

## **Workshop "Methods in Ostracodology" (Graz, 14th - 17th July 2008) - Brief Report**

The 'Methods in Ostracodology' workshop was held at the University of Graz, Institute of Earth Sciences in the Styrian region of Austria (14th - 17th July 2008).

The workshop focussed on two major themes:

- (1) Geometric Morphometrics in ostracods, led by Angel Baltanás (Madrid) and Dan L. Danielopol (Salzburg/Graz).
- (2) The Application of Stable Isotopes in ostracod research, led by Ian Boomer (Birmingham) and Christine Latal (Graz).
- (3) Additionally, during a field excursion at Mataschen led by Martin Gross (Graz) techniques for high resolution sampling of ostracods were demonstrated (cf. photographs of the excursion)

The workshop was organised by Werner E. Piller (University Graz), Martin Gross (Landesmuseum Joanneum, Graz) and Dan L. Danielopol in co-operation with the invited lecturers (Angel Baltanás, Ian Boomer and Christine Latal). Seventeen students from Austria, Brazil, Croatia, France, Germany, Italy, Malaysia, Poland, Serbia, Slovakia and Thailand attended the workshop. A number of skilled demonstrators (Walter Neubauer, Klaus Minati and Adriana Danielopol) advised the participants during the exercises( cf. programme accessible on this home page).

The meeting was supported by the University of Graz, the Landesmuseum Joanneum, the Commission for the Palaeontological and Stratigraphical Research of Austria (Austrian Academy of Sciences). It was partially funded by the Austrian Science Fund through the research grants of D. L. Danielopol.

A special volume "Contribution to the geometric morphometrics", dealing with one of the main topics of the workshop, was issued in the series "Berichte des Institutes fuer Erdwissenschaften, Karl-Franzens University Graz, as Volume 13 (88 pages, ISSN 160-81668). A pdf is available on this home page!

The conceptual approach adopted by the organising team was to chose topics which should stimulate discussion and further cooperative work. The topics mentioned above were

perceived as being relevant to basic and applied innovative research (cf. the preface of the special volume mentioned above and our paper "Ostracods of the Paratethys Sea and Lake Pannon - perspectives for renewal of co-operative projects", issued in the Proceedings of the 6th European Ostracod Meeting, *Senckenbergiana Lethaea*, vol. 88: 141-145).

There are two new aspects of this workshop, compared to previous such events offered during ostracod international meetings (e.g. the EOM-5, in Cuenca and the ISO-15, in Berlin):

(1) the demonstrations and exercises were accompanied by general introductory lectures which helped to better introduce and explain the applications of the methods were split into several small groups and advised by a relatively large team (the lecturers and the demonstrators mentioned above).

(2) time was allocated for short presentations prepared by participants combined with topical discussions and prospective views. This latter aspect led to the proposal by participants of 17 potential themes for future workshops:

- 1) Principles, concepts & applications of ostracod taxonomy (biodiversity, geometrical morphometrics, principles of taxonomy, e.g. practical delineation of species).
- 2) Soft-part morphology & diversity in ostracods; preparation of material.
- 3) Sample collection: living & fossil material; processing methods, etc.
- 4) Methodologies: SEM, LM, data organisation, metadata (NODE, NANODE).
- 5) Transfer functions (e.g. C2).
- 6) Trace element(s) analysis & Isotopes.
- 7) Macro- and microevolution of Ostracoda.
- 8) Ostracod physiology & functional morphology + culturing living ostracods.
- 9) Indices of diversity & statistical analysis of data.
- 10) Natural history (ecology) of living taxa; palaeo/biogeography.
- 11) Ostracoda-their place in food webs.
- 12) Shell calcification, microstructure & preservation.
- 13) Paratethyan Ostracoda.
- 14) Ancient Lakes.
- 15) DNA, ostracods & bioindicators.
- 16) Methods in phylogenetic research, e.g. "PAUP".
- 17) Teaching ostracodology to students & general public.

The beautiful and historic city of Graz proved a very popular venue with a guided tour of the city arranged one evening, as well as a reception at the Landesmuseum Joanneum. All feedback from the participants has been positive (some of the messages have already been circulated via OSTRACON).

**Dan L. Danielopol, Martin Gross, Werner E. Piller, Ian Boomer, Angel Baltanás & Christine Latal**