



## NECLIME working group on taxonomy of Neogene palynomorphs

*Report on the Sofia workshop, May 18, 2010*

### Topic: Critical palynomorph taxa with respect to taxonomy and climatic evaluation

- improvement of the NECLIME data base – systematic studies on families and form taxa

As a first step the working group will focus on the following families:

- Rutaceae (especially the genera *Ptelea*, *Evodia*, *Citrus*, *Zanthoxylum*, *Orixa*, *Ruta*, *Phellodendron*)
- Salicaceae (*Salix*), Ulmaceae (*Ulmus*, *Zelkova*)
- Celastraceae
- Fagaceae (here especially focusing on oaks)

In each case Neogene palynomorph materials from the Paratethys will be studied using both, TLM and SEM (so far: Dolakova, Herrmann, Hristova, Ivanov, Kovacova)

Moreover the working group will develop and propose a common concept as regards the interpretation of the following problematic elements in the Neogene palynomorph record and revise corresponding data base entries:

*Tricolporopollenites satzveyensis*; *T. edmundi*; *T. villensis*; *T. pseudocingulum*; *T. liblarensis*

- improvement of the NECLIME data base - drought indicators in Neogene palynomorph records

Climate data will be made available for the following taxa (Utescher):

- *Ephedra distachya*, *E. fragilis*
- *Nitraria*
- Asteraceae/*Inula* type
- Asteraceae/*Anthemis* type
- *Artemisia* : here published sources will be evaluated to see if morphotypes can be separated (co-operation intended with D. Subally)
- Halophyte problem: co-operation intended with M. Lazarova (Botanical Institute, Sofia)



As regards resolution of the Coexistence Approach when reconstructing precipitation data it is stated that, due to the restricted botanical resolution of relevant herbaceous pollen, a satisfactory solution cannot be obtained. Therefore it is proposed to use complementary techniques based on palynomorph frequency.

**Topic: Re-evaluation of Neogene palynomorph records using TLM/SEM in combination** (so far: Dolakova, Hristova, Ivanov, Kovacova,)

Corresponding activities within NECLIME will be compiled and information on ongoing research (metadata only) will be made available on the NECLIME web pages (Utescher, Kern).

**Topic: Key atlases for identifying fossil and recent materials**

The working group will provide a list with relevant resources that will be available on the NECLIME web pages (to be expanded in the future).

To obtain information on corresponding Chinese resources co-operation with our colleagues C. Liu and Wang Wei-Ming is intended.

**Topic: Include data published in the Atlas of Pollen and Spores of the Polish Neogene into the NECLIME data base**

In co-operation with our colleagues (L. Stuchlik, M. Ziemińska-Tworzydło, A. Kohlman-Adamska, I. Grabowska, B. Słodkowska, E. Durska, E. Worobiec) data available in the atlas will be adjusted with the actual interpretation available in the PALAEOFLORE data base (taxonomical correctness, NLR interpretation). Additional information will be provided in a "comments" column in the PALAEOFLORE online version (Utescher).

**Topic: Palynomorph reference collections**

The importance of reference collections in the context of the improvement of our data basis was outlined. Reference collections for recent palynomorphs are accessible to NECLIME in Sofia, Bratislava, Brno and Frankfurt. A co-operation with Krakow/Warsaw, Budapest and Kiev should be appointed. Collection of new materials and exchange between existing collections is strongly recommended.



- Chinese reference materials

It was outlined that for successful works on Chinese records there is need for specific reference materials. So far materials are available in the Marburg herbarium (Miehe; Neclime contact person: Herrmann). Potential exchange of reference material should be discussed with Chinese colleagues at the Kunming NECLIME meeting.

With respect to running studies on palynomorph records of the Tibetan Plateau pteridophytes and bryophytes play an important role being the only autochthonous elements. The working group has appointed to work on a list with key taxa for specific environments (so far: Herrmann, botanists at the Botanical Institute, Sofia).

### **Topic: Co-operation with the NECLIME working group on taxonomy of the macro-botanical record**

The need of close co-operation with colleagues working on macro-palaeobotany has been emphasized. It was outlined that the NECLIME network provides multiple possibilities for joint studies (e.g., integrative plant record). Details may be appointed in Budapest.

### **Organisation of future activities – co-ordination of the working group**

D. Ivanov has agreed to take over organization of the working group which is gratefully acknowledged.

It was decided to organize symposia, alternating on IOPC and EPPC in order to reach a larger community of NECLIME members. In between, smaller working meetings should be held. For 2011 Krakow was proposed as possible location. Detailed appointments with the colleagues will be made before next meeting of the NECLIME group at the EPPC.

A summary of the outcome of our first workshop will be presented at the EPPC in Budapest.

This report is available for download at the NECLIME website.