

## **Madison, USA, July 8-13 1996**

### **Report on Scientific sessions**

The Second International Symposium was held on July 7-13, 1996 at the University of Wisconsin in Madison, Wisconsin, USA. The Organizers were Monique Feist and Ingeborg Soulie-Märsche of the University of Montpellier, and Linda E. Graham, the local host at the University of Wisconsin. The 34 participants representing ten countries enjoyed the beautiful lakeside location of the university campus, the excellent meeting room, the gracious hospitality of the local host, Dr. Linda Graham, and the comradery of their fellow participants. The symposium began with registration and a welcome reception in stately lobby of Birge Hall (home of the Botany Department) on Sunday evening.

The program session began on Monday morning in the modern lecture auditorium of Weeks Hall (home of the Geology Department and the Geoscience Museum). The opening session, like the remainder of the program, contained an interesting mixture of different types of research beginning with two presentations on DNA sequencing studies followed by presentation on morphological characters and then of "charophytivory." The remaining presentation session (Monday afternoon and all day on Tuesday) covered topics such as the ecology, ecophysiology, and distribution of extant taxa, extant gyrogonite populations of *Chara* spp., and a series of papers on fossil studies. The latter series included presentations on paleoecological studies on community structure, biozonation, and charophyte diversity. The oral presentations were complemented by several poster displays in the auditorium and adjoining lobby area.

During the symposium the IRGC business session and election were held (see other articles in this newsletter to read about the election results and other decisions made at the meeting). The successful symposium ended with a reception in the botanical garden near Birge Hall at which time a thank you gift was presented to the local host, Dr. Linda Graham. Many of the symposium participants took part in the excursion to Northern Iowa to collect charophyte fossils with Gilbert Klapper and to watch Vernon Proctor lead the group in collecting some living material.

**Russell L. Chapman, Louisiana State University**

### **Report on Excursion 1:**

#### **Field Trip to Devonian Charophyte collecting sites in Northern Iowa.**

Twenty-three of those attending the Madison, Wisconsin, meeting of the IRGC participated in the four day field trip to northern Iowa to collect Devonian and Modern Charophytes. The first two days were devoted to travel and to collecting fossil specimens, led by Gilbert KLAPPER of the University of Iowa.

The route westward from Madison traversed Late Cambrian sandstones and dolomites as well as Early Ordovician dolomites of the Prairie du Chien group. After a picnic lunch at Pikes Peak State Park in Iowa overlooking the Mississippi River, atop cliffs of Ordovician formations (Prairie du Chien, St Peter, Plattsville, Decorah and Galena), the group continued westward to the first collecting stop at Bird Hill East near Mason City, Iowa. There, small roadside exposures of the limy shales in the upper part of the Cerro Gordo Member of the Lime Creek Formation (Late Devonian-Frasnian) were explored.

Monique Feist presented a brief discussion of the Charophytes that she and Gil Klapper had previously collected there, which were identified as *Moellerirra greenei* and *Karpinskya bitineata*. Orientation of these primitive gyrogonites was discussed, as there continues to be problems concerning their orientation and the relationship between *Moellerirra* and *Karpinskya*. After several minutes search, the first specimen of a Charophyte was found by Michelle Casanova; then many more were found along with various megafossils.

The second day the group spent several hours, including lunch, at the former Rockford Brick and Tile Quarry, now a Nature Preserve. Here again the Cerro Gordo Member, as well as the uppermost

Juniper Hill Member of the Lime Creek Formation are exposed. Gyrogonites were seen in limestone samples, while shales were collected for later washing.

Dr Day of the University of Iowa gave a brief presentation and interpreted the depositional environment of the Lime Creek as that of a shallow restricted and open marine carbonate shelf and shelf margin. Thus the Charophytes were probably washed in from bordering non-marine areas.

**Barbara and James Conkin, University of Louisville (Kentucky, USA)**

## **Report on Excursion 2:**

### **Freshwater lakes and ponds of Northern Iowa with extant characean species**

The second excursion of the Wisconsin meeting of the IRGC started out where the first excursion finished: Rockford quarry. As well as being a site for the discovery of Devonian charophyte gyrogonites, there were several habitats for extant Chara in the area. Professor Vernon Proctor led us down to a pond where there was a lot of Chara contraria and a little Chara globularis. Elodea canadensis also occurred there as well as lots of herbivores. The charophytes were therefore species that were resistant to grazing by scuds and beetles. We also visited another pond at the site and there was some discussion about the relative importance of the age of the water body and herbivore abundance in determining charophyte species abundance. At this site there were species of Cyperus, Juncus, Eleocharis, Najas, Potamogeton as well as assorted frogs, damselflies, dragonflies and birds. The lake was in a nature reserve where there were planted prairie grasses and wildflowers. Many characteristics of ponds play a part in the determination of charophyte abundance, Professor Proctor's constant contention was that herbivore abundance plays an important part.

We arrived at Iowa Lakeside Laboratory later that day, in time to hear a history of the site by the manager. After a stroll around the shore, making a meal for mosquitos, we ate a cheerful dinner with the students and staff of the laboratory. We eventually retired to the Super 8 Motel for a good nights sleep.

We had an early start the next morning and headed off to Jackpot pond, one of the Iowa prairie potholes that Henry Crum worked on for his PhD thesis. Crum found that this one had up to 8 species of charophyte present, although not all at the same time. For the visit of the IRGC there were three species present, Chara braunii, C. contraria, and C. globularis. Chara braunii was scarce and the scuds and hydrophyllid beetles were abundant. The coexistence of C. braunii and scuds was contrary to expectations since Crum had described the site as being 'ephemeral'. It was explained that 'ephemeral' in the local sense meant drying every 3 to 5 years. It is likely that the diverse charophytes would be present in the seed bank of the pond, and present in the spring or in years following a dry spell. The pond has also been divided into 4 separate ponds by intersecting roads, and it is possibly different in each of the four sections. As it was, Jackpot pond was not the same as when Crum sampled there.

Our next stop was at Silver Lake Fen. A fascinating site with Chara contraria in small ponds down a slope where spring water seeped through. Most of the participants ended up with wet shoes, or bare feet as we squelched among the sedges, charophytes and Triglochin. Utricularia was also present at the site.

On return to the Lakeside Laboratory we were given the opportunity to examine flowering specimens of Lemnaceae. Most of us took the opportunity to examine, what is in some places, a rare event. This interlude was followed by a spirited boating party onto West Lake Okoboji to look for charophytes. We found Chara contraria at depths from 30 cm to up to 4 m deep. A cheer went up when charophytes were collected from these depths. Despite lots of diving and looking we found no Tolypella on this occasion. Upon return we took advantage of the facilities offered by the Lakeside Laboratory and examined the specimens collected under the microscope. The people at Iowa Lakeside Laboratory made us feel most welcome and provided us with all that we could need.

The rest of the trip involved much discussion about charophytes, and some sampling of beer. I found it a delightful experience to be surrounded by so many enthusiastic charophyte aficionados. Culture and language appeared to be no barrier to communication about charophytes. I am unlikely to experience the same again before the next meeting of the International Research Group on Charophytes, possibly in China. Congratulations to the organisers of the conference and excursions, they were an experience that I look back upon with pleasure!

**Michelle Casanova University of Armidale (Australia)**