conservation.

IF you plan to collect in commercial quantities, don't.

IF you plan to sell any of the plants you collect to defray the cost of your trip, don't.

IF you plan to collect for research or study, do obtain the agreement (and preferably the collaboration) of competent scientific authorities, such as a government agency or university department, in the host country.

IF you think "two or three plants won't be missed", remember someone else may be thinking the same tomorrow, and the next day, and the next...

### **To the Importer, Private or Commercial:**

- DON'T import wild plants, even if legally permitted, except as a nucleus for propagation and seed-production. And then:
- DO check the credentials of suppliers offering wild plants and satisfy yourself they are "legal".
- Do observe international and national export/import regulations.

### **To the Nurseryman:**

- DO sell nursery-raised or propagated material only; don't advertise or sell unpropagated wild plants under any circumstances, even when legally permitted to do so.
- DO try to propagate all rare or documented material and distribute it to recognized IOS Reference Collections.
- DO keep more than one clone of rare species, even self-fertile ones, for seed production.
- DO keep careful records of the origin of all stock, especially any with collectors' numbers or locality data, and pass on the information to interested purchasers.

**To the Grower/Collector at Home:**

- DO make successful cultivation your prime objective, not the size of your collection or rarity of the plants.
- DON'T buy any plant unless you are sure it was nursery-grown; remember that your choice will influence the seller's market.
- DON'T buy wild-collected plants even if with the aim of saving the "individual". We want to save the species, not the specimen. Only when importers see their wild-collected plants rotting because nobody buys them they will stop the import of wild-collected plants.
- DO enjoy the satisfaction of raising from seed. Some of the rare or "difficult" species will test your skill and patience, but reward your success accordingly!
- DO record when and from whom you got your plant/seeds, and ask your source for any data: collector's numbers, locality, and so on: all just as vital, to the serious enthusiast, as the name on the label.
- DO try to propagate rare and documented material and distribute it to other enthusiasts. It's the old proverb: To keep a plant, give it away!
- DO notify the IOS secretary if you suspect a supplier is infringing legal controls.

**To the Society and Club:**

- DO endorse the precepts of this Code of Conduct, as a guide for responsible and conscientious behaviour.
- DON'T permit wild plants to be advertised for sale in your publications, either openly or by hints.
- DO publicize national and international regulations on the export, import and sale of wild plants.
- DO sponsor or support national and international measures to protect the habitats of rare and threatened species.
- DO inform the competent authorities of any suspect sale of collected plants. If you know of people travelling to countries where succulents grow wild, with the intention to collecting, inform the competent authorities; the best way to stop habitat exploitation by collectors is to catch them at the port of entry with the plants in hand.

**To the Show Committee and Judges:**

- DO include in the schedule some classes for plants raised from seed by the exhibitor.
- DON'T permit species protected by CITES Appendix I to be shown in competitive classes, except as seedlings or other propagations raised artificially.
- DO make a policy of giving preference to well-grown seedlings over field-collected plants. Check that obvious or suspected "imports" are properly rooted and established.

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***Please let us know about your current research and/or fieldwork  
or news of your contacts with other IOS members***

No formal meetings are being organized by IOS in 2016 but all members are invited to contribute news of their activities for inclusion in the next issue of the IOS Bulletin, preferably with a digital photo or two.

As an example of the sort of thing I have in mind, I offer a brief resumé of my visit to Argentina in December 2014–February 2015 to fill the last page of this issue.

*D.H.*

### *Viva Argentina!*

Following the publication of *Further Studies in the Opuntioideae* (Succulent Plant Research vol. 8) I travelled to Argentina in December 2014, accompanied by Silvia Arroyo-Leuenberger, to deliver copies of the book to contributors there, including Fabian Font, Alexandra Gottlieb and colleagues, and Roberto Kiesling, and to pursue my interests in the subfamily Opuntioideae and other native Cactaceae.

Having spent most of December among the opuntias in the Province of Buenos Aires (*for notes and images see Cact. Syst. Init.* 34) and Christmas in Patagonia we spent the first full week of January with Pablo Demaio, who drove us 2000 km in the states of Córdoba and adjacent parts of San Luis and La Rioja, to show us localities for some 20 taxa of *Gymnocalycium* (l.c. 33: 19–29). Then, with our hired car, we drove to Mendoza to meet up with Roberto Kiesling and visit the type locality of the newly described *Austrocactus ferrarii* and localities for *Maihue niopsis clavarioides*. At Uspallata, we had arranged to meet Norbert and Elizabeth Sarnes (co-authors with Roberto of *A. ferrarii*) and had a group supper with them that evening and again the following evening at Barreal (prov. San Juan). The following day Roberto returned to Mendoza with the Sarneses, while Silvia and I continued north through La Rioja, Catamarca and a corner of Tucumán to Angastaco in southern Salta. Mario Giorgetta, a superlative photographer, spends months there studying the local flora and fauna, and showed us a wide variety of cacti and other plants in the hills above the village. Then we made the long drive back to Buenos Aires where we met up with Fabian Font and later with Alexandra Gottlieb, Florencia Realini and Graciela González, co-authors of their paper in SPR 8, supported by IOS.

D.H.



Left to right: Florencia Realini, Alexandra Gottlieb and Graciela González, with Silvia Arroyo-Leuenberger, at a restaurant in Buenos Aires, celebrating the publication of their paper in Succulent Plant Research vol. 8, and the delivery of their copies of the book, February 2015. (photo D.H.)



