



# IRGC NEWS



INTERNATIONAL RESEARCH GROUP ON CHAROPHYTES

**Edited by: A. García (Wollongong, Australia), I. Soulié-Märsche and C. Martín-Closas**

President: Ingeborg Soulié-Märsche (Montpellier) [marsche@isem.univ-montp2.fr](mailto:marsche@isem.univ-montp2.fr)

Vice-President: Carles Martín-Closas (Barcelona) [cmartin@natura.geo.ub.es](mailto:cmartin@natura.geo.ub.es)

Secretary: Adriana García (Australia) [adriana@uow.edu.au](mailto:adriana@uow.edu.au)

Treasurer: Emile Nat (Amsterdam) [e.nat@kranwieren.nl](mailto:e.nat@kranwieren.nl)

## 16

**March 2005**

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### *EDITORIAL*

The year 2004 was crowned by the very successful 4<sup>th</sup> International Symposium on Extant and Fossil Charophytes, held in Robertson, New South Wales, Australia. On behalf of the International Research Group on Charophytes and of the local Organising Committee, I would like to thank for their sponsorship the following organisations: GeoQuEST and the School of Earth and Environmental Sciences (University of Wollongong), Geosciences Australia, and the Australasian Association of Palaeontologists. Further support was provided by the Australian Society of Phycology and Aquatic Botany, the Australian Association of Limnology, and the International Palaeontological Association.

It is also a great pleasure for me to thank the Organising Committee and especially Adriana García who acted as the driving force and had spent countless hours to make the meeting such a success. Almost fifty delegates from fourteen different nations, including a large participation of colleagues from Asian countries, attended the meeting. Seeing the enthusiastic reports of young researchers in this issue, I would say 'it looks like they got the virus of the charophytes'.

**Ingeborg Soulié-Märsche**

## ***NEW IRGC MEMBERS***

We welcome colleagues who have joined our society in 2004! They are from Argentina (Eduardo Musacchio), Finland (Catherine Henricson), India (Usha Krishnan), Japan (Takashi Asaeda and Hidetoshi Sakayama), New Zealand (Mary de Winton), Puerto Rico (Michael Martinez-Colón), China (Jing Chen and Fei-hu Jiang), Taiwan (Jui-Yu Chou and Wei-lung Wang), and the new members from several states of Australia (Mary Beilby, Robert Dalton, Stewart Edgell and Peter Glasby). All of our new members participated in the 4<sup>th</sup> IRGC meeting in Robertson, Australia (for their addresses see the Directory of all members p. 15 this issue). **We now have 132 members.**

## ***MINUTES OF THE 2004 GENERAL ASSEMBLY***

The General Assembly of the IRGC was held during the 4th IRGC Symposium at Ranelagh House, Robertson, NSW, Australia, on 27 September, 2004. The schedule and voting material were sent three months in advance to give all members the opportunity to vote (electronically or by post) and to suggest ideas for forthcoming activities.

### *IRGC's President Report*

Ingeborg Soulié-Märsche welcomed the members and presented a short review of the activities and the development of the IRGC since our previous General Assembly in Nanjing, 2000. The number of members has increased to 132, with 32 new subscriptions. At present, our community comprises colleagues from 35 countries.

The IRGC's Secretary, Dr Michael Schudack (Germany) who could not participate in the meeting, sent a letter 'Greetings to the General Assembly' which was read by Ingeborg. Michael has been responsible for the production and mailing of the IRGC-NEWS for the past four years. He also has improved and updated the IRGC web-page during these years. Michael expressed his disappointment because he was unable to attend to the meeting at Robertson, and could not continue with his role as Secretary of the IRGC. He wrote

'unfortunately the duties of my job at the University of Berlin have changed and multiplied and, at least for the moment, prevent me from continuing my job as secretary of the IRGC'. He also reminded the General Assembly ...'send all news and information from the world of charophytes and from individuals to your new secretary because the success and impact of the newsletter totally depends on YOUR co-operation'.

### *IRGC's Treasurer Report*

The IRGC's Treasurer, Dr. Emile Nat (The Netherlands) was also unable to attend the 2004 General Assembly, but his financial report was read to the audience and the accounts were unanimously approved. In his report, Emile recalled the difficulties of becoming a credit card acceptor because The Netherlands had increased the security measures. The system is now called PaySquare and every cardholder needs to supply his CVC II code as indicated on the membership payment form. Bank to bank transfers can also be accepted. The treasurer suggested that the yearly membership fees may remain unchanged at the amount of 10 Euros. However, all members are urged to pay their fees regularly at the beginning of every year so we can have a sound balance in the years to come! The membership fees serve primarily for circulating the IRGC-NEWS world-wide. This includes printing and mailing costs. The IRGC has a short credit balance at the end of the year that will allow some support for IRGC meetings.

During the General Assembly, it was discussed whether to circulate the IRGC-NEWS by e-mail. The audience clearly expressed its will, and decided that we shall continue circulating the IRGC-NEWS by ordinary mail, in the form of a printed Newsletter. The NEWSLETTER is a privilege of IRGC members. The payment of the membership fee is necessary to support our organisation and to keep the charophyte group working.

### *Election of the Executive Committee*

According to our statutes, the Executive Committee of the IRGC has to be renewed every four years in conjunction with the venue

of the IRGC Symposia (with the retiring committee elected during the previous General Assembly in Nanjing 2000). Three of the previous members were standing for re-election whereas Michael Schudack presented his resignation as IRGC Secretary. Adriana García (Australia) kindly accepted to be nominated for this vacancy.

Seventy (70) ballots were sent electronically, posted, or deposited in the ballot-box during the meeting (see comments 'about the elections' in this issue). After counting the votes, the new Executive Committee was elected as follows:

**Ingeborg Soulié-Märsche (President)**  
**Carles Martín-Closas (Vice-President)**  
**Adriana García (Secretary)**  
**Emile Nat (Treasurer)**

In addition, the following members were nominated and elected during the General Assembly to serve as Members-at-large:

**Peter Glasby (Australia)**  
**Robin Scribailo (USA)**  
**Ken Karol (USA)**

#### Regional Correspondents

The Regional Correspondents of the IRGC for the different parts of the world are as follows:

**Michelle T. Casanova (Austral-Asia)**  
**Qi-fei Wang (China)**  
**Susanne Schneider (Europe)**  
**Richard McCourt (North America)**  
**Eduardo A. Musacchio (South- and Central America)**

The task of the Regional Correspondents shall be to collect relevant information about meetings, books, individuals etc. from their area and to forward it to the IRGC Secretary (see also '*Regional Groups of the IRGC*' in this issue).

#### Next IRGC Symposium

The General Assembly agreed that, after being on four continents, the 5<sup>th</sup> IRGC Symposium, in 2008, should come back to Europe. The Executive Committee asked Dr. Irmgard

Blindow and Prof. Hendrik Schubert in advance, as to their willingness to organise our next Symposium. Irmgard and Hendrik are the leaders of the Baltic Charophyte Group and editors of the 2003 book "Charophytes in the Baltic Sea" (see presentation in IRGC NEWS 14, 2004).

We are happy to announce that they accepted to organise the 5th Symposium of IRGC. The meeting will take place in one of the university towns in north Germany (Rostock or Greifswald) both easily reached from either Berlin or Hamburg airports. Excursions will include a visit to sites to sample fossil Charophytes (Jurassic and Cretaceous) under the guidance of Dr. Michael Schudack, as well as the collection of living charophytes in the Baltic area.

#### ***OTHER BUSINESS DISCUSSED BY THE GENERAL ASSEMBLY***

##### Publication of papers presented during the 4<sup>th</sup> IRGC Symposium

Adriana García resumed the contacts she had taken concerning the editing of the symposium papers as a special volume of an international journal. Given the negative response by the *Australian Journal of Botany*, *Hydrobiologia* was proposed as a possible medium. The audience emphasised that the content of the special volume should reflect the wide range of topics presented at the symposium. On the understanding that also papers dealing with palaeontological aspects of charophyte research will be accepted, the proposal for *Hydrobiologia* found general agreement (see page 11 for details).

##### IRGC Web-site

As the new IRGC Secretary, Adriana García is responsible for updating the IRGC web-site, formerly maintained by Michael Schudack. The site has been transferred and is hosted at the School of Earth and Environmental Sciences, University of Wollongong. Please take note of the new address: <http://www.uow.edu.au/science/eesc/irgc/index>

##### ISSN of IRGC News

The assembly agreed with the proposal by Carles Martín-Closas to provide IRGC NEWS

with an ISSN code in order to give a formal support to the contributions in the newsletter that allows them to be referenced as a Journal citation.

#### Discussion forum

Robin Scribailo proposed to set up a discussion forum on the internet where members will be free to exchange views and experience and find brand new information about charophytes between issues of the IRGC NEWS. The charophyte-L is ready to go! (see page 12).

**Ingeborg Soulié-Märsche**  
**Carles Martín-Closas**

### **ABOUT THE ELECTIONS**

For the first time, the recent IRGC elections used electronic balloting, following the example of other international societies, i.e. the International Organisation of Palaeobotany (IOP). The percentage of participation was much higher than in previous elections which makes the new system very successful.

Fifty-four percent of the members (70 individuals) expressed their votes during the 2004 elections. Fifty-six percent of the ballots were received as an e-mail attachment; twenty three percent by traditional mail, especially from countries where e-mail connections are still deficient, and twenty one percent voted in person during the meeting in Robertson.

Dr. Qi-fei Wang (China), as a non-candidate, acted as the receiver of the ballots. The ballots received as an attachment were placed in a separate electronic folder dedicated to the IRGC-ballots. To prevent double voting and to verify the eligibility of each voter, the name of the sender was ticked on the membership list. The electronic ballots were then printed and brought to the General Assembly at the 2004 IRGC meeting in Robertson, Australia. This procedure assured the anonymity of the voters to be maintained. Ballots received by traditional post were also verified and then placed into the ballot-box available at the congress together with the envelopes of those members who preferred to express their vote during the meeting.

During the General Assembly, a group of members was designated to count the votes

and the result was announced. The paper ballots are archived at the Laboratoire of Paléobotanique, University of Montpellier, which is Ingeborg Soulié-Märsche's home institution, and the legal domicile of the IRGC.

**Qi-fei Wang**  
**Ingeborg Soulié-Märsche**

### **REPORT OF PAST MEETINGS**

**4<sup>th</sup> Symposium of the IRGC** (Scientific report, Pre-Symposium field-trip report, and Post-Symposium field-trip report)

#### Scientific Report

Ranelagh House, Robertson

25 - 27 September, 2004

This was my first conference with IRGC. I was introduced to IRGC by Chris Garvey from ANSTO. My background is in physics with specialization in electrophysiology. I have worked on charophytes all my professional life and so coming to IRGC conference was "coming home"! I have read papers by Ingeborg Soulié-Märsche and Ursula Winter and it was so rewarding to meet them in person. The conference introduced me to aspects of charophytes, which are new to me and which will give new dimensions to my research.

The program addressed a huge range of topics: classification of present and ancient charophytes; geography of charophyte communities in Australia, Balkans, Pyrenees, Morocco, Taiwan, England and USA; charophytes as markers of climate, composition and salinity of ancient lakes; the response of charophyte morphology to a range of environmental conditions; the use of charophytes for phycoremediation; charophytes as food for black swans, black bream and habitat for ostracods and amphipods; charophytes as electrophysiological models for higher plants; charophyte cell walls as models for higher plant cell walls and charophyte chirality.

Due to my background, some of the fine points of charophyte classification were lost on me, but I am learning! I enjoyed the ecological studies of the Myall Lakes, as I

have visited the region before and was not aware of the intricacy of the lake plant community. I was interested to find out that *Lamprothamnium* is eaten by black swans and black bream and that ponds can be cleaned up by planting charophytes. The connection with paleobotany and geology is also very important for the central question of my research: Why is *Lamprothamnium* (and few other charophytes) so successful at being salt tolerant?

I am interested in using physics-type techniques in biological research. This prompted my new collaboration with Chris Garvey to probe cell walls with neutrons. We have all gasped with delight at the beautiful x-ray synchrotron imaging of charophyte oospores presented by Monique Feist.

All the talks were excellently presented and easy to follow. There were many slides of picturesque locations and stunning charophytes. It was a joy to see young people speaking confidently and enthusiastically about their Ph.D. and Bachelor Honours projects. After the lectures, there were lively discussions and practical tips by Vernon Proctor on how to grow charophytes. We could identify and admire charophyte samples, brought by participants.

Ranelagh House was perfect for a conference of this size (about 50 people, some driving in from Wollongong). One day of the conference was cold and foggy and it was so pleasant to have our coffee in front of the large fireplaces. The rooms were plain but comfortable and the garden and views were great. The food was lovely, almost too good!! The lecture room facilities were modern and easy to work and there was plenty of space to set up posters and microscopes to view charophytes.

To conclude, this was one of the best conferences I have taken part in. Many thanks to Adriana Garcia, Allan Chivas and the students from the School of Earth and Environmental Sciences, University of Wollongong, for a great time!

**Mary Beilby (Australia)**

*Pre-Symposium field trip Report*  
*(to Lightning Ridge, NSW)*  
*24-28 September*

The flight took 18 hours from Puerto Rico (Caribbean) to Chicago (USA) to San Francisco (USA) to Sydney (Australia). It was a long and tiring trip but a few hours prior to our arrival I saw, for the first time, an awesomely beautiful twilight in the sky at a height of approximately 30 thousand feet. It was an amazing cocktail between a starlight night and an imposing sunrise. After our arrival Nupur Saini from the University of Wollongong was waiting at Sydney Airport to pick us up together with Catherine Henricson and Ursula Winter. Finally we reached our second destination which was Adriana's and Allan's house. After we got established and prepared our luggage for the next day field trip to Lightning Ridge, we met Ingeborg Soulié-Märsche and Eduardo Musacchio. Later in the afternoon, I finally met the organizers of the field trip and the congress, Adriana García and Allan Chivas, and the rest of the family. Wei-Tong Li managed to arrive at Adriana's house that evening too.

Early in the morning, we were ready for our journey to Lightning Ridge, about 850 km north from Wollongong, NSW. Eduardo Musacchio, Wei-tong Li, Shirley Mercado, Adriana García and myself, left from Adriana's house to Robertson, already installed in the bus driven by Geoffrey Black (from the University of Wollongong). We stopped at Ranelagh House, Robertson, the venue for the charophyte meeting, to pick up the rest of the field party: Catherine Henricson, Ursula Winter, Ingeborg Soulié-Märsche, Monique Feist, Qi-fei Wang and Carles Martín-Closas, while Henk Godthelp (the excursion's leader) and Prof Mary Beilby, joined us on the way. I was really excited because of the great collage of cultures (nationalities) of the participants and because all had a common interest: charophytes! On this road trip, I knew I was going to be around expert charophytologists, who gave their names to well-known fossil charophytes, *Musacchiella* (Eduardo Musacchio) and *Feistiella* (Monique Feist). During our travel towards Lightning Ridge, the main conversation was about charophytes and who was doing what and where. Some people were

discussing the situation of the IRGC group and what could be done in the future.

Our goal at Lightning Ridge was to look for fossil charophytes found in the opal mines. Based on fossil vertebrates and general geology, the age of these fluvial sediments has been established as early Cretaceous. During this trip I noticed and experienced the beauty of Australia's landscape and its fauna/flora. I saw for the first time Australian aborigines and examples of Australia's unique fauna and flora: kangaroos, emus, *Eucalyptus* savannah, and giant termite mounds, compared to the ones in Puerto Rico. The roads were long and solitary. Sometimes people in the bus were sleeping or reading but it was never quiet, especially because Wei-tong Li was talking either to me or Carles Martín-Closas or anyone who was awake. Something curious and funny was that almost in every single small lake or pond we passed, Dr. Soulié-Märsche would say out loud: 'oh!! charophytes'. This shows the passion this group of people has towards the study of such organisms. We passed by several small towns and some of them reminded me of old cowboy movies with only one main road flanked by buildings on both sides. One of the official stops was at the Three Sisters at Katoomba, Blue Mountains, to pick up Henk Godthelp (vertebrate palaeontologist expert) and Mary Beilby. The Three Sisters mountain was an eye opener of how magnificent Mother Nature has been to Australia's landscape. After a brief stop at the lookout and taking photographs we continued our journey to where we were to spend the night. We arrived at a motel in Gilgandra.

Early next morning we headed towards Lightning Ridge. At our arrival, Liz Smith (vertebrate palaeontologist living in the area) joined us for the journey. We visited an underground opal mine, open for tourists, and watched a video on the mining history of the area. Then we headed toward a claim (mine site) at Lightning Ridge, where Adriana García previously found opalized gyrogonites, after sieving sediments recovered from the subterranean mines. These remains are highly significant since they represent the first Lower Cretaceous charophytes known from Australasia and will help to reconstruct the charophyte biogeography of that important period. We scavenged around for charophytes,

apparently without luck, but we found opalized wood fragments and beautiful bits of opal but not economically interesting.

At dawn the next morning, we were only a few volunteers to go with Henk Godthelp to take pictures of kangaroos in the wild and explore another place for charophytes and opal. After that, we joined the others for breakfast and headed towards the mining processing areas to look around the tailings. I found a nice piece of opal, about 3 cm in length and naively showed it to the owner of the claim and he said that it was really a "nobby", as they call the good pieces, and put it in his pocket. At first I felt frustrated but then I realised that he makes his living from opal and that it was much more important for him than for myself. After two hours of playing opal miners, it was nearly time for lunch and after that we started our journey back to the motel.

The next day, Geoffrey, our funny but competent driver from the University of Wollongong, brought us back to Ranelagh House in Robertson. This field trip was a rewarding experience, not only because of what we might have found in terms of fossil charophytes and opal but by knowing colleagues from different cultures and countries. I will never forget Australia and I will never forget them.

### **Michael Martínez-Colón (Puerto Rico)**

#### *Post-Symposium field trip Report (to localities with extant charophytes, loop to Canberra, ACT) 28-30 September 2004*

The field trip to localities with extant charophytes was made along a 600 km loop from Robertson (about 100 km southwest of Sydney) to Canberra and back, going southwest down the coast and back northeast along the inland highway. Charophytes were collected in six localities. The organisers of the trip were Allan Chivas and Adriana García, from the University of Wollongong, and David Wheeler was our kind driver, from the same institution. Apart from Adriana and Allan, and us, the fifteen other participants to the field trip were Jelena Blazencic, Monique Feist, Peter Glasby, Wei-Tong Li, Carles Martín-Closas,

Michael Martínez-Colón, Shirley Mercado, Eduardo Musacchio, Vernon Proctor, Nupur Saini, Robin Scribailo, Ingeborg Soulié-Märsche, Branka Stevanovik, Qifei Wang and Ursula Winter.

The trip started from Ranelagh House in Robertson. Robertson is a small village in the Southern Highlands at an altitude of 370 m above the sea level. David drove the bus southwards across the open reddish landscape and through a forest with all kinds of strange Australian plants like grass trees. The first stop was at the beautiful Belmore Falls. We continued to the top of the falls where there was a shallow pond formed by Barrangarry Creek. We found our first charophytes, *Nitella tasmanica* and *N. leptostachys*. *N. cf. sonderi* also grows in this pond but could not be found this time.

Driving to Wollongong, we went down-hill on a winding road through Macquarie Pass where the rainforest still borders the road. After a short visit to the University of Wollongong we headed for Lake Illawarra. This is a vast (about 10 km in length and 5 km in width) shallow (max. depth 4 m) coastal lake which at times has a slight connection to the Tasman Sea, with fluctuating salinity. *Lamprothamnium succinctum* has been found in the lake, but the population is small, and far away from the shore. We saw some exotic birds, pelicans and black swans (believe it or not, they really do exist!).

On the way to Lake Wollumboola, we had some great views over the coastline. We passed a mangrove-lined estuary at Minnamurra, which is one of the southernmost areas where you can find mangroves. At the dramatic rocky coastline of Kiama we stopped by the Blow Hole. The name of the place is said to originate in the word Kiarama-a or Kiar-mai used by the early aboriginal inhabitants of the area and meaning “where the sea makes a noise”. The shore, built up by volcanic rock (Permian lava), resembled a moon landscape. In the irregular black rock there was a deep hole. We stood there waiting for the performance, all cameras ready to get the perfect shot of the once in a lifetime event (or maybe once in half an hour). The ocean was breathing in and out through the hole and then suddenly there was a tremendous noise and a jet of sea spray blasted high up in the air just like a fountain or a geyser.

Lake Wollumboola is a coastal saline lake isolated from the sea by a sand barrier. Both the depth and the salinity vary but are normally around 4 m and 10-20 g L<sup>-1</sup>. The lake is a very important habitat for migratory birds. Individual numbers of more than 20 000 birds representing 43 species have been counted in the locality. *Lamprothamnium succinctum* is dominating the vegetation in the lake. Other species occurring are *Nitella verticillata*, *Ruppia* sp., *Ulva enteromorpha* and *Cladophora* sp. We found a lot of *L. succinctum*, short and robust specimens in shallow water by the shore and long delicate specimens in deeper water. The brave guys with wetsuits, Peter and Robin, were snorkling to bring us some specimens from the deeper area.

*Lamprothamnium succinctum* and *Nitella verticillata* grow also in Swan Lake which we visited next, together with *Ruppia* sp., *Ulva* sp. and *Cladophora* sp. A very narrow, long winding inlet gives a connection to the sea which usually does not influence the lake. Swan Lake is in a condition close to natural. As the name indicates, the black swans thrive in the lake. What kind of music would Tchaikowsky have written for these strange birds? In the evening we arrived at the small town of Berry where we stayed overnight at a nice old hotel built in the 1800s. After dinner some eager charophytologists were examining the first days treasures under microscope while others were too exhausted to stay up after all the nice experiences during the day.

The next morning we turned inland towards Canberra. David drove us through dry bush and steppe landscapes. In the bush we saw an impressively big, lovely red flower. It was the waratah, (*Telopea speciosissima*) a rare native flower, the floral emblem of the state New South Wales. On the steppe we saw some emus, the Australian variation of ostrich. One of them had six small young. The road through the bush turned tortuous and at one section there was a steep slope just beside the road. We arrived to the Shoalhaven River at Oallen Ford. Some frogs welcomed us by singing loudly. Shoalhaven River is a permanent freshwater river. One species of *Chara* (*Chara fibrosa*) and three species of *Nitella* (*Nitella lhozkyi*, *Nitella* sp. (sterile) cf. *pseudoflabellata* and *N. gelatinifera* were found growing on the sediment between small

stones. It was already afternoon when we continued towards Canberra, and then we saw the kangaroos! There are more kangaroos than people in Australia and they are a real danger in the traffic. They stand by the roads looking left, looking right and then they jump over the road no matter if there are cars passing or not. When we arrived in Canberra we had a tour around the city with our bus. We spent some time in the city and then we had dinner at an Asian restaurant. Some had problems with the chopsticks but Wei-Tong and Qifei felt quite at home, the personnel even found a chinese-speaking waitress so that Wei-Tong could make his complex orders in his own language. We had a good sleep and the next morning we went up on Mt Ainslie Lookout to see the view over the capital, before heading back northeast for new charophyte localities.

On the way back to Robertson we stopped at the Yass River, which is periodically totally dry. Now it had received some water only a short time before our visit so the charophytes had not got enough time to develop. We did not find any of the species occurring in the river (*Chara fibrosa*, *Nitella stuartii* and *N. leptostachys*) at our stop by Macs Reef Road. The next stop was at Lake George, which is also periodically dry. In 1823-1874 the lake was at its maximum depth, in 1920-1970 it dried up five times, in 1994-1997 it had only shallow water and since then it has been dry. *Nitella ignescens* was discovered as a new species in the lake in 1994. When there is water in the lake, it is fresh. Next stop was at Badgery's Lookout with a breathtaking view of the Shoalhaven River gorge, the same river that we had visited the day before. Still a bit further up we found the top of the falls, Badgery's Creek. It was an enchanted place with small waterfalls, pools, tree trunks fallen over the water and a small cave behind the falls. We found both *Nitella leptostachys* and *Chara fibrosa* in the small pools. *N. cristata* has also been found in this locality.

When we continued our trip it was getting dark again and the kangaroos showed up. We saw a few eastern grey kangaroos and one red-necked wallaby (a male). The last mentioned is quite rare among the 42 species of macropoda (bigfeet) and the males may be aggressive towards each other. The last locality to visit was Paddys River, a permanent

freshwater river, which at times may have a slight salinity ( $0.1-0.2\text{g L}^{-1}$ ). Charophytes found on the clay-rich sediment in this locality were *Nitella tasmanica*, *N. cf. sonderi* and one yet unidentified species. Other plants growing in Paddys River are Desmidiaceae and *Spirogyra* sp.

During the last stretch back to Robertson the volume in the bus was raised to high levels. We were having our last heated discussions about charophytes or something else before we had to say goodbye to each other. Many thanks to all the participants and to the Australian researchers for sharing their knowledge and showing us what this area has to offer in charophytes and experiences. We got to see so much during this trip, not only all the nice charophytes and the interesting localities they were growing in but also a glimpse of the fascinating nature in this huge country.

**Catherine Henricson (Finland)**  
**Michelle Hindle (Australia)**

### ***32<sup>nd</sup> International Geological Congress, Firenze, Italy (August 2004)***

This is usually a huge conference as it attracts geologists and palaeontologists from around the world and has invited talks, exposition areas (industry, geological surveys of different countries, academic book publishers, etc.). More than 20 field trips were offered covering different disciplines and ages within the geological sciences. More than 5,000 participants enjoyed the meeting and the beauties of Firenze. We participated mainly in the sessions dedicated to Quaternary oceanography and palaeolimnology, with special interest in the sessions dedicated to continental shelves.

**Allan R. Chivas (Australia)**  
**Adriana García (Australia)**



***Quadrennial Meeting of the Chinese Micropalaeontological Society  
Sanya City, Hainan Province of South China, 12-17 November, 2004***

Ninety-eight participants from twenty eight institutes and universities gathered in Sanya City from 12 to 17 of November to have their quadrennial meeting for the Chinese Micropalaeontological Society. Three days of scientific sessions and three days of field excursion provided good opportunities for the participants to exchange new ideas and progresses on micropalaeontology, and to enjoy the fantastic near-shore habitats and sightseeing. The newly elected committee of the Chinese Regional Group on Charophytes consists of Dr. Qi-fei Wang, Dr. Li-qiong Lan and Dr. Ping Yang, coming from an institute, an university and an oil company respectively. We hope such allied committee will stimulate the multidisciplinary research on charophytes in China.

**Qi-fei Wang (China)**

***FORTHCOMING MEETINGS***

There are a large variety of meetings where Charophytologists can take an active part and promote the significance of our favourite plants. Make your choice:

***10-12 May 2005***

The **Permian and Triassic Playas Symposium** to be held in Montpellier, France under the auspices of the Geological Society of France.

Contact: Dr. Jean-Jacques Châteauneuf. E-mail: chateauboy @ wanadoo.fr

Website:

<http://sgfr.free.fr/rencontrer/seances/s05-05playas.html>

***23-27 May 2005***

The **3<sup>rd</sup> International Congress on Environmental Change in Central Asia**. Organised by our colleague Michael Walther, at present head of Physical Geography and Environmental Sciences at the National University of Mongolia, the meeting will take place at Ulaanbaatar. Contact: [mwaltherub@magicnet.mn](mailto:mwaltherub@magicnet.mn)

Website: <http://www.num.edu.mn/MOLARE>

***27-29 May 2005***

The **2<sup>nd</sup> Meeting of the German Working Group on Characeae** will be held in Karlsruhe, Germany.

Contact: A.Radkowsch@t-online.de

Website: <http://www.biologie.uni-rostock.de/oekologie/agcd/>

***5-9 June 2005.***

**Shallow lakes in a changing world**, Dalftsen, The Netherlands.

Contact: [e.lammens@riza.rws.minvenw.nl](mailto:e.lammens@riza.rws.minvenw.nl)

Website: <http://www.shallowlakes.net>

***5-10 June 2005.***

The Society of Wetland Scientists invite wetland scientists from across the globe to Charleston, South Carolina for its **26th Annual International Wetlands Meeting** entitled "Coastal Plain Wetlands: Ecological, Landscape, and Regulatory Transformations"

Contact William Conner, Conference Chair. E-mail; [wconner@clemsun.edu](mailto:wconner@clemsun.edu).

website, <http://www.sws.org/charleston2005/>.

***19-24 June 2005.***

The **American Society of Limnology and Oceanography (ASLO)** will be holding its summer meeting in Europe in the famous town of Santiago de Compostela, Spain under the general theme of "A Pilgrimage Through Global Aquatic Sciences"

Contact: H.S. Lemay, Registration Coordinator and Meeting Manager

ASLO Business Office. E-mail: [business@aslo.org](mailto:business@aslo.org)

Website:

<http://www.aslo.org/meetings/santiago2005/>

***17-23 July 2005***

The **17th International Botanical Congress**, coinciding also with 100 years celebration of the IBC in Austria, will be held in the Austria Center Vienna. There are 31 options for excursions leading to important botanical places all over Europe. Famous fossil floras of the Triassic, Cretaceous and Miocene can also be visited.

Contact: see online registration form at

Website: <http://www.ibc2005.ac.at/>

**13-19 August 2005**

The **8th International Phycological Congress** Durban, South Africa.

Contact: Dr Stuart Sym, School of Animal Plant & Environmental Sciences, University of the Witwatersrand. E-mail:

[stuart@biology.biol.wits.ac.za](mailto:stuart@biology.biol.wits.ac.za)

Website: [www.ipc8.org.za](http://www.ipc8.org.za)

**August 2005**

**Meeting of the Chinese Regional Group on Charophytes (CRGC)**  
and **7<sup>th</sup> Biennial Meeting of Fossil Algal Association of China (FAAC)**

The Fossil Algal Association of China will hold its 7<sup>th</sup> biennial meeting in August of 2005 at Daqing, the famous petroleum city in Heilongjiang Province, where the largest oil field of China is located. The sessions will include academic presentations and discussion, a visit to the production facilities to learn the process of oil production, and also an excursion to extinct volcanic craters and crater lakes. Within the frame of the FAAC meeting, the Chinese Regional Charophyte Group will arrange its own seminar to focus on charophytes and some administrative activities. For more information and arrangements, please contact Dr. Qifei Wang at Nanjing Institute of Geology and Palaeontology, Chinese Academy of Sciences, 39 East Beijing Road, 210008 Nanjing, China. Email: [qfwang@nigpas.ac.cn](mailto:qfwang@nigpas.ac.cn) (20Mb) or [qfwanghm@hotmail.com](mailto:qfwanghm@hotmail.com) (2Mb)

**30 August –3 September 2005**

The **5<sup>th</sup> Regional Symposium on Fossil Algae**, will take place in Ferrara, Italy under the auspices of the International Fossil Algae Association (IFAA).

Contact: David Bassi E-mail: [bsd@unife.it](mailto:bsd@unife.it)

Website: <http://www.ku.edu/~ifaa/home.html>

**12-15 September, 2005**

The **15<sup>th</sup> International Symposium on Ostracoda**, Berlin, Germany organised by our colleague Michael Schudack. As for the IRGC, both living and fossil Ostracoda are being considered.

E-Mail: [schudack@zedat.fu-berlin.de](mailto:schudack@zedat.fu-berlin.de)

[userpage.fu-berlin/~palaeont/iso15.htm](http://userpage.fu-berlin/~palaeont/iso15.htm)

**26-30 September, 2005**

The **9th International Conference on Salt Lake Research** will be held in Perth, Western Australia, organised by our colleague Professor Jacob John from Curtin University.

E-mail: [J.John@curtin.edu.au](mailto:J.John@curtin.edu.au)

Websites: <http://isslr.org> and [http://muresk.curtin.edu.au/conference/ISSLR\\_Brochure.pdf](http://muresk.curtin.edu.au/conference/ISSLR_Brochure.pdf)

**4-7 January 2006**

The **54<sup>th</sup> Annual Meeting of the British Phycological Society** will be at the Marine Biological Association in Plymouth. Contact: Dr Alison Taylor. E-mail: [arta@mba.ac.uk](mailto:arta@mba.ac.uk). <http://www.brphycsoc.org/meetings.lasso>

**June 2006**

The **9<sup>th</sup> Symposium on Mesozoic Terrestrial Ecosystems and Biota**, Manchester UK  
<http://homepage.mac.com/paulsedden/MTE>

**6-11 September 2006**

The **7<sup>th</sup> European Palaeobotany-Palynology Conference** will take place in Prague, Czech Republic.

Contact: Stanislav Oplucil, Charles University, Prague. E-mail: [eppc2006@natur.cuni.cz](mailto:eppc2006@natur.cuni.cz)

Web-site: [natur.cuni.cz/eppc2006](http://natur.cuni.cz/eppc2006)

**September 2006**

The **6<sup>th</sup> Australian Algal Workshop** will take place at the University of Wollongong, Wollongong, Australia. The workshop is dedicated to the taxonomy of algae, with lectures and laboratory sessions, though ecology and palaeontology of Algae are also discussed. The strength of these workshops are their focus on identification of toxic algae and NATA regulations. Organisers: Dr Stephen Skinner and Dr Adriana García. Contact: Adriana García. E-mail: [adriana@uow.edu.au](mailto:adriana@uow.edu.au)

**14-15 October 2006**

The **14<sup>th</sup> Meeting of the Group of European Charophytologists (GEC)**  
**Barcelona, Catalonia (Spain)**

**First announcement**

The aim of the above meeting is to bring together all researchers interested in Charophytes. All aspects dealing with both living and fossil Charophytes are being considered. The meeting will be held at

Barcelona University, probably on 14-15 October 2006 and will include a field trip to localities with extant and fossil charophytes. A first circular will be sent in autumn 2005 to GEC members. Non-members should contact the organiser to receive further information.

**Organiser:** Dr. Jaume Cambra, Dept. Biologia Vegetal, Fac. Biologia, University of Barcelona. Av. Diagonal, 645. 08028 Barcelona. Catalonia. Spain. E-mail: jcambra@ub.edu.es

## **NEWS FROM THE REGIONAL GROUPS**

### Austral-Asian Charophyte Group (AACG)

At the IRGC meeting in Robertson, local members met to discuss the development of a regional group for the Australia-Asia-Pacific area. The aim of the group is to enhance contact and collaboration among members in the Asia-Pacific region, where many members are working in isolation in their own countries. Members from Japan, India, Taiwan, and Australia attended. The name was problematic, since so many cultures and countries and continents are involved. It was decided that it will function as an email group, with interested members sending their contact details to the co-ordinator of the group, Dr Michelle Casanova (Australia). Any notices of interest will be forwarded to the rest of the members, and the possibility of organising a regional conference was discussed. New members of IRGC in the region should contact Michelle if they wish to be included in the e-mailing list, and members of the group are encouraged to announce their publications and web site details to the group so that we can be aware of current knowledge and research.

### Group of European Charophyte Specialists (GEC)

Over many years, the GEC was co-ordinated by Dr J.P. Berger, Geological Institute, University of Fribourg, Switzerland. However, due to the increasing scientific and administrative responsibilities of many of the GEC members, a change in the structure of co-ordination appeared to be necessary. Thus, during the 14<sup>th</sup> meeting of the GEC in October 2003, the European Group decided upon a rotating presidency assumed by the organisers

of successive GEC meetings. The President now is Dr. Susanne Schneider, Limnological Station of the Munich Technical University at Iffeldorf, Germany. The next meeting is being organised in October 2006 by Professor Jaume Cambra-Sanchez and his Aquatic Ecology team of the Department of Plant Biology, University of Barcelona, Catalonia, Spain (see announcement this issue).

### Chinese Regional Group of Charophyte Specialists

During the last meeting of the group, in November 2004, Dr. Qi-fei Wang, Dr. Li-qiong Lan and Dr. Ping Yang were elected to serve for the regional committee. Coming from institute, university and oil company, respectively. We hope such allied committee will stimulate the multidiscipline research on charophytes in China.

## **PUBLICATION IN HYDROBIOLOGIA OF PAPERS FROM THE 4<sup>TH</sup> SYMPOSIUM OF IRGC (ROBERTSON, AUSTRALIA)**

The journal *Hydrobiologia* has kindly accepted to publish as a special volume, including biological and palaeontological aspects, the papers presented at the 4<sup>th</sup> IRGC Symposium. Twenty-three participants expressed their willingness to submit manuscripts for consideration, and these persons have been contacted during February 2004 with some general instructions. Please, also read the instructions provided by *Hydrobiologia* on the web and follow them in content and style while preparing the ms. This will reduce the time to revise the papers and will also obviate rejection of papers (the Editor-in-chief of *Hydrobiologia* has the final word about acceptance of papers).

The deadline to receive the manuscripts is **31 May 2005**, which have to be sent to Adriana García, whereupon the manuscripts will be sent for review to a group of charophyte experts, checking also the English for those papers produced by non-native-English speakers.

We will keep in touch via e-mail during the process of editing of the special volume. As cross-referencing of papers within the volume is encouraged, once we have all the

mss we will contact researchers having areas in common to see if such cross-referencing can be usefully encouraged.

**Adriana García and Allan R. Chivas**  
Guest Editors of *Hydrobiologia*

### ***CHAROPHYTE-LIST***

The 2004 General Assembly agreed about the need for a list server devoted to charophytes. Dr. Robin Scribailo (USA) has now established the system and it is almost ready to operate.

<*charophyte-L*> is an open forum for discussion about all aspects of Charophyte research.

All IRGC-members will soon receive an e-mail with instructions how to subscribe and how to make use of the list server that will be hosted at Purdue University, Westville IN, USA.

### ***CHAROPHYTES ON THE WEB***

Members who would like to have their personal homepage connected with the IRGC-web site are invited to send relevant information to Adriana García.

The **IRGC** homepage is hosted at:  
<http://www.uow.edu.au/science/eesc/irgc/index>

The **GEC** homepage is hosted at:  
<http://userpage.fu-berlin.de/~palaeont/gec.htm>

Landelijk Informatiecentrum voor  
Kranswieren: **(LIK)**:  
<http://www.kranswieren.nl> (in dutch)

The International Fossil Algae Association  
**(IFAA)**: <http://www.ku.edu/~ifaa/>

The Charophycean Green Algae Home Page:  
<http://www.life.umd.edu/labs/delwiche/Charophyte.html>

## ***HISTORY OF CHAROPHYTE RESEARCH***

### **Prof. Shui Wang: a pioneer of fossil charophyte research from China**

In the Chinese catalogue of charophyte taxa, the name of Shui WANG, abbreviated to S Wang, is outstanding. Prof. S Wang, was one of the first researchers doing charophyte research in China.

Prof. S Wang was born on 16<sup>th</sup> May, 1921 in Gaochun County of Jiangsu Province. After his discontinuous high school and university education due to the social disturbance in China, he graduated from Peking University in July of 1948 with a major in geology. From 1948 to 1953, he worked at the Beijing Institute of Geological Investigation, on hydrodynamic engineering and geological exploration. In 1953, Prof. S Wang moved to the Nanjing Institute of Geology and Palaeontology and began his career on palaeobotany, especially on fossil charophytes.

The first fossil charophyte from China was reported by Prof. Yen-hao LU, a famous trilobite expert in China. He gave a preliminary introduction on the fossil charophytes obtained from Xinjiang and southern China, within three papers dedicated to trilobites (1944, 1945 and 1948).

In 1954, Prof. S Wang published his first paper on Devonian charophytes, which was the starting point for a career dedicated to their study. His publications and reports on fossil charophytes provided a helpful framework for the division and correlation of strata in oil-bearing basins in China and covered many aspects of charophyte morphology, taxonomy, and biostratigraphy. In particular the assemblages and zones he established from the Cretaceous and Tertiary strata of Gansu, Qinghai and Jiangsu oil-productive areas, have been widely applied by oil companies and institutes during several decades. Besides formal publications, he produced many internal reports that solved many of the specific problems related with the drilling of the lacustrine sequences. The oil-bearing strata in China are mainly non-marine, thus charophytes have always played an important role in prospecting for oil. During 1960s China increased its investment in exploration and exploitation of non-renewable resources,

which resulted in a large collection of fossil charophytes and the need to rapidly advance research on this group, with many of our colleagues starting their careers then.

Acting as a leading paleontologist on fossil charophytes, Prof. Wang organized several seminars and training courses at the Nanjing Institute of Geology and Palaeontology, to train colleagues from universities and oil companies in the identification of charophytes. To increase the understanding and application of charophytes, Prof. Wang prepared a catalogue of charophytes based on Chinese material and specimens published in English, French and German, which were translated into Chinese by him. Such translation and compilation was really hard work taking into consideration that there were no computers and photocopy machines available at that time. The total number of researchers on charophytes increased to more than 80 and some of them are still active working on charophytes and relevant fields.

Prof. Shui Wang showed great enthusiasm for charophyte research and the mentoring of young colleagues. All the people who had worked with him were attracted by his pleasant personality and felt sorrow that Prof. Wang died of lung cancer on the 9 January, 1975 at

the age of 53. He is still missed by all the people who knew him.

Wang, Sh. and Sh. Zhang, 1956: On the Occurrence of *Sycidium melo* var. *pskowsensis* Karpinsky from the Devonian of Northern Szechuan. Acta Palaeontologica Sinica, 4(3): 381-386, 1 pls.

Wang Sh., 1961: Tertiary Charophyta from Chaidamu (Tsaidam) Basin, Qinghai (Chinghai) Province. Acta Palaeontologica Sinica, 9 (3):183-219, 7 pls.

Wang Sh., 1965: Mesozoic and Tertiary Charophyta from Jiuquan Basin of Kansu Province. Acta Palaeontologica Sinica, 13 (3): 463-499, 5 pls.

Wang, Sh., R. Huang, Ch. Yang and H. Li, 1978: Early Tertiary Charophytes from Coastal Region of Bohai. Science Press, Beijing, pp.1-49, 23 pls.

Wang, Sh., R. Huang, Z. Wang, X. Lin, Z. Zhang, X. Xu, 1982. Cretaceous and Cenozoic Charophytes from Jiangsu. Geological Publishing House, Beijing, 66 p., 28 pls.

**Qifei Wang (China)**

## E-MAIL ADDRESSES OF ALL IRGC MEMBERS

Please check the e-mail list and address directory carefully. **We particularly urge members to send any address changes (both surface mail and e-mail)** to the IRGC-Secretary, Adriana García <adriana@uow.edu.au> to make sure you will receive any forthcoming information.

ASAEDA, T.	<a href="mailto:asaedat@yahoo.co.jp">asaedat@yahoo.co.jp</a>	LIU Jun-ying	<a href="mailto:zmp@public.bta.net.cn">zmp@public.bta.net.cn</a>
BACIU, C.	<a href="mailto:cbaciu@bioge.ubbcluj.ro">cbaciu@bioge.ubbcluj.ro</a>	LU Hui-nan	<a href="mailto:luhuinan@nigpas.ac.cn">luhuinan@nigpas.ac.cn</a>
BASSLER, B.	<a href="mailto:b.bassler@lrz.uni-muenchen.de">b.bassler@lrz.uni-muenchen.de</a>	LUCAS, S.	<a href="mailto:lucas@nmmnh.state.nm.us">lucas@nmmnh.state.nm.us</a>
BEILBY, M. J.	<a href="mailto:mjb@newt.phys.unsw.edu.au">mjb@newt.phys.unsw.edu.au</a>	MAIER, E.	<a href="mailto:eduardmaier@wanadoo.nl">eduardmaier@wanadoo.nl</a>
BERGER, J. P.	<a href="mailto:Jean-Pierre.Berger@unifr.ch">Jean-Pierre.Berger@unifr.ch</a>	MANN, H.	<a href="mailto:hmann@swgc.mun.ca">hmann@swgc.mun.ca</a>
BHATIA, S. B.	<a href="mailto:sudhashi@sancharnet.in">sudhashi@sancharnet.in</a>	MARTIN, A.	<a href="mailto:ainsley@emartins.com">ainsley@emartins.com</a>
BLAZENCIC, J.	<a href="mailto:jblaz@EUnet.yu">jblaz@EUnet.yu</a>	MARTIN, G.	<a href="mailto:georg@klab.envir.ee">georg@klab.envir.ee</a>
BLINDOW, I.	<a href="mailto:blindi@uni-greifswald.de">blindi@uni-greifswald.de</a>	MARTIN-CLOSAS, C.	<a href="mailto:cmartin@natura.geo.ub.es">cmartin@natura.geo.ub.es</a>
BRUINSMA, J.	<a href="mailto:bruinsma@dse.nl">bruinsma@dse.nl</a>	MARTINEZ-COLON, M.	<a href="mailto:mike802914391@hotmail.com">mike802914391@hotmail.com</a>
BRYANT, J. A.	<a href="mailto:jem@nhm.ac.uk">jem@nhm.ac.uk</a>	MASZEWSKI, J.	<a href="mailto:jamasz@biol.uni.lodz.pl">jamasz@biol.uni.lodz.pl</a>
BUENO, N. C.	<a href="mailto:norma-catarina@uol.com.br">norma-catarina@uol.com.br</a>	McCOURT, R.	<a href="mailto:MCCOURT@say.acnatsci.org">MCCOURT@say.acnatsci.org</a>
CASANOVA, M. T.	<a href="mailto:amcnova@netconnect.com.au">amcnova@netconnect.com.au</a>	MEBROUK, F.	<a href="mailto:fatmeb@hotmail.com">fatmeb@hotmail.com</a>
CHAPMAN, R.	<a href="mailto:btruss@unix1.sncc.lsu.edu">btruss@unix1.sncc.lsu.edu</a>	MEIERS, S.	<a href="mailto:btmeie@unix1.sncc.lsu.edu">btmeie@unix1.sncc.lsu.edu</a>
CHEN Jing	<a href="mailto:chenjing_24@163.com">chenjing_24@163.com</a>	MELZER, A.	<a href="mailto:arnulf.melzer@wzw.tum.de">arnulf.melzer@wzw.tum.de</a>
CHIVAS, A. R.	<a href="mailto:toschi@ow.edu.au">toschi@ow.edu.au</a>	MUSACCHIO, E. A.	<a href="mailto:aldo@unpata.edu.ar">aldo@unpata.edu.ar</a>
CHOI, Sunja	<a href="mailto:sjchoi@rock25t.kigam.re.kr">sjchoi@rock25t.kigam.re.kr</a>	NAT, E.	<a href="mailto:e.nat@kranswieren.nl">e.nat@kranswieren.nl</a>
CHOU, Jui-Yu	<a href="mailto:8923021@bio.ncue.edu.tw">8923021@bio.ncue.edu.tw</a>	NIELSEN, R.	<a href="mailto:ruthn@bot.ku.dk">ruthn@bot.ku.dk</a>
CIRUJANO-BRACAMONTE, S.	<a href="mailto:santos@ma-rjb.csic.es">santos@ma-rjb.csic.es</a>	PREISIG, H. R.	<a href="mailto:preisig@systbot.unizh.ch">preisig@systbot.unizh.ch</a>
COMPERE, P.	<a href="mailto:P.Compere@BR.fgov.be">P.Compere@BR.fgov.be</a>	PORTER, J.	<a href="mailto:john.porter@npws.nsw.gov.au">john.porter@npws.nsw.gov.au</a>
COOPS, H.	<a href="mailto:H.Coops@riza.rws.minvenw.nl">H.Coops@riza.rws.minvenw.nl</a>	QING Ren-wei	<a href="mailto:qingrenweif@yahoo.com.cn">qingrenweif@yahoo.com.cn</a>
DALTON, R.	<a href="mailto:robert.dalton@canberra.edu.au">robert.dalton@canberra.edu.au</a>	RAABE, U.	<a href="mailto:uraabe@yahoo.de">uraabe@yahoo.de</a>
DEREKE, Zane	<a href="mailto:zdekere@email.lubi.edu.lv">zdekere@email.lubi.edu.lv</a>	RAY, S.	<a href="mailto:ray_samit1@yahoo.co.in">ray_samit1@yahoo.co.in</a>
DOEGE, A.	<a href="mailto:adoege@gmx.de">adoege@gmx.de</a>	RIVELINE, J.	<a href="mailto:riveline@ccr.jussieu.fr">riveline@ccr.jussieu.fr</a>
DOUGLAS-HILL, A.	<a href="mailto:adouglas@laguna.net">adouglas@laguna.net</a>	SAKAYAMA, H.	<a href="mailto:sakayama.hidetoshi@nies.go.jp">sakayama.hidetoshi@nies.go.jp</a>
DU Pin-de	<a href="mailto:dupinde@hotmail.com">dupinde@hotmail.com</a>	SCHAIBLE, R.	<a href="mailto:ralf.schaible@biologie.uni-rostock.de">ralf.schaible@biologie.uni-rostock.de</a>
EDGELL, S.	<a href="mailto:sedgell@netspeed.com.au">sedgell@netspeed.com.au</a>	SCHNEIDER, S.	<a href="mailto:susi.schneider@wzw.tum.de">susi.schneider@wzw.tum.de</a>
ELKHIATI, N.	<a href="mailto:nelkhiati@hotmail.com">nelkhiati@hotmail.com</a>	SCHUDACK, M.	<a href="mailto:schudack@zedat.fu-berlin.de">schudack@zedat.fu-berlin.de</a>
FEIST, M.	<a href="mailto:mofeist@isem.univ-montp2.fr">mofeist@isem.univ-montp2.fr</a>	SCRIBAILO, R.	<a href="mailto:rscrib@purdue.edu">rscrib@purdue.edu</a>
FLOR-ARNAU, N.	<a href="mailto:nurnu@yahoo.es">nurnu@yahoo.es</a>	SIMONS, J.	<a href="mailto:JSMNS@bio.vu.nl">JSMNS@bio.vu.nl</a>
FOISSNER, I.	<a href="mailto:ilse.foissner@sbg.ac.at">ilse.foissner@sbg.ac.at</a>	SINKEVICIENE, Z.	<a href="mailto:zofija.s@botanika.lt">zofija.s@botanika.lt</a>
FU Hua-long	<a href="mailto:fuhl@pridns.scu.edu.cn">fuhl@pridns.scu.edu.cn</a>	SMITH, D.	<a href="mailto:David.C.Smith@uea.ac.uk">David.C.Smith@uea.ac.uk</a>
GAO Qin-qin	<a href="mailto:gaoqqin@sina.com">gaoqqin@sina.com</a>	SMITH, J.	<a href="mailto:jenjanet@hotmail.com">jenjanet@hotmail.com</a>
GARBARY, D. J.	<a href="mailto:dgarbary@juliet.stfx.ca">dgarbary@juliet.stfx.ca</a>	SOULIÉ-MÄRSCHKE, I.	<a href="mailto:marsche@isem.univ-montp2.fr">marsche@isem.univ-montp2.fr</a>
GARCIA, A.	<a href="mailto:adriana@uow.edu.au">adriana@uow.edu.au</a>	STEPANOVIC, B.	<a href="mailto:vstev@eunet.yu">vstev@eunet.yu</a>
GEMAYEL, P.	<a href="mailto:gemayel@isem.univ-montp2.fr">gemayel@isem.univ-montp2.fr</a>	SVIRIDENKO, B.	<a href="mailto:common@omsk.edu">common@omsk.edu</a>
GILLET, Cl.	<a href="mailto:cgillet@cc.fundp.ac.be">cgillet@cc.fundp.ac.be</a>	TORN, K.	<a href="mailto:kairep@klab.envir.ee">kairep@klab.envir.ee</a>
GLASBY, P.	<a href="mailto:pglasby@picknowl.com.au">pglasby@picknowl.com.au</a>	URBANIAK, J.	<a href="mailto:urbaniak@biol.uni.wroc.pl">urbaniak@biol.uni.wroc.pl</a>
GRILLAS, P.	<a href="mailto:grillas@tourduvalat.org">grillas@tourduvalat.org</a>	VAN RAAM, J.	<a href="mailto:charaboek@hotmail.com">charaboek@hotmail.com</a>
GUERLESQUIN, M.	<a href="mailto:micheline.guerlesquin@uco.fr">micheline.guerlesquin@uco.fr</a>	VANITTERBECK, J.	<a href="mailto:Jimmy.vanitterbeeck@geo.kuleuven.ac.be">Jimmy.vanitterbeeck@geo.kuleuven.ac.be</a>
HAAS, J. N.	<a href="mailto:Jean-Nicolas.Haas@uibk.ac.at">Jean-Nicolas.Haas@uibk.ac.at</a>	VAN DE WEYER, K.	<a href="mailto:klaus.vdweyer@lanaplan.de">klaus.vdweyer@lanaplan.de</a>
HENRICSON, C.	<a href="mailto:catherine.henricson@helsinki.fi">catherine.henricson@helsinki.fi</a>	WALTHER, M.	<a href="mailto:mwaltherub@yahoo.co.uk">mwaltherub@yahoo.co.uk</a>
HEWITT, D.	<a href="mailto:dhewitt@oeb.harvard.edu">dhewitt@oeb.harvard.edu</a>	WANG, Qi-fei	<a href="mailto:qfwang@nigpas.ac.cn">qfwang@nigpas.ac.cn</a>
HUTOROWICZ, A.	<a href="mailto:ahut@infish.com.pl">ahut@infish.com.pl</a>	WANG, Wei-Lung	<a href="mailto:wlwang@cc.ncue.edu.tw">wlwang@cc.ncue.edu.tw</a>
JAMES, R.	<a href="mailto:Virazon@aol.com">Virazon@aol.com</a>	WINTON, M. de	<a href="mailto:M.dewinton@niwa.co.-2">M.dewinton@niwa.co.-2</a>
JIANG Fei-hu	<a href="mailto:jiangfeihu2002@sina.com">jiangfeihu2002@sina.com</a>	YANG Jing-lin	<a href="mailto:jlyang@nigpas.ac.cn">jlyang@nigpas.ac.cn</a>
JOHN, J.	<a href="mailto:RJACOBJO@cc.curtin.edu.au">RJACOBJO@cc.curtin.edu.au</a>	YOUSEF, M.	<a href="mailto:mamyousef@aol.com">mamyousef@aol.com</a>
JUNIOR, J.V.	<a href="mailto:jjunior@bot.ibilce.unesp.br">jjunior@bot.ibilce.unesp.br</a>	ZAKOVA, L.	<a href="mailto:luba_zhakova@mail.ru">luba_zhakova@mail.ru</a>
KAROL, K.	<a href="mailto:kkarol@u.washington.edu">kkarol@u.washington.edu</a>	ZAMANGARA, A.	<a href="mailto:zhamangara@nursat.kz">zhamangara@nursat.kz</a>
KRISHNAN, U.	<a href="mailto:ushak30@yahoo.com">ushak30@yahoo.com</a>	ZHANG Ze-run	<a href="mailto:zhangzerun@yahoo.com.cn">zhangzerun@yahoo.com.cn</a>
KWIATKOWSKA, M.	<a href="mailto:kwiat@biol.uni.lodz.pl">kwiat@biol.uni.lodz.pl</a>	ZHOU Xiu-gao	<a href="mailto:clxb@cug.edu.cn">clxb@cug.edu.cn</a>
LAMBERT-SERVIEN, E.	<a href="mailto:lambert@uco.fr">lambert@uco.fr</a>		
LAN Li-qiong	<a href="mailto:llqcg@263.net">llqcg@263.net</a>		
LI Wei-tong	<a href="mailto:lironc@sina.com">lironc@sina.com</a>		

***DIRECTORY OF IRGC MEMBERS***

Dr Takashi ASAEDA  
 Dept of Environmental Science  
 Saitama University  
 255, Shimo-okubo, Sakura  
 SAITAMA 338-8570  
Japan

Dr Călin BACIU  
 Babes-Bolyai University  
 Faculty of Environmental Sciences  
 M. Kogalniceanu str. 1  
 RO-400.084 CLUJ-NAPOCA  
Romania

Barbara BASSLER  
 Institut für Paläontologie  
 & Historische Geologie  
 LMU München  
 Richard-Wagner Str. 10  
 D-80333 MÜNCHEN  
Germany

Dr Mary Jane BEILBY  
 School of Physics & Biophysics  
 University of New South Wales  
 NSW 2052  
Australia

Prof. Dr J.P. BERGER  
 Institut de Géologie  
 Université de Fribourg  
 CH-1700 FRIBOURG  
Switzerland

Dr S. BHARATAN  
 2980. 'Z' Block  
 13th Main Road, Anna Nagar  
 CHENNAI 600040, Madras  
India

Prof. Shashi B. BHATIA  
 House N° 441, Sector 6  
 PANCHKULA - 134109,  
 Haryana  
India

Prof. Jelena BLAZENCIC  
 Institute of Botany  
 The University, Takovska 43  
 1100 BEOGRAD  
Serbia

Dr Irmgard BLINDOW  
 Ernst-Moritz-Arndt Universität Greifswald  
 Biologische Station Hiddensee  
 D-18565 KLOSTER  
Germany

Dr John BRUINSMA  
 Torbeckelaan 24  
 5694 CR BREUGEL  
The Netherlands

Dr Jenny A. BRYANT  
 Department of Botany, NHM  
 Cromwell Road  
 LONDON SW7 5BD  
Great Britain

Dr Norma Catarina BUENO  
 Universidade Estadual do Oeste do Parana  
 Campus Cascavel  
 Rua Universitaria 2069  
 Jardim Universitario, CEP 85814-110  
 CASCATEL - PR  
Brazil

Dr Michelle CASANOVA  
 'Langmorn', RMB L620  
 WESTMERE, Victoria 3351  
Australia

Prof. R.L. CHAPMAN  
 Department of Botany  
 Louisiana State University  
 BATON ROUGE  
 Louisiana 70803-1705  
USA

Prof. Allan CHIVAS  
 School of Earth and Environmental Sciences  
 University of Wollongong  
 WOLLONGONG NSW 2522  
Australia

Dr Sun-Ja CHOI  
 KIGAM  
 30 Kajungdong  
 Yusongku  
 TAEJON 305-50  
Republic of Korea

Dr Jui-Yu CHOU  
 Dept of Biology  
 National Changhua University of Education  
 CHANGHUA 500  
Taiwan

Dr Santos CIRUJANO-BRACAMONTE  
 Real Jardin Botánico de Madrid  
 Plaza de Murillo, 2  
 28014 MADRID  
Spain

Dr Pierre COMPERE  
Jardin Botanique National  
Domaine de Bouchout  
B-1860 MEISE  
Belgium

Dr Hugo COOPS  
RIZA  
PO Box 17  
NL - 8200 AA LEYLSTAD  
The Netherlands

Prof. Mirko CVIJAN  
Institute of Botany  
The University, Takovska 43  
1100 BEOGRAD  
Serbia

Dr Robert DALTON  
212 Duffy Street  
Mt. Ainslie  
ACT 2602  
Australia

Zane DEKERE  
Institute of Biology, Laboratory of Botany  
University of Latvia  
3 Miera street  
LV-2169, SALASPILS  
Latvia

Angela DOEGE  
Zum Pinzigberg 2  
D - 01665 TRIEBISCHTAL  
Germany

Dr Annabel DOUGLAS-HILL  
11070 Kanluran Road, Batong Malake  
LOS BANOS, LAGUNA  
Philippines

Dr Stewart EDGELL  
8 Barkly Crescent  
CANBERRA  
ACT 2803  
Australia

Dr Najat EL KHIATI  
Faculté des Sciences  
Lab. de Biologie Végétale  
BP 5366  
CASABLANCA  
Morocco

Dr Monique FEIST  
Laboratoire de Paléobotanique  
Université Montpellier II, C.P. 062  
Place E. Bataillon  
F - 34095 MONTPELLIER-Cedex 5  
France

Dr Peter FIRBAS  
Ljubljanska 74  
61230 DOMZALE  
Slovenia

Nuria FLOR-ARNAU  
C/Padre Claret, 103 (3-4)  
0825 BARCELONA  
Spain

Ilse FOISSNER  
University Salzburg  
Hellbrunnerstr. 34  
A - 5020 SALZBURG  
Austria

Dr David J. GARBARY  
Dept of Biology,  
St. Francis Xavier University, PO Box 5000  
ANTIGONIS, NS  
Canada B2G 2W5

Dr Adriana GARCIA  
School of Earth and Environmental Sciences  
University of Wollongong  
WOLLONGONG NSW 2522  
Australia

Pierrette GEMAYEL  
Laboratoire de Paléobotanique  
Université Montpellier II, C.P. 062  
Place E. Bataillon  
F - 34095 MONTPELLIER-Cedex 5  
France

Prof. Claude GILLET  
Laboratoire de Biologie Végétale  
61 rue de Bruxelles  
B-5000 NAMUR  
Belgium

Peter GLASBY  
PO BOX 318  
MT. BARKER, SA 5251  
Australia

Nicole GRAMBAST-FESSARD  
Laboratoire de Paléobotanique  
Université Montpellier II, C.P. 062  
Place E. Bataillon  
F - 34095 MONTPELLIER-Cedex 5  
France

Dr Patrick GRILLAS  
Station biologique de  
la Tour du Valat, Le Sambuc  
F -13200 ARLES  
France



Dr Micheline GUERLESQUIN  
 Laboratoire de Biologie Végétale  
 IRFA, UCO, BP 808  
 Place André Leroi, 3  
 F - 49005 ANGERS Cedex 01  
France

Dr Jean Nicolas HAAS  
 University of Innsbruck  
 Department of Botany  
 Sternwartestraße 15  
 A-6020 INNSBRUCK  
Austria

Catherine HENRICSON  
 Lautta Saarentie  
 7B23  
 00200 HELSINKI  
Finland

David HEWITT  
 Farlow Herbarium  
 Harvard University  
 22 Divinity Ave  
 CAMBRIDGE, MA 02138  
USA

Andrzej HUTOROWICZ  
 The Stanislaw Sakowicz  
 Inland Fisheries Institute  
 ul. M. Oczapowskiego 10  
 PL - 10-719 OLSZTYN – KORTOWO  
Poland

Dr Ala A. ISHCENKO  
 Geological Institute,  
 Chkalova 55B  
 252054 KIEV  
Ukraine

Dr Russell JAMES  
 Ancient Lake, LLC -TTV-6,  
 FACTORYVILLE, PA 18419  
USA

Prof. Jacob JOHN  
 School of Environmental Biology  
 Curtin University  
 GPO Box U1987  
 PERTH W.A. 6001  
Australia

Prof. Jair VIEIRA Junior  
 IBILCE/UNESP - Dep. de Botânica  
 Rua Cristóvão Colombo no. 2265  
 Bairro Jardim Nazareth  
 CEP 15.054-000  
 SÃO JOSÉ DO RIO PRETO  
Brazil

Dr Kenneth G. KAROL  
 Research Associate  
 Department of Biology  
 408 Hitchcock Hall, Box 355325  
 University of Washington  
 SEATTLE, WA 98195  
USA

Dr Heinz KOZUR  
 RezSü u. 83  
 H-1029 BUDAPEST  
Hungary

Dr Usha KRISHNAN  
 3, Lakshmi Street  
 Alagappa Nagar  
 Kilpauk,  
 CHENNAI 600010  
India

Prof. Maria KWIATOWSKA  
 Department of Cytophysiology  
 The University  
 ul. Pilarskiego 14,  
 PL-90-237 LODZ  
Poland

Dr Elisabeth LAMBERT-SERVIEN  
 CEREAL - IBEA/UCO  
 44 rue Rabelais, B.P. 10 808  
 F- 49008 ANGERS–Cedex 01  
France

Dr Spencer LUCAS  
 MNH, 1801 Mountain Road  
 ALBUQUERQUE, New Mexico 87104  
USA

Dr E. X. MAIER  
 Dunantsingel 68  
 NL - 1902 EB CASTRICUM  
The Netherlands

Dr Henry MANN  
 Dept of Biology  
 Sir Wilfred Grenfell College, M.U.N.  
 CORNER BROOK, NF  
Canada

Dr Ainsley MARTIN  
 170 Grays Point Road  
 GRAYS POINT NSW 2232  
Australia

Prof. Georg MARTIN  
 Estonian Marine Institute  
 Department of Marine Biology  
 Marja 4D, 10617 TALLINN  
Estonia

Dr Carles MARTIN-CLOSAS  
 Depto de Geología  
 Facultat de Geología  
 Zona Universitaria Pedralbes  
 08071 BARCELONA  
Spain

Michael MARTINEZ-COLON  
 Calle IA-I-E  
 Urb. Costa de Oro  
 DORADO  
Puerto Rico 00646

Dr Alicia MASRIERA  
 Museo de Geología  
 Parc de la Ciutadella s/n  
 08003 BARCELONA  
Spain

Dr Janusz MASZEWSKI  
 Department of Cytophysiology  
 The University  
 ul. Pilarskiego 14  
 PL-90-237 LODZ  
Poland

Dr Richard M. McCOURT  
 Academy of Natural Sciences  
 1900 Benjamin Franklin Parkway  
 PHILADELPHIA, PA 19103  
USA

Dr Fateh MEBROUK  
 Departement de Géologie  
 Faculté des Sciences  
 Université de Jijel  
 BP 98 Ouled Aïssa  
 18 000 JIJEL  
Algeria

Dr Susan T. MEIERS  
 Department of Biology  
 372 Waggoner Hall  
 Western Illinois University  
 MACOMB,  
 IL 61455  
USA

Prof. Arnulf MELZER  
 Limnologische Station der TU München  
 Hofmark 3  
 D - 82393 IFFELDORF  
Germany

Prof. Eduardo MUSACCHIO  
 UNPSJB  
 Ciudad Universitaria  
 9000 COMODORO RIVADAVIA  
Argentina

Dr Emile NAT  
 Landel. Informatiec. voor Kranswieren  
 c/o Nationaal Herbarium  
 Nederland  
 Dept. Algologie room C112  
 P.O. Box 9514  
 NL-2300 RA LEIDEN  
The Netherlands

Ruth NIELSEN,  
 Associate Professor, Curator  
 Botanical Museum & Library  
 Gothersgade 130  
 1123 COPENHAGEN K  
Denmark

Dr Clemens PICHLER  
 Institut für Pflanzen-Physiologie  
 Althanstr. 14  
 A-1090 WIEN  
Austria

John PORTER  
 BSR Div., NSW National Parks  
 & Wildlife Services  
 PO BOX 1967  
 HURSTVILLE, NSW 2220  
Australia

Prof. H.R. PREISIG  
 Institut für Systematische Botanik  
 Zollikerstraße 107  
 CH-88008 ZÜRICH  
Switzerland

Dr Vernon W. PROCTOR  
 2622, 22<sup>nd</sup> Street  
 LUBBOCK, TX 79410-1616  
UUUSA

Dr Uwe RAABE  
 Borgsheider Weg 11  
 D - 45770 MARL  
Germany

Dr Samit RAY  
 Department of Botany  
 Visva-Bharati University  
 SANTINIKETAN 731235  
 West Bengal  
India

Dr Janine RIVELINE  
 Géologie sédimentaire,  
 Tour 14-16, 4<sup>ème</sup> étage  
 Université P et M Curie  
 4 pl. Jussieu  
 F - 75252 PARIS Cedex 5  
France

Dr L.Y. SAIDAKOWSKI  
Rul. Dzerginsky 61, ap. 21  
284025 IVANO-FRANKOSK  
Ukraine

Dr Hidetoshi SAKAYAMA  
Environmental Biology Division  
National Institute for Environmental Studies  
16-2 Ohogawa, Tsukuba  
IBARAKI 305-8506  
Japan

Ralf SCHAIBLE  
University of Rostock,  
FB Biowissenschaften, Aquatische Ökologie  
Albert-Einstein Str. 3  
D - 18051 ROSTOCK  
Germany

Dr Susanne SCHNEIDER  
Limnologische Station  
der TU München  
Hofmark 3  
D - 82393 IFFELDORF  
Germany

Dr Michael SCHUDACK  
Institut für Geologische Wiss.  
Fachrichtung Paläontologie  
FU Berlin, Malteserstr.74-100  
D-12249 BERLIN  
Germany

Dr Robin W. SCRIBAILO  
Biological Sciences,  
Purdue University North Central  
1401 S. U.S. 421,  
WESTVILLE  
IN 46391-9528  
USA

Dr J. SHAIKIN  
Geological Institute,  
Chkalova 55B  
252054 KIEV  
Ukraine

Dr Jan SIMONS  
Vrije Universiteit, Fac. Biology  
Dept of Plantecology  
De Boelelaan 1087  
NL-1081 HV AMSTERDAM  
The Netherlands

Dr Zofija SINKEVICIENE  
Institute of Botany  
Zaliuju ezeru 49  
LT - 2021 VILNIUS  
Lithuania

Dr David SMITH  
30, The Street Honingham  
NORWICH NORFOLK  
KB-NR9 5 BL  
Great Britain

Dr Janet SMITH  
School of Geography &  
Environmental Studies,  
University of Tasmania, PO BOX 252-78  
HOBART, 70001  
Australia

Dr Ingeborg SOULIE-MÄRSCHÉ  
Laboratoire de Paléobotanique  
Université Montpellier II  
C.P. 062  
Place E. Bataillon  
F - 34095 MONTPELLIER-Cedex 5  
France

Dr Branca STEVANOVIC  
Institute of Botany  
The University  
Takovska 43  
1100 BEOGRAD  
Serbia

Dr. Boris F. SVIRIDENKO  
Omsk State Pedagogical University  
Botany Department,  
Tukhachevsky Emb., 14  
644099 OMSK,  
Russia

Kaire TORN  
Estonian Marine Institute  
Department of Marine Biology  
Marja 4D  
10617 TALLINN  
Estonia

Dr Jacek URBANIAK  
Institute of Botany, Wroclaw University  
Kanonia 6/8  
PL-50-328 WROCLAW  
Poland

Dr J.C. VAN RAAM  
S-Gravesandelaan 32  
NL-1222 TA HILVERSUM  
The Netherlands

Jimmy VAN ITTERBEECK  
KUL-AFD  
Historische Geologie  
Redingenstraat 16  
B-3000 LEUVEN  
Belgium

Dr Wei-Lung WANG  
 Dept of Biology  
 National Changhua University of Education  
 CHANGHUA 500  
Taiwan

Prof. Michael WALTHER  
 Dep. of Physical Geography  
 Faculty of Geography  
 P.O. Box 337  
 ULAANBAATAR – 46  
Mongolia

Dr Klaus Van de WEYER  
 Lana-Plan  
 Lobbericher Str. 5  
 D-41334 NETTETAL  
Germany

Dr Ursula WINTER  
 Im Hollergrund 69  
 D-20209 BREMEN  
Germany

Dr Mary de WINTON  
 C/o NIWA, PO Box 11-115  
 HAMILTON  
New Zealand

Dr Mohamed YOUSEF  
 Hauptstr. 34a  
 D - 21646 HOLVEDE  
Germany

Dr Liuba ZHAKOVA  
 Laboratory Brackish Water Biology  
 Zoological Institute of Russian  
 Academy of Science  
 University embankment, b.1  
 R -199034 St. PETERSBURG  
Russia

Dr Aizhan K. ZHAMANGARA  
 Laboratory of Geobotany  
 Institute of Botany & Phytointroduction  
 ENVIRC36 D, Timiryazev Str.  
 ALMATY 480090  
Kazakhstan

### *The Chinese Regional Group*

Dr. CHEN Jing  
 NW China Bureau of Petroleum Geology  
 Beijing Road  
 ULUMUQI, XINJIANG 830011  
P. R. China

Miss DU Pin-de  
 Institute of Petroleum Exploration  
 and Exploitation Division Company of  
 Tarim Oil field,  
 KUERLA  
 Xinjiang 841000  
P. R. China

Prof. FU Hua-long  
 Department of Biology  
 Sichuan University  
 Wangjiang Road, 29  
 CHENGDU 610064, Sichuan  
P. R. China

Dr. GAO Qin-qin  
 Institute of Petroleum Exploration and Exploitation  
 Division Company of Tarim Oil field  
 KUERLA  
 Xinjiang 841000  
P. R. China

Dr. GE Chun-pei  
 Institute of Exploration  
 Jiangnan Mineralogic Administration  
 QIANJIANG 433124, Hubei  
P. R. China

Dr GUO Shu-yuan  
 Geological Team  
 N China Bureau of Petroleum Geology  
 Funiu Road South,  
 ZHENGZHOU  
 Henan 450007  
P. R. China

Dr. HU Ji-min  
 Geological Team  
 Central-South China Bureau of  
 Petroleum Geology  
 CHANGSHA, Dongjingpu  
 Hunan 410117  
P. R. China

Dr HUANG Ren-jin,  
 Nanjing Institute of Geology and Palaeontology  
 39, East Beijing Road,  
 NANJING 210008  
P. R. China

Dr. JIANG Fei-hu  
 Research Institute of Exploration and Development  
 Zhongyuan Oilfield  
 PUYANG, Henan 457001  
P. R. China

Dr JIANG Yuan  
 Henan Research Institute of Geology  
 28 Golden Water Road  
 ZHENGZHOU  
 Henan 450053  
P. R. China

Dr LAN Li-qiong  
 Department of Biology  
 Sichuan University  
 Wangjiang Road, 29  
 CHENGDU, 610064  
 Sichuan  
P. R. China

Dr LI Wei-Tong  
 Department of Geology  
 Jiangnan Petroleum Institute  
 JINGZHOU, Hubei 434102  
P. R. China

Dr LI Zu-Wang  
 Coal-field Geological Prospecting Company  
 219 Tian Shui Lu  
 LANZHOU, Gansu 730000  
P. R. China

Dr LIN Xiao-dong  
 Zhejiang Geological School  
 HANGZHOU, Zhejiang 310015  
P. R. China

Dr LIU Jun-ying  
 Institute of Geology  
 Academy of Geological Sciences  
 26, Baiwanzhuang Road  
 BEIJING 100037  
P. R. China

Prof. LU Hui-nan  
 Nanjing Institute of Geology and Palaeontology  
 Academia Sinica,  
 39, East Beijing Road,  
 NANJING 210008  
P. R. China

Dr LUO Qi-xin  
 Petroleum Institute  
 Administrative Bureau  
 KARAMAY  
 Xinjiang 834000  
P. R. China

Dr. QING Ren-wei  
 Department of Biology  
 Sichuan University  
 Wangjiang Road, 29  
 CHENGDU 610064, Sichuan  
P. R. China

Dr TANG Lun-he  
 Exploration and Development  
 Research Institute of  
 Qinghai Petroleum  
 Administration QILIZHEN  
 Dunhuang, Gansu  
P. R. China

Dr WANG Hai-xin  
 Geological Team  
 North China Bureau of Petroleum Geology  
 Funiu Road South  
 ZHENGZHOU, Henan 450007  
P. R. China

Dr WANG Qi-fei  
 Nanjing Institute of Geology and Palaeontology  
 Academia Sinica,  
 39, East Beijing Road  
 NANJING 210008  
P. R. China

Dr WU Shou-fa  
 Geological Institute of Shengli Oilfield  
 Administration  
 DONGYING, Shandong  
P. R. China

Dr.Xiu Shen-chang  
 Geological Institute of Shengli Oilfield  
 Administration  
 DONGYING, Shandong  
P. R. China

Dr YANG Guo-dong  
 NW China Bureau of Petroleum Geology  
 Beijing Road  
 ULUMUGI, Xinjiang  
P. R. China

YANG Jing-lin  
 Nanjing Institute of Geology and Palaeontology  
 Academia Sinica,  
 39, East Beijing Road  
 NANJING 210008  
P. R. China

Dr YANG Ping  
 Exploration and Development Research Institute,  
 Qinghai Oil Field Company PetroChina  
 DUNHUANG, 736202, Gansu Province  
P. R. China

Dr ZENG De-min  
Geological Team  
Central-South China Bureau  
of Petroleum Geology  
Changsha, Dongjingpu, Hunan 410117  
P. R. China

ZHANG Guo-zhi  
Department of Biology, Sichuan University  
Wangjiang Road, 29  
CHENGDU 610064, Sichuan  
P. R. China

Dr ZHANG Ze-run  
Petroleum Geology  
Ministry of Geology & Mineral resources  
Funiu Road, ZHENGZHOU, Henan 450007  
P. R. China

Dr ZHAO Zhi-ging  
Box 901  
PUYANG, Henan 457001  
P. R. China

Dr ZHOU Xiu-gao  
Department of Geology  
University of Geosciences  
WUHAN 430074  
P. R. China