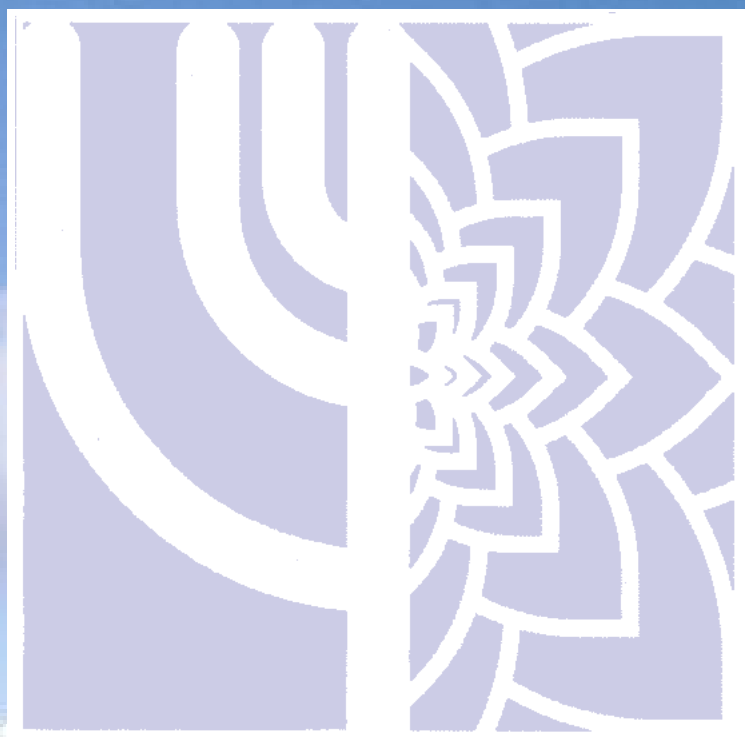


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für Sukkulenten-Forschung

# IOS

## BULLETIN

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**IOS Bulletin Volume 15(1)  
December 2008**

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

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## Message from the President

The 30<sup>th</sup> IOS Congress was the second in South America. The low turnout of IOS members was more than made up for by the impressive numbers of SLCCS participants. Every speaker faced an audience of 50 or more enthusiasts. Lectures were given in various languages, with Portuguese and Spanish predominating. All were well illustrated with photographs, charts, etc., and many botanical terms are similar in different languages, so it was not too difficult for most of us to gain some idea of what was being presented. The Board is grateful to Dr Reto Nyffeler, who was our contact person, and especially to Marlon Machado, who worked hard before and during the event to ensure that everything ran smoothly. Thanks also to Dr Jafet Nassar, who coordinated the SLCCS sessions, in which we were included. Marlon Machado also led the post-Congress tour in an interesting region of Bahia Province, which was enjoyed by all of us who went.

The revised Statutes were approved at the Congress and are now in force. Although we no longer have the formal Sections, some of which were hardly operating, it is hoped that some members with special interests will continue to collaborate. Special interest group web pages will be made available on the IOS website, and we hope that this will be a useful feature.

Not surprisingly, members at the Congress also approved the proposed 50% reduction in the subscription. This was made possible by the decision to distribute the Bulletin in electronic form, thus saving on printing and postage costs. Our other main publication, the *Repertorium Plantarum Succulentarum*, is still produced in printed form, partly because it is sold to subscribers outside the IOS.

In both of the last two Congresses, in Zürich and in Natal, the participants included a good number of students. That students are working on projects involving succulent plants is a welcome trend. Now that free membership is offered to students, it is hoped that they will maintain the link with the IOS, and become full members after graduating. A steady influx of these young researchers will assure the future of the IOS.

After I had earlier suggested a couple of possible nominees for this year's Cactus d'Or award, the other members of the Executive Board met "behind my back" and agreed to nominate me to the Monaco authorities. This came as a pleasant surprise. This recognition by the Board is greatly appreciated, and I am delighted to become the 15th recipient of the award.

*Len Newton*

## 30th IOS Congress, Natal, Rio Grande do Norte, Brazil, 6–8 August 2008

*Organizing Committee:* Dr Reto Nyffeler, Marlon Machado  
*Congress Venue:* Convention Centre, Praiamar Hotel, Natal, Brazil

The Congress was held in conjunction with the *Sociedad Latinoamericana y del Caribe de Cactáceas y otras Suculentas* (SLCCS), and was part of Brazil's *Congreso Nacional de Botánica* (CNB).

### Programme

#### Wednesday 6 August

09:00–16:00 **Symposium 1: Taxonomy, Systematics and Evolution of Succulents**

*Chair:* Marlon Machado (Brazil)

**Morphological, anatomical and molecular data in the phylogenetic reconstruction of the columnar Cactaceae species of North America**

*Salvador Arias* (México)

**Tribal conflict and consensus: using DNA data to investigate traditional classifications in the Cactaceae**

*Charles Butterworth* (USA)

**The genus *Pereskia* and the early evolution of Cactaceae**

*Erika Edwards* (USA)

**The closest relatives of cacti**

*Reto Nyffeler* (Switzerland)

**Phylogenetics of Brazilian Cactaceae: the tribe Cereeae and the genus *Parodia***

*Marlon Machado* (Brazil)

**Biosystematic studies of two *Melocactus* Link & Otto species endemic to the Chapada Diamantina, Bahia, Brazil**

*Sabrina Mota Lambert* (Brazil)

**Phylogeny and evolution of *Echinopsis* s.l. (Cactaceae)**

*Boris Schlumberger* (Germany)

**Sorting out the sansevierias**

*Leonard E. Newton* (Kenya)

#### Thursday 7 August

09:00–16:00 **Symposium 2. Ecology, uses and Conservation of Cacti**

*Chair:* Jafet M. Nassar (Venezuela)

**Flowering phenology of Cactaceae species from northeastern Brazil: periodicity and resource sequence vs pollination syndromes**

*Isabel Cristina Machado* (Brazil)

**Floral and reproductive biology of columnar cacti from northeastern Brazil: the *Pilosocereus* case in the caatinga**

*Emerson Antônio Rocha* (Brazil)

**Advances in studies on seed germination in Mexican cacti**

*Mariana Rojas-Aréchiga* (México)

**Perspectives on the use of columnar cacti in Venezuela**

*Jafet M. Nassar* (Venezuela)

**Ecology and evolution of columnar cacti associated with human management**

*Alejandro Casas* (México)

**Assessing the conservation status of Cactaceae**

*Barbara Goettsch* (U.K.)

**Cacti from Paraguay: threats and conservation**

*Ana Pin* (Paraguay)

**A biogeographic perspective for the conservation of Mexican cacti**

*Héctor Hernández Macías* (México)

16:30–18:00 **IOS Members' Business Meeting.**

**Friday 8 August**

09.00–16.00 **Symposium 3. Succulent Plants: Biology, Floristics and Biogeography**

*Chair:* Teresa Terrazas Salgado (México)

**Floral anatomy diversity in the Opuntioideae**

*Teresa Terrazas Salgado* (México)

**Secondary xylem in Cereeae tribe**

*Patricia Soffiatti* (Brazil)

**Pseudocephalium, its morphology and differences with the cephalium**

*Montserrat Vázquez* (México).

**Biogeographic patterns of endemic cacti from Chile**

*Pablo Guerrero* (Chile)

**Succulent plants and global change**

*Detlev Metzinger* (Germany)

**The Crassulaceae family at Bajío and adjacent regions**

*Emmanuel Pérez-Calix* (México)

**Phylogeny of *Parodia*, *Wigginsia* group (Cactaceae)**

*Adriana Sofia Albesiano* (Colombia)

***Ex-situ* conservation at the Zurich Succulent Plant Collection: Activities and limitations**

*Thomas Bolliger* (Switzerland)

16:30–18:00 **SLCCS Member's Meeting**

## **Posters**

### **Crioconservación de semillas de *Melocactus***

*José Geraldo de Aquino Assis, Félix Pérez García, Maria Elena González Benito*

### **Influência dos substratos no crescimento da plântula de *Portulaca striata* Poells (Portulacaceae).**

*Paulo Roberto Diniz da Silva, Cláudio Vinicius de Senna Gastal Júnior*

### **Identificação da microbiota fúngica contaminante no cultivo in vitro de *palma for - rageira***

*Talita de Farias Sousa Barros, Anne Evelyne Franco de Souza, Mailson Monteiro do Rêgo, Elizanilda Ramalho do Rêgo*

### **Germinación, propagación y morfogénesis in vitro del desarrollo de brotes de *Cephalocereus senilis* (Haw.) Pfeiff. (Cactaceae)**

*Dulce María Tapia-Cruz, Judith Márquez-Guzmán, Ana Laura López-Escamilla, Sonia Vázquez-Santana, Laura Patricia Olguín-Santos*

### **Estrutura e fitogeografia da família Cactaceae em áreas serranas da caatinga Paraibana**

*Bruno Cruz de Souza, Dilma María de Brito Melo Trovão, Ellen Cristina Dantas de Carvalho, Pedro Thiago Barbosa de Oliveira*

### **Distribuição de heterocromatina e mapeo cromossômico de DNAr 18-5,8-26S E 5S em Cactaceae**

*Maria Laura Las Peñas, Juan D. Urdampilleta, Eliana R. Forni-Martins, Roberto Kiesling, Gabriel Bernardello*

### **Efeito da luz e temperatura na germinação de *Pilosocereus gounellei* (F.A.C. Weber) Byles & G.D. Rowley**

*Haynna Fernandes Abud, Rodrigo de Góes Esperon Reis, Nayara Roberto Gonçalves, Magnum de Sousa Pereira, Antonio Marcos Esmeraldo Bezerra*

### **Germinação de *Cereus jamacuru* DC. sob diferentes condições de luz e temperatura**

*Haynna Fernandes Abud, Magnum de Sousa Pereira, Diego de Sousa Pereira, Rodrigo de Góes Esperon Reis, Antonio Marcos Esmeraldo Bezerra*

### **Influência da temperatura e luz na germinação de *Pilosocereus chrysostele* (Vaupel) Byles & G.D. Rowley**

*Haynna Fernandes Abud, Nayara Roberto Gonçalves, Diego de Sousa Pereira, Rodrigo de Góes Esperon Reis, Antonio Marcos Esmeraldo Bezerra*

### **Potencial fungitóxico das folhas da *Sansevieria trifasciata* sobre *Cladosporium sphaerospermum***

*Ignara Correia Alves*

**Ação fungitóxica do extrato das folhas da agavácea *Yucca filamentosa* sobre *Cladosporium sphaerospermum***

*Hudson Fernando Nunes Moura, Isnara Correia Alves, Clidia Eduarda Moreira Pinto, Lucas Pinheiro Dias, Regiane Gonçalves Feitosa Leal Nunes*

**Bioensaio para determinação da atividade fungitóxica das folhas da agave *Agave americana* contra o fitopatógeno *Fusarium oxysporum***

*Clidia Eduarda Moreira Pinto, Ana Carolina Soares Dias, Lucas Pinheiro Dias, Isnara Correia Alves, Regiane Gonçalves Feitosa Leal Nunes*

**Efeito da passagem de sementes de *Rhipsalis teres* (Cactaceae) pelo trato digestivo de *Euphonia* spp. (Aves: Fringillidae) na qualidade de dispersão das sementes**

*Bruna de Oliveira Boeni, Marco Aurélio Pizo Ferreira*

**Gloquídeos de Opuntioideae (Cactaceae): espinhos**

*Emilia Cristina Pereira de Arruda, Gladys Flávia de Albuquerque Melo de Pinna*

**Avaliação do uso comercial de Cactaceae e Bromeliaceae nativas por comunidades tradicionais dos municípios de Calumbi e Flores, Pernambuco, Brasil**

*Ana Karolline Barros, Luciana de Matos Andrade Batista Leite, André Laurênio de Melo*

**Morfoanatomia da flor de *Epiphyllum phyllanthus* (Linnaeus) Haworth (Cactaceae)**

*Odair José Garcia de Almeida, Adelita Aparecida Sartori Paoli, Luiz Antonio de Souza*

**Levantamento da família Cactaceae no herbário Jayme Coelho de Moraes (EAN), Paraíba, Brasil**

*Juliana Gomes de Brito, Geórgia Roberta Gomes de Figueiredo, Nairan Alves Porto*

**Inducción de callo en plantas silvestres de *Aloe vera* L. con diferentes combinaciones de 2,4d, ba y kin**

*Angela Matos Acurero, Tamara Molero, Maribel Iloria*

**Biogeografia de *Opuntia* e *Nopalea* usando marcador molecular nuclear (its) entre Brasil e México**

*Maria Do Carmo Catanho Pereira De Lyra, Rafael Braz De Souza, Djalma Cordeiro Dos Santos, Salvador Arias, Esperanza Martinez-Romero*

**List of Congress participants**

Adriana Sofia Albesiano, Thomas Bolliger, Charles Butterworth, Jean-Marc Chalet, Barbara Goettsch, Mats Hjertson, Marlon Machado, Detlev Metzger, Len Newton, Reto Nyffeler, Boris Schlumpberger, Jean-Marie Solichon. *Plus an unspecified number of SLCCS members.*

## Abstracts of Lectures

### Phylogeny of *Parodia*, group *Wigginsia* (Cactaceae)

Sofía Albesiano, Lone Aagesen, Roberto Kiesling & Ana María Cialdella

*Wigginsia* is a section of the *Parodia* genus, with eight species, two subspecies, two varieties and two forms. It has a wide, disjunct distribution in South America: seven species are located in the south of Brazil, Uruguay, central and eastern Argentina, and one species in Colombia. Morphologically, they are distinguished as plants with solitary, depressed or globular stems, and with the flowers being borne from a mass of hairs located in the apex of the stems, called a pseudocephalium. The flowers are approximately 3 cm diameter, shining yellow with red-purple style; very similar to the flowers of *Notocactus*, partially overlapping its area, except for Colombia. On account of the similarity of its flowers and their stems, *Wigginsia* has been included in *Notocactus*, and the latter has been merged with *Parodia*. In the old sense, *Parodia* only included Andean species. Nevertheless, taxa of the *Wigginsia* section are distinguished by the presence of the pseudocephalium and the fruits. As well as the morphology, the phenology of the fruits differs remarkably from *Notocactus* (or *Parodia*); as the fruit remains within the pseudocephalium throughout the maturation period, which can take months, whereas those of *Parodia* sensu lato remain exposed and mature in few weeks. When the fruits of *Wigginsia* are maturing in favourable climatic conditions (temperature and humidity), intercalary growth of the walls occurs very rapidly; consequently the fruits emerge from the pseudocephalium. As a result of the intercalary growth, the hairs and bristles of that were present on the receptacle appear to be lost and the fruit seems nearly naked. In fact the areoles of the receptacle become widely separated and concentrated at the apex and base, with only a few in the middle part. A DNA analysis is being conducted with the aim of determining the phylogeny of the group and to elucidate whether or not it is part of the genus *Parodia* sensu lato.

### Ex-situ conservation at the Zurich succulent plant collection: activities and limitations

Thomas Bolliger

Botanical collections serve as stakeholder for biodiversity. Important factors for a sustainable value of ex-situ collections are: (a) precise and continuous documentation of original data and data concerning propagation; (b) properness of plant handling and avoiding of material confusion; (c) maintenance and propagation of living material, reference to and from herbarized material.

The Zurich Succulent Plant Collection offers a high plant density, making this institution unique in Central Europe. Problems are a higher susceptibility for diseases and non-flowering of some never maturing specimens. Documentation is given highest priority. Plants from well-documented sources are preferred, others rejected. A careful accession policy is essential, but confusion may have already happened before accession. Detailed data along with the plants serves manifold: students and researchers can make use of living plant material; the database may give an idea concerning plant distribution and variation and help while arranging regional plantings for the public presentation. The well-documented collection is highly educative. Loss of correct data occurs in horticulture while relabelling, repotting and propagating. A high plant knowledge of the personnel helps recognize severe mislabelling. Visitors may mindlessly take out etiquettes for a photo “without a disturbing artefact”, and children sometimes take out labels just for fun, leaving them somewhere. Care and propagation varies significantly: many Cacti, Euphorbias and Aloes are propagated through cuttings, thus maintaining the orig-



inal genotypes. Monocarpic and slow growing plants are propagated through seed, which may increase the combination of genetical diversity. Genetical selection in culture is different from the wild and there always remains the occasional hybridisation or other input of foreign genes, although of course efforts are made to avoid these. In an international network, ex-situ collections may serve in re-introduction programmes and as a source of manifold information. For us it is hoped to contribute here more in the future, but limitations due to insufficient funding and hindering laws are always a risk.

### **Tribal conflict and consensus: using DNA data to investigate traditional classifications in the Cactaceae.**

*Charles Butterworth*

Members of the Tribe Cactaceae typically are globose to short columnar cacti native to North America. Taxonomic relationships within the tribe are complex and generic delimitations are not fully understood. For example, in the 2006 *New Cactus Lexicon*, Hunt lists 25 genera, but at least 40 other genera have been described. Ongoing research by Butterworth and Porter utilizes sequence data from the chloroplast rpl16 intron and trnL-F IGS for over 160 taxa, but with complete data coverage so far for 88. Initial results indicate that tuberculate stem morphology has arisen multiple times in the tribe, while the presence of dimorphic areoles occurs in two lineages – the “Mammilloid Clade” and *Ariocarpus*. A more detailed study of *Ariocarpus* using chloroplast as well as the nuclear TPI intron shows remarkably low levels of sequence divergence within the genus. Other results suggest that the splitting of the genus *Pediocactus* into multiple genera may be unwarranted. *Sclerocactus* (*sensu* Hunt, 2006) is polyphyletic due to the inclusion of *Glandulicactus* within a broadly circumscribed *Sclerocactus*. Finally, a number of reasons (morphology, neoteny, etc.) are given that may give clues regarding why the Cactaceae is taxonomically confusing.

### **The genus *Pereskia* and the early evolution of Cactaceae**

*Erika Edwards*

*Pereskia* (Cactaceae) comprises 17 species of leafy shrubs and trees that form a paraphyletic grade at the base of the cactus lineage, and are often interpreted as our best extant representatives of ancestral cacti. It has been assumed that *Pereskia* water relations are unlike those of a leafless, stem-succulent cactus, as *Pereskia* species lack the anatomical specializations and CAM photosynthesis that are associated with the high water storage capacity and photosynthetic water use efficiency (WUE) exhibited by the core cacti. We measured several important water relations parameters (e.g., WUE, stem xylem hydraulic conductivity, Huber Value, and leaf water potential) from field populations of 7 species of *Pereskia* representing all three major *Pereskia* clades. The data suggest that *Pereskia* species exhibit a typical cactus-like ecological water use “strategy”: they maintain high photosynthetic tissue water potential while living in severely water-limited environments by supporting transpiring leaves with an efficient and reliable water delivery system, and by only opening stomata when transpirational demand is reduced. The basal placement of *Pereskia* within Cactaceae indicates that this ecological strategy was established very early during cactus evolution, and may have enabled the later development of the anatomical specializations that characterize the core cacti.

## **Assessing the conservation status of Cactaceae**

*Barbara Goettsch & Kevin Gaston*

We are undergoing a new era in assessment of the conservation status of species. This has been triggered on the one hand by the extent and intensity of the current biodiversity crisis, and on the other hand by improvements in the availability and means of storing and analysing data. Indeed, recent years have witnessed the successful completion of global projects that have evaluated the conservation status of all extant species of some major taxonomic groups. However, plants remain underrepresented in this process with only a few groups, and approximately 4% of known species, having as yet been fully assessed. Despite significant concerns as to the pressures they are experiencing, only 11% of Cactaceae species are currently on the IUCN Red List. The documentation of these past assessments no longer meets the minimum standards required. The Global Cactus Assessment, with the help of many partners and advisors, is gathering information on the distribution, abundance, population trends, habitat associations and threats for all cactus species. With this information the species will then be fully evaluated. Such a project holds tremendous challenges and opportunities, both for understanding of the species group and for the community of naturalists and scientists who study them.

## **A biogeographic perspective for the conservation of Mexican Cactaceae**

*Hector M. Hernández & Carlos Gómez-Hinostrosa*

In this presentation the results of several research projects aimed at understanding biogeographic parameters of Mexican Cactaceae are described and the repercussions of this information on their conservation are discussed. Our efforts have been focussed in the Chihuahuan Desert Region (CDR), the Mexican eco-region containing the highest diversity of cacti globally. We have demonstrated that the CDR is the most important centre of diversity in the world and that most of this species diversity is regionally or narrowly endemic.

In a recent study we estimated the geographical range size of a selection of species ( $n = 142$ ). The results showed an enormous variation in range size, from extremely small areas ( $<1 \text{ km}^2$ ) to larger ones corresponding to extensive portions of the CDR. The great majority of the species are restricted to areas smaller than  $10,000 \text{ km}^2$ . From the biogeographic and conservation perspectives the most exceptional group comprises the narrow endemics (42 spp.), whose range is restricted to areas smaller than  $10 \text{ km}^2$ . These results reinforce the reputation of the Cactaceae as exceptionally rare geographically.

We are in the process of evaluating several Mexican cactus species towards the IUCN Red List criteria. Preliminary results show that 53% of the species considered ( $n = 142$ ) are categorized as Least Concern, whereas the remaining 47% fall into any of the three categories of threat. These figures probably reflect the extent of endangerment of the Cactaceae in Mexico, and confirm the critical conservation status of the entire family.

In order to assess the effectiveness of the CDR protected area network (PAN) in terms of the conservation of cacti, we are currently studying the geographic distribution of 121 species in relation to the spatial configuration of the PAN. Of the total number of species considered, 76 (63%) are present in at least one protected area; the remaining 45 species are unprotected. After studying these fascinating plants for almost 20 years, we have come to the conclusion that only a combination of actions involving many individuals and organizations from different countries would guarantee their conservation.

## Sorting out the sansevierias

Len Newton

The last monograph of the genus *Sansevieria*, by N.E. Brown, was published in 1915. Since then the genus has largely been shunned by taxonomists, except where an account of local species was required for a Flora. The main reasons are the poor state of many herbarium specimens, and the fact that some species were described from cultivated plants with no known origin, in some cases with even the country of origin unknown. When no type locality is known, it is difficult to establish the identity of a species.

About a third of the known species are native to Kenya, and so the opportunity was taken to carry out some field work. In this presentation I shall concentrate on the species that have a distinct erect stem, often up to 2 metres tall. Four such species were included in Brown's monograph, but at least six apparently distinct taxa have now been found in the field. Work is in progress to determine the identity of the described species and to investigate the status of the other plants.

## The closest relatives of cacti

Reto Nyffeler

Recent molecular and morphological systematic investigations indicate that the traditional family Portulacaceae consists of three distinct lineages that include Cactaceae, Didiereaceae, and Hectorellaceae. Sequence data from the chloroplast genome reveal that the cacti are most closely related to the tribe Anacampseroteae (i.e. *Anacampseros*, *Avonia*, *Grahamia*), *Portulaca* and *Talinum* of the family Portulacaceae. Information from the *matK* and *ndhF* genes favour a sister-group relationship between Cactaceae and Anacampseroteae. This clade, together with *Portulaca*, is well characterized by the presence of axillary hairs or scales. Relationships within Anacampseroteae are characterized by a grade of five species of *Grahamia* s.lat. from North and South America. *Grahamia australiana* is found to be sister to the genera *Anacampseros* and *Avonia*. Vegetative characteristics evaluated in the light of the reconstructed phylogenetic relationships reveal an evolutionary transition from woody subshrubs to dwarf perennial and highly leaf-succulent herbs. Furthermore, a comparison between Anacampseroteae and Cactaceae illustrates the strikingly different evolutionary pathways in the morphological and biogeographical diversification of the two sister-groups.

## Phylogeny and evolution of *Echinopsis* s.l. (Cactaceae)

Boris O. Schlumberger

The South American genus *Echinopsis* is the third largest, the morphologically most diverse and the least understood genus in the family and comprises several formerly independent genera such as *Lobivia* and *Trichocereus*. About 100 species accepted in recent literature with more than 500 synonyms, and taxon boundaries are unclear at all taxonomic levels.

A phylogeny is presented based on three chloroplast markers and about 200 accessions, representing all major clades and life forms throughout the distribution area of the genus. Results suggest polyphyly for *Echinopsis* in its current delineation, with several other genera of the tribe Trichocereae embedded. Further, all major former genera, i.e. *Echinopsis* s.str., *Lobivia* and *Trichocereus*, are polyphyletic as well. Thus, many morphological characters such as growth form and floral traits are often the result of convergent evolution and are misleading as taxonomic characters. Chromosome numbers were evaluated for all major clades, usually yielding  $2n = 22$ , but tetraploids were found in both ingroup and outgroup taxa.

## Addresses of authors of lectures

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## Congress Reports

### Minutes of IOS Board Meeting, 6 August 2008

The meeting opened at 15:15, in the lower lobby of the Hotel Praiamar, Natal, Brazil.

*Present:* Prof. L.E. Newton (Chair), Dr R. Nyffeler, Dr T. Bolliger, Dr J.-M. Chalet.

*Apology:* Dr D. Hunt.

The main purpose of the meeting was to approve the Agenda for the forthcoming Members' Business Meeting. It was agreed that the Vice-President should announce this year's nomination for the award of the *Cactus d'Or* as an item under Any Other Business.

It was agreed that Art. 13 (Exemptions) in the proposed revised Statutes should be modified to include: '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.'

The meeting closed at 15:45.

### Members' Business Meeting, 6 August 2008

Held in the Convention Centre of the Praiamar Hotel, Natal, Brazil.

The meeting opened at 16:30.

1. *Present:* President (Chair), Vice-President, Assistant Secretary, Treasurer, and eight other members. *Apologies:* D. Hunt, U. Eggli, H. Hartmann, S. Carter Holmes.
2. *Obituary:* Dr N. Zimmerman, Dr A.B. Lau, Dr L.F. Vatrican (IOS Founder Member), Dr W. Roehre. The President asked all to stand and to keep one minute's silence.
3. *President's Report* (see p. 15)
4. *Secretary's report* (see p. 15)
5. *Assistant Secretary's Report* (see p. 16)  
After having served a decade in this position Dr Chalet is standing down. The President thanked him for his dedication.
6. *Treasurer's Report* (see also p. 17)

The report of the auditors, D. Supthut and R. Deubelbeiss, confirms the figures presented for the period 2006–2007. The balance of income/expenditure shows a deficit of CHF 467 at the end of December 2007. The capital has increased to CHF 86,509, as of 31 December 2007. A balanced budget for 2009–2010 is expected.

Regional treasurers have been appointed to collect the membership fees in various currencies, such as Euros (Dr R. Bauer), US \$ (Dr E.R. Dorsch) and British Pounds (Dr D. Hunt), making it easier and cheaper for members outside Switzerland to pay their fees.

7. *Sectional Reports* (see p. 17)

Written reports were received from L. Newton (Aloaceae) and S. Carter Holmes (Euphorbiaceae). No reports were received from the other sections, but brief comments were given at the meeting by Dr M. Hjertson (Cactaceae), Dr R. Nyffeler (Crassulaceae), and Dr D. Metzger (Ecology).

8. *Revision of the Statutes and Byelaws* (see pp. 18–22)

The proposed revision had been circulated to members for comment. The main changes proposed were:

- One ordinary membership category to replace the two-tier system of active (sectional) and non-sectional members;
- Subscription fee to be paid biennially (for two years), made possible by proposal to distribute the Bulletin in electronic form;
- Free membership for students.

All the changes proposed were accepted without objection.

9. *Executive Board 2008–2010*

The following were elected:

President:	Prof. L.E. Newton (Kenya)
Vice-President:	Dr R. Nyffeler (Switzerland)
Secretary:	Dr D. Hunt (UK)
Assistant Secretary:	Dr D. Aplin (Belgium)
Treasurer:	Dr T. Bolliger (Switzerland)

10. *Subscription fee for Membership*

The fee was fixed as CHF 60.– [or the approximate equivalent in EUR, GBP or USD] for the next two-year period (2009–2010). Payment is due on 1 January 2009. Exemption applies to Honorary and Student members, and to Retired Members on request (see Art. 13).

11. *IOS Meetings*

An Inter-Congress Meeting open to all members will be held in April 2009. [***For Programme and Booking Arrangements please see page 31***]

A choice between the Canary Islands and Monaco is to be made for the IOS Congress 2010. The Executive Board will make its decision after 31 August 2008.

12. *Honorary Membership*

The assembly has confirmed the Board's decision to confer Honorary Membership on D. Supthut for outstanding contribution to our Organization, especially as long-term Treasurer.

13. *Any other business*

The Vice-President announced that the *Cactus d'Or* for 2008 has been awarded to Prof. L.E. Newton. Dr Jean-Marie Solichon has officially invited him to Monaco in 2009 to receive this prestigious award.

The meeting closed at 17:40.

## **President's Report**

In keeping with our desired aim of organising meetings on different continents, I am happy to welcome you to this general meeting in South America. The Board is grateful to Marlon Machado for organising both this congress and a post-congress field trip. Our current membership is based largely in Europe, and a relatively small number found it possible to travel to Brazil. We wish to increase the membership in both North and South America, as well as in Africa, to increase the international nature of the IOS.

Our biennial congresses have been held regularly since the start of the IOS, on one occasion (1974) being brought forward by one year. The congresses meet one of our aims; that of bringing together succulent plant specialists for exchange of information and ideas. We are also planning to re-introduce "inter-congresses", which are meetings of a smaller scale held in conjunction with the meetings of the Executive Board in years between congresses.

Our two regular publications, the *IOS Bulletin* and the *Repertorium Plantarum Succulentarum*, have continued to appear. I'd like to thank the editors for their hard work. The *Repertorium* is issued free to members and sold to non-members and libraries. The *Bulletin*, however, is an "in-house" publication for distribution to members only. It serves as a newsletter and a record of IOS activities. It is now our intention to replace the printed bulletin with a digital version, to be distributed to members by e-mail. The savings in printing and postal costs will enable us to reduce the cost of subscription to the IOS, an unusual move at a time when most organisations are gradually increasing their subscription rates.

The Board feels that an annual Bulletin is insufficient contact with members. In May you should all have received the first issue of a new Newsletter. Further issues will appear from time to time, and you are invited to contribute news items for inclusion. They should be sent to the Secretary, Dr David Hunt.

A start has been made on improving our Internet website. I should like to thank Dr Reto Nyffeler, who has acted as our webmaster, and Dr Tony Mace, who hosts our website within his Cactus Mall. The format has been modified, and new material is being added. In particular, abstracts of presentations at our congresses will appear there. Any special interest groups within the IOS are encouraged to run their own web pages within the website. We hope that our website will come to be seen as an essential reference for anyone with a serious interest in succulent plants.

The IOS Research Fund has been revived, and two grants have already been made during the past year. The Executive Board is proposing that the funding should include a sum to assist the researcher to attend a congress and present the results of the research. Reports arising from IOS-funded research will also be posted on our website.

A major task undertaken by the Board since the last congress was to prepare a draft revision of the IOS Statutes and Bylaws. The proposed changes were circulated in the last issue of the bulletin, and a slightly revised version of that draft is presented at today's meeting.

Finally, I thank you all for attending this meeting and this congress. I hope that you are finding the events informative and enjoyable. As you will have seen in the Newsletter, an inter-congress is planned for next April, and we have a choice of two European venues for 2010 Congress, the Canary Islands and Monaco. I hope that it will be possible for you to attend one or both of those events.

*Len Newton*

## **Secretary's Report**

Since assuming the Secretaryship in September 2006 I have compiled and distributed two printed issues of IOS Bulletin, and recently e-mailed the first issue of a Newsletter (May 2008)

to paid-up members as a pdf or (for those without e-mail) as a print-out. With publications like this in mind I have made it my first priority to re-establish a definitive IOS membership list, as the lack of such a list had seriously hampered the efforts of my two predecessors as Secretary and also the Editor of IOS Bulletin 12/13 (2006). After various enquiries and preliminary revision of the list in that issue, a new provisional list was published last year in IOS Bulletin 14(2), which was mailed to all the addresses listed, together with a Questionnaire and Subscription Reminder. Positive responses were received from almost 50%. Of those who did not respond, some had already paid their subscription for 2007 or are retired or honorary members. At its meeting in April 2008 the Executive Board decided that no further reminders or IOS publications should be sent to the remainder (approximately 70), who are in arrears with subscription payments, and that their membership should be regarded as lapsed. Consequently, total membership of IOS is now at its lowest level for many years, but I'm glad to say that in the past few months we have received and approved several applications for membership and I hope that more will follow.

The re-establishment of facilities for members outside Switzerland to pay their subscription in Euros Dollars or Sterling via a regional representative, coupled with our proposal to make the subscription payable biennially, rather than every year, and (in effect) to halve the annual rate, as well as making membership free to *bona fide* students, should help to make membership more attractive.

Making membership more worthwhile is naturally another objective. From the outset IOS was intended to promote and facilitate *collaboration* among its members. Although much can be achieved these days via e-mail and publications, there is no substitute for regular meetings and I should like to see IOS organize, or participate 'officially' in, at least one a year. Some 20 UK or UK-resident members met at Kew last year, and I have made arrangements for a short IOS Inter-Congress next April in Belgium\*. Returning to the roots of IOS, so to speak, this meeting will focus on the role of living collections in research and conservation, and it is hoped that a good number of IOS members will not only attend the meeting but be willing to put their expert knowledge at the disposal of our hosts at the National Botanic Garden of Belgium (NBGB), who are currently undertaking an in-depth review of the 'why and wherefore' of their extensive succulent plant collections. Dr Aplin, the IOS Assistant Secretary Elect, who is Curator at NBGB, is also coordinating the IOS Reference Collections Initiative, and the presentation he made at the recent BGCI Congress at Delft (NL) was extremely well-received.

Looking further ahead, the seeds are sown for the 31st IOS Congress in 2010. Judging from members' responses to the recent Newsletter, the preferred venue is the Canary Islands. It will be for the Executive Board to make the final decision, hopefully soon, so that we can proceed with the arrangements.

*David Hunt*

### **Assistant Secretary's Report**

The death of the following members is recorded with regret: Dr Norbert Zimmermann (3 May 2006), Dr Alfred B. Lau (27 February 2007), Louis F. Vatrican (Honorary Member and IOS Founder Member (7 June 2007), Dr Werner Roehre (28 November 2007).

Several members listed previously were excluded from the provisional membership list in IOS Bull. 14(2): 23–31 (2007) as they had not paid the annual fee for at least the three pre-

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*\*Postscript:* The venue for the Inter-Congress has since been changed to the Botanical Institute of the University of Bonn, Germany. This was for reasons to do with the availability of hotel accommodation with easy access to NBGB around the dates of the meeting. However, the invitation remains to members with specialist knowledge of succulent plant groups (other than cacti) to assist with the review of the NBGB collections, and I encourage any member who would like to do so to contact me or Dr Aplin. – *D.H.*

ceding years: Matthias Buys, Robert J. Chinnock, Chuck Hanson, Craig Hilton-Taylor, Bruno Mies, H. Ohba, P. Faucon. In response to the membership questionnaire circulated to everyone in the provisional list, several members indicated that they did not wish to continue membership of IOS, including: Dr Willy Strecker, Dieter Herbel, Pia Parolin, Dr Joachim Thiede, Hans Ruedi Fehlmann, Ute Schmiedel, Prof. Dr Focke Albers, René Zahra, Giovanni Laub. Subsequently, at its meeting in April 2008 the Executive Board decided that no further reminders or IOS publications should be sent to other members (approximately 70) who were in arrears with subscription payments for at least two years and did not respond to the questionnaire, so their membership should be regarded as lapsed. Since then, three members have paid to reinstate their membership, one more has resigned and another has asked for age-exemption.

Since the previous Congress, the Executive Board has approved the following eight individual membership applications: Dr Thomas Wyka (PL) (August 2006); Rainer W. Mecklenburg (DE), Dr Christiane Ritz (DE), Marlon Machado (Student Member, BR), Graham Charles (UK), Dr David Aplin (BE), Dr Emily Wabuleye (KEN), Dr Charlotte Bjorå (N), Sofia Albesiano (Student Member, Colombia/Argentina). During 2008, the membership of Sara Oldfield (UK) has been reinstated and Dr Barbara Goettsch (UK/MX) has transferred from Student to Ordinary Membership.

*J.-M. Chalet*

### **Treasurer's Report 2006–2007**

The Organization's financial position remains satisfactory although there was a small overall deficit (CHF 467) for 2006/7. This could be explained in part by the failure of a significant number of members to pay their subscription.

	<b>2006</b>	<b>2007</b>	<b>2006+2007</b>
<b>Income (CHF)</b>			
Subscriptions	11027	8580	
Publications	1886	1418	
Research fund	302	1120	
Interest (other)	98	117	
<b>Total income</b>	<b>13313</b>	<b>11235</b>	<b>24548</b>
<b>Expenditure (CHF)</b>			
Board/Sections	6536	1445	
IOS Congress	1687	0	
Secretary	0	0	
Bulletin 12/13	2491		
RPS 55 & 56	2370		
Mailing 12/13+RPS	964		
Bulletin 14(1) & 14(2)		2131	
Mailing (two issues)		994	
RPS 57		1717	
Mailing		1147	
Other mailings (ZSS)	371	250	
Envelopes (ZSS)	142	245	
Books (Library ZSS)	0	558	
Research grant (Eggli)		1500	
Bank charges	237	230	
<b>Total expenditure</b>	<b>14798</b>	<b>10217</b>	<b>25015</b>
<b>Net surplus/deficit A-B</b>	<b>-1485</b>	<b>1018</b>	<b>-467</b>



As of 31 December 2007, the total funds available to IOS (including the 'Fonds' at current valuation: CHF 23453, and the Research Fund: CHF 18979) amounted to CHF 86509.

**Budget for 2008/2009.** Taking the items in the same order as above, and based on those figures, expenditure is estimated as follows (excluding grants from the Research Fund):

Estimated expenditure (CHF)	2008	2009	2008+2009
Executive Board Meetings (travel allowances)			
Kew @ CHF 250 per person	500		
Brazil @ CHF 500)	2000		
Inter-Congress @ CHF 250 per person		1000	
Secretariat		500	
Repertorium Pl. Succ. 58	2750	2750	
Subvention to IOS Documentation Centre (SSZ)	500	500	
Bank charges	250	250	
<b>Totals</b>	<b>6000</b>	<b>5000</b>	<b>11000</b>

The estimated total expenditure of CHF 11000 is expected to be covered by subscription income (CHF 8000) and income from sales of publications (CHF 3000).

*T. Bolliger*

### **Aloaceae Section report**

Several members have been busy, in some cases with collaborative projects. About 40 *Aloe* specialists gathered in Pretoria in November 2007 for a workshop to plan an online digital database on the genus. This will be hosted by ALUKA (<http://www.aluka.org>), which already has available files on some other African plants. Meanwhile, preparation of a book on the whole genus, complete with identification keys, is in an advanced stage. News that this book was planned precipitated a flurry of publishing activity, and over 40 new names have been published during the past couple of years. Devotees of other genera in the family made more individual contributions. On a wider scale, it will be recalled that molecular taxonomists determined that the Aloaceae should be included in the Asphodelaceae, with the optional alternative of including both in an enlarged Xanthorrhoeaceae (*Bot. J. Linn. Soc.* 141: 399–436. 2003). In recent literature most authors now refer these plants to the Asphodelaceae (perhaps partly because the spelling is slightly easier to remember than the alternative!).

*Len Newton*

### **IOS Euphorbiaceae Section Report**

There has been much activity in recent years, though mostly arising from individual initiatives. After the last of the 10-volume set of *The Euphorbia Journal* was published in 1987, Herman Schwartz continued to care for his large collection at Bolinas, north of San Francisco, but his health gradually declined and he died earlier this year. Sadly, the collection also declined and now what was saveable has been dispersed, many going to Arid Lands Greenhouses in Tucson, Arizona. There, the very large collection of succulent *Euphorbia* species, many of wild collected origin, is now under the care of IOS member Dr Robert Webb, the recent new owner of the nursery since Chuck Hanson retired to Iowa a few years ago.

In 2001 Daphne and Albert Pritchard published the last issue of the *Euphorbiaceae Study Group Bulletin* of which they were editors and which no-one came forward to continue. However, it was not long before a group of enthusiasts, mainly from the Continent, set up the International Euphorbiaceae Society, and in 2005 the first issue of *Euphorbia World* appeared, edited by Volker Buddensiek. As with *The Euphorbia Journal*, good illustrations play a large

part in its production, but it has attracted authors not only of popular articles, but also scientific publications, venturing into the field of molecular studies.

Academic research has now turned firmly away from classical taxonomy to molecular analysis in establishing relationships, with controversial results. The genus *Euphorbia*, with approximately 2000 species, has very recently been increased considerably by absorbing all smaller related genera, such as *Monadenium*, *Chamaesyce*, and *Pedilanthus*, etc. It remains to be seen to what extent this radical system will be accepted — a case, perhaps, of not being able to see the trees for the wood?

*Susan Carter*

## **IOS Statutes and Byelaws**

*Version ratified by the IOS Congress August 2008*

### **STATUTES**

#### **Art. 1: Name**

The name of the Organization is ‘International Organization for Succulent Plant Study’ (‘Internationale Organisation für Sukkulenten-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 protective reference 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
2. Institutional Members

#### Art. 5: Admission

Applications for Personal or Institutional Membership shall be submitted on an official form provided by the Secretary or downloaded from the IOS website and accompanied by a payment equivalent to the current biennial subscription. 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.

Applications for Institutional Membership may be made by any recognized Institution or Organization interested in the objectives of IOS. Institutional Members shall have similar rights to those of one Ordinary Member and shall pay the same biennial subscription.

#### 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.

### **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. 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 free of charge to members

4. IOS Documentation Centre. The Zurich Succulent Collection (Sukkulenten-Sammlung Zürich), Switzerland is designated the 'IOS Documentation Centre' ('IOS Dokumentations-Zentrum') and is recognized by IOS as the official repository for research material of all kinds donated to IOS, including living plants, herbarium specimens, publications and illustrations, and for all archival material relating to IOS.

All items other than live plants specifically donated to IOS and housed at the Centre are on permanent loan. Books etc will be stamped to this effect and incorporated into the Library of the Collection.

All members are recommended to deposit the original or duplicate material of taxa described by them at the Centre, and are invited to donate other living or herbarium material, accompanied by full documentation.

The Documentation Centre is open to members for consultation by prior arrangement with the Director.

5. Reference Collections. IOS will promote the establishment of a network of 'Reference Collections'. The Assistant Secretary shall be responsible for implementing the scheme and for regulations concerning qualification, objectives, and registration procedure.

6. IOS Research Fund. The IOS Research Fund shall be administered by a Committee of the President, Vice-President, Secretary and Treasurer 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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### Secretary's Notes

*Amendment to subscription rates for 2009/10.* A single payment covering the two-years 2009/2010 becomes due to IOS on 1 January 2009. Please see the reminder in the covering message accompanying this Bulletin. Please also note that, in view of recent changes in currency exchange rates, the previously announced amounts payable in currencies other than Swiss Francs (CHF) have been adjusted.

*8th IOS Inter-Congress, Bonn, 24–27 April 2009.* Please also see the announcement sent to you with this Bulletin, and contact me as soon as possible if you hope to attend.

*Membership List:* The list which follows includes members of IOS 'in good standing' as of 30 November 2008, that is, members who have paid the subscription for 2008 or who are excused payment, plus a small number who were in good standing for 2007 but have not yet paid for 2008 (their response to a final reminder is awaited). Total 142.

*David Hunt*

## Membership List

Membership Status indicated by: [E] = Emeritus; [H] = Honorary;  
[I] = Institutional; [L] = Life; [O] = Ordinary; [S] = Student

<p><b>Adriana Sofia Albesiano</b> Uruguay 839 5500 Mendoza Ciudad Mendoza Argentina aalbesiano@yahoo.com</p>	[S]	<p><b>G.B. &amp; Eugene A. Bello</b> P.O. Box 948 Grover City CA 93483 USA gbello3023@aol.com</p>	[O]	<p><b>Dott. Andrea Cattabriga</b> via Scipione Innocenti 35 I-40138 Bologna Italy a.cattabriga@dererum.net</p>	[O]
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<p><b>Dr David Aplin</b> Zwartzusterstraat 16 B38 3000 Leuven Belgium david.aplin@br.fgov.be</p>	[O]	<p><b>Dr Charlotte Sletten Bjorå</b> Natural History Museum, Univ. Oslo P.O. Box 1172 Blindern NO-0318 Oslo Norway charlotte.bjora@nhm.uio.no</p>	[O]	<p><b>Graham Charles</b> Briars Bank, Fosters Bridge Ketton Stamford PE9 3UU UK graham.charles@btinternet.com</p>	[O]
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<p><b>Prof. Dr Wilhelm Barthlott</b> Botanisches Institut der Universität Meckenheimer Allee 170 D-53115 Bonn Germany barthlott@uni-bonn.de</p>	[O]	<p><b>Hans Britsch</b> P.O. Box 2018 1860 Monte Vista Drive Vista CA 92085 USA westerncactus@msn.com</p>	[O]	<p><b>Dr Bernard M. Descoings</b> La Calade F-07260 Rosières France b.descoings@free.fr</p>	[O]
<p><b>Dr Ralf Bauer</b> Heinrich-Heine-Strasse 8 D-77654 Offenburg Germany dr-ralf-bauer@kabelbw.de</p>	[O]	<p><b>Dr Vyacheslav V. Byalt</b> Komarov Botanical Institute Prof. Popov Street 2 RU-197376 St. Petersburg Russia byalt66@mail.ru</p>	[O]	<p><b>René Deubelbeiss</b> Eichstrasse 29 CH-5432 Neuenhof Switzerland rdeubi@freesurf.ch</p>	[O]
<p><b>British Cactus &amp; Succ. Soc.</b> c/o Eddie Harris 49 Chestnut Glen Hornchurch RM12 4HL UK</p>	[I]	<p><b>Susan Carter Holmes</b> Harlequin, Thursley Road Elstead Godalming GU8 6EA UK holmes@harlequin1.plus.com</p>	[E]	<p><b>Dr Denis Diagre</b> 99 Souveraine Str. 1050 Bruxelles Belgium denis.diagre@scarlet.be</p>	[O]

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