Nanjing, China, October 16 to 19, 2000

Report of the 3rd International Symposium on Extant and Fossil Charophytes

Organized by Prof. Lu Huinan with the support of prestigious institutions, the 3rd International Symposium on Extant and Fossil Charophytes, held in Nanjing, China, from October 16 to19, 2000, was a sound success. Thirty delegates from eleven different provinces of China and from eight foreign countries distributed on four continents attended the meeting and contributed with their presentations and posters to all topics in Charophyte research. The meeting was held in the Library building of the Nanjing Institute of Geology and Palaeontology, newly equipped with slide-, overhead- and video projectors. The presentations were followed by lively interdisciplinary debate, which allowed us to get new insights into our specialities.

Studies on molecular phylogeny of Charophytes introduced the symposium and presented new arguments based on rbcL-sequences, which support the monophyletic status of particular traditional taxa such as Nitellae, Chareae and the subsections of Wood. A study on the phyllotaxis of Characeae allowed us to discover new synapomorphic characters between charophytes and land plants and to get a better understanding of the construction of charophyte thalli and gyrogonites. The applied interest of charophyte ecology for the control of water quality in the Netherlands was illustrated with an impressive set of data and photographs. Presentations about biogeography showed the importance of doing censuses of charophyte localities both for the evaluation of biodiversity in China, the Balkan Peninsula and Australia. The discovery of new extant forms in ephemeral ponds hidden in remote regions of Australia is especially promising from this point of view.

A number of presentations were devoted to palaeontology. Morphology is the basis of all palaeontological research and contributions dealing with the structure of Palaeochara and other Palaeozoic charophytes of China and the charophytic nature of Munieria baconica were presented. Biostratigraphical correlation continues to be an active subject of research all around the world but especially in China, where charophyte biostratigraphy is applied to the prospection of oil. Presentations about fossil Charophyte floras from the Lower Cretaceous of the Ordos basin (China), Upper Cretaceous of Hebei (China), Cretaceous-Tertiary boundary of Dangyang (China), the Tertiary from Kazakstan and Northwestern China, the Eocene of the Pyrenees (Spain) and the Miocene of the Lenghu structural belt (China) illustrated this point. The first biozonation of Palaeozoic charophytes based on data from Chinese basins was also presented and is a milestone in biostratigraphical research. New data on taxonomy of fossil species included contributions devoted to the Palaeozoic of the Tarim basin in China and the Cenozoic of Kazakstan. Contributions on palaeoecology and palaeobiogeography were also presented concerning the Miocene-Pliocene boundary in India and the Spanish Lower Cretaceous, where charophytes are found associated to the first putative aquatic angiosperms.

In addition to the general high quality of the presentations, the participants were especially impressed by the excellent organization and extreme hospitality of the team leaded by Prof. Lu Huinan and Wang Qifei. The facilities provided during the meeting both in the Nanjing Institute of Geology and Palaeontology, Academia Sinica and in Hotel Liu Yuan from the Southeast University were the clue of the success. The friendly ambiance created by the organizers allowed us to exchange experiences, ideas and also friendship, breaking barriers of language and culture. The excellent chinese food, beer and “wine” were also very helpful for that purpose. The sessions were closed with the general assembly of the IRGC, which included the election of the new executive committee (see detailed information in this issue). However, the symposium did not end at that point since it included two post-meeting excursions.

The first, devoted to the study of extant charophytes in lake Thai (Taihu) allowed the participants to visit the Limnological Research Centre and to collect charophytes in a locality close to the Northeastern lakeshore where seven species were identified (Nitella hyalina, Nitella sp., Nitellopsis obtusa, Chara zeylanica, Chara fibrosa, Chara corallina and Chara globularis). Some of these taxa were formerly unknown in Taihu.

The second excursion was devoted to the continental Middle Jurassic of Zhucun section. Abundant fossil gyrogonites mainly belonging to genera Porochara and Aclistochara were found in alluvial and lacustrine deposits of the Luoling Formation, in the picturesque countryside of Lishui County. We were all surprised to realize that mediatic importance was given to our field-trip, with the presence of local authorities and interviews for the TV.

Other social events such as the visit to the mausoleum of Dr. Sun Yat-sen and the dinner in Fuzimiao, the historical district of Nanjing, were also unforgettable experiences. Most of us had the feeling that this 3rd Symposium of the IRGC could well have lasted some days more since time was short to discuss and compare in detail both the materials brought by the participants and the plants collected during the excursion and, of course, also because we would have liked to enjoy the hospitality of Lu Huinan, Wang Qifei, Zhang Shanzhen and all their collaborators from the NIGP for a more extended period. Therefore, on the behalf of all delegates, I would like to express our sincere thanks to the organizers for this memorable week in the People's Republic of China.

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Report on the field trip to Tai Lake (Jiangsu Province, China)

The world charophyte community enjoyed a diverse and stimulating meeting on 16-19 October 2000 in Nanjing dealing with all aspects of living and fossil charophytes. The participants from 10 different countries plus the colleagues from China had a very productive time discussing the latest news on charophytes. All of us have to thank and congratulate the principal organisers (Prof. Lu Huinan, Wang Qifei) for a very good meeting. Particularly pleasant were the excursions dedicated to search and collecting living charophytes from Tai Hu (Tai Lake), Wuxi, and to visiting a locality with Mesozoic charophytes from Zhucun, Lishui County.

During the travel, about 200 km South of Nanjing, we were able to see the rapid growth of China and the general welfare of society, also in the small villages that we visited. Around Nanjing all the land is divided into small farms most of them with artificial ponds for irrigation. This is easily seen from the air when arriving. There is also an increasing concern to protect the country from pollution.

This short report focuses on the field trip to Tai Hu, a large fresh water lake where fishing activities (including the farming of crabs) are developed. We reached the centre of the lake using two outboard boats, guided by two experienced drivers who in turn, learned very quickly how to collect/recognise charophytes.

We had to divide into two groups, one going to the lake while the other went to see famous and impressive temples and statues and vice versa, and we established a competition to see which group was the best in collecting charophytes. It did not matter who loose, the really amazing outcome was that in a very small area of few square metres we collected 7 different species. And we were all so enthusiastic that we decided on the next free day to go to the lab instead of sightseeing! Some specimens were pressed and put in cultures at the Nanjing Institute, other specimens were taken by colleagues interested in systematics, molecular biology, ecology or gyrogonite morphology.

From the guide book of the excursion we learnt that the Tai Lake is one of the largest fresh water lakes from China, developed during the Tertiary in the southern part of the Yantze River delta. The lake is located in a transitional area between the north and middle subtropical zone. The average water depth is 2.12 m, and the water appeared greenish at the time of collection. The salinity is around 0.2 gL-1, and the pH 6.0 to 6.9.

The following is a list of Charophyte species, as identified in the laboratory of the NIGP the day after the excursion :

- Nitellopsis obtusa (female plant). It is clearly a species of Nitellopsis.
- Chara fibrosa, monoecious
- Chara zeylanica, monoecious
- Chara globularis, sterile on the youngest part of the plant, but with some gyrogonites still attached in the older whorl of branchlets.

- Chara corallina, immature. The male and female gametangia grow inside the whorl of branchlets, the male also on the branchlet nodes, no stipulodes, no bract-cells.
- Nitella hyalina, monoecious. It has the typical 3 rows of branchlets.
- Nitella sp., with very thin branchlets, sterile, so we could not proceed further in its identification.

I would like to take the opportunity to thank the organizers from China and the IRGC committee for the great success of the meeting. And I am sure that everybody will agree with me on this point.

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