



**Report on the 16<sup>th</sup> Annual NECLIME Meeting, Madrid, 2015**

The 16<sup>th</sup> Annual NECLIME Meeting 2015 was held in Madrid, Spain, from October 14 to 17. The meeting was hosted by Eduardo Barrón and took place at the Instituto Geológico y Minero de España (IGME, Spanish Geological Survey), in the gorgeous historical setting of the museum collection of the institute. The meeting included a guided visit to the Royal Botanical Garden, providing valuable insight into modern vegetation of the Iberian Peninsula and its key species.

Thanks to the dedication and kind hospitality of Eduardo and his colleagues, the perfectly organized meeting was most successful and productive, and we are very grateful to our Spanish NECLIME members and colleagues for enabling this. Moreover, we would like to express our thanks to our Chairman, María F. Valle, Salamanca University, and to our sponsor, the Instituto Geológico y Minero de España (Spanish Geological Survey), the Department of Geology, Faculty of Sciences of the University of Salamanca, and to the Research Project nº CGL2011-23438/BTE of the Spanish Council for Scientific Research.

Ca. 30 participants joined the meeting and 21 oral contributions and 3 posters were presented. NECLIME members from 7 countries (Brazil, China, France, Germany, Russia, Serbia, Spain) participated with contributions covering a wide range of scientific fields, including palaeobotany, botany, palaeoecology, entomology, plant-insect interactions, palaeoclimatology, palaeosols, early humans, and modelling, covering the time-span from the Palaeogene to Holocene. The conference included three invited talks, namely on the reconstruction of palaeofloras based on fossils (Pablo Vargas), on Quaternary and Recent flora and vegetation of the Iberian Peninsula (Fátima Franco), and on the state of the art of floristic changes in the Iberian Peninsula throughout the Cenozoic (Eduardo Barrón) that all provided excellent introductions to the botany/palaeobotany of the Iberian Peninsula.

Related to the venue, the conference had a clear focus on the evolution of climate and vegetation on the Iberian Peninsula and on Mediterranean floras evolving since the Pliocene. Presentations on palaeobotany-based palaeoclimate reconstructions were complemented by contributions on related entomological studies, studies on Palaeosols and on the reconstruction of past atmospheric CO<sub>2</sub>. As



already on the Izmir NECLIME meeting in 2014, Neogene drying and its onset in the Neogene were intensely discussed based on various lines of evidence, and its impact on biodiversity was outlined. Moreover, climatic constraints of early hominid expansion in Southern Europe were addressed. Another focus was on Neogene biodiversity patterns of the eastern side of Eurasia and on how it was shaped along the Neogene by palaeoenvironmental change. This second focus included as well new taxonomical results from southern China, climatic insights from plant-insect interactions as well as modern aspects of leaf physiognomy in eastern Eurasian vegetation. This second focus was thematically linked to related NECLIME activities to initiate a Sino-German project initiative aiming at the reconstruction of the history of the Yunnan Biodiversity Hotspot, and resumed the discussions initiated at a joint symposium hosted by our members Zhou Zhe-Kun and Volker Mosbrugger in Kunming, in August this year (see NECLIME homepage for more details). Apart from this, general NECLIME topics were presented such as reconstruction of West Amazon palaeoclimate, Nelumbo in the Eastern Paratethys, Cenozoic diversity changes in the Bulgaria megaf flora, as well as Cenozoic ecological / climatological gradient in Central Eurasia.

More details can be obtained from the conference programme and abstract volume made available for download from our homepage.

## **Topics addressed in the final discussion**

### *Joint works focussing on the Iberian Peninsula and Macaronesia*

A joint publication is intended focussing on the Iberian Peninsula and Macaronesia (longer term). Eduardo Barrón and José María Postigo-Mijarra will start a project and invite NECLIME colleagues to joint studies.

### *Links to Recent botany*

The International Botanical Congress in Shenzhen, China in 2017 provides an excellent opportunity to intensify the link to modern botany. Within this frame we intend to organize a topical NECLIME session and workshop, leading to a NECLIME summary issue. The announcement for the Shenzhen Congress is available for download on our homepage.

Please contact Su Tao for more details.

### *Comparison of ecoprofiles – flora and fauna*

The potential of plant-based ecoprofiles in palaeovegetation reconstructions is acknowledged. As a next step it will be important to compare plant-based ecoprofile with ecoprofiles based on Fauna



### *Comparison of plant-based climate data with data from other proxies: palaeosols and mammal data*

In her contribution, Isabelle Cojan presented a comparison of climate data obtained from Palaeosols in sections from Central Europe and Southern France with published palaeobotany-based data. The colleagues agreed on carrying out additional related studies (co-operation Isabelle Cojan, Torsten Utescher, Madelaine Boehme (already agreed)). Comparison between palaeoclimate climate based on plants and on mammals, respectively should be intensified (in co-operation with our members Lars van den Hoek Ostende, Jan van Dam, and Spanish colleagues).

### Mountain building and speciation

Also for being connected to the intended research on the Yunnan Biodiversity Hotspot this topic has become important for several NECLIME members.

- At the 17th Neclime meeting in Lucknow we will have a session “Uplift and sea-level changes (palaeogeography), impact on vegetation and climate change” where this will be further discussed.
- Eduardo Barrón and colleagues have as well plans of a related study: “Cenozoic uplift history of the Iberian plateaus/upland areas, base level and other palaeogeographical changes”.

### Climatic implications of insects and plant-insect interactions

It was appointed to conduct joint studies on Climatic implications of insects and plant-Insect interaction (Enrique Peñalver, Su Tao, Angela Bruch).

## **Forthcoming NECLIME events and meetings**

### *17th NECLIME annual meeting - 3rd Asian NECLIME Meeting, February 23 – 24, Birbal Sahni Institute of Palaeobotany, Lucknow, India*

For 2016, NECLIME is kindly invited by Sunil Bajpai and Vandana Prasad to hold a meeting at the renowned Birbal Sahni Institute of Palaeobotany in Lucknow, India. After our conferences in Nanjing and Kunming, that impressively brought NECLIME forward in joint studies of East Asian sites, the Lucknow meeting will greatly contribute to close significant gaps in our knowledge and databases still existing in the southern part of our study area. The registration deadline has expired. Circulars with details on core topics, programme and field trip can be downloaded from our homepage.

### *NECLIME sessions at the IOPC, October 23 – 28, Bahia, Brazil*



By tradition, the network organizes topical sessions at the IOPC. The following sessions were proposed by NECLIME members (preliminary titles), and you are cordially invited to joint them.

- Su Tao, Volker Mosbrugger, Torsten Utescher: evolution of biodiversity hotspots
- Zhe-Kun, Huang Yong Jiang: Palaeoconservation - new insights and applications
- Nelsa Cardoso, Andrea A. Kern: Neogene climate evolution of the Neotropics
- Angela Bruch, Natalia Rudaya: Vegetation dynamics and early human expansion

*2<sup>nd</sup> workshop of the NECLIME “working group on fossil wood”, Wrocław (Poland) June 24 -25, 2015*

The second workshop of the NECLIME “working group on fossil wood” already intended for 2014, has been postponed to 2016. The workshop will be held at the Institute of Experimental Biology, University of Wrocław, kindly hosted and organized by Elżbieta Myśkow. Details on date and programme will be communicated to you early next year.

*7<sup>th</sup> workshop of the NECLIME working group on Neogene palynomorphs*

On its 6<sup>th</sup> most successful meeting in Warsaw, on November 26 – 27, the working group, organized by Dimiter Ivanov, decided to continue the close co-operation among the members, and to organize the next workshop already in 2016. A circular will be sent to all of you as soon as we have the decision on the date and the venue.

## **NECLIME databases and publications**

### *NECLIME data in Pangaea*

More data sets have been made available in the Pangaea database system. The help of Istem Fer is gratefully acknowledged.

### *Palaeoflora database*

Under the support of our working group on taxonomy of Neogene palynomorphs, work is in progress to update NLR interpretations and climate data for extant plants. The updates concern palynomorph taxa published in the 4<sup>th</sup> Volume of the “Atlas of Pollen and Spores of the Polish Neogene (Stuchlik, Ed.)” and climatic values published in a recent study by Martinetto et al. (2015; keyword HUTEA). Updates are made available on our homepage and/or on request (contact Torsten Utescher).



*4th NECLIME Synthesis Volume in PALAEO 3*

Our 4<sup>th</sup> Special Issue on quantitative vegetation reconstruction is on the way. Submission of manuscripts is almost completed now (deadline set by the editor-in-chief is December 14). Most of your contributions are still under review but a few papers are already published online. Thanks to you, another milestone for NECLIME will be achieved. Big thanks to all of you who contributed.

## **NECLIME homepage**

As every year, we ask our members to provide references of their published work when related to NECLIME topics, update their project entries at our website, and check their affiliations (including email address) for correctness. Please send your updates and new materials to our webmaster, Andrea Kern ([annkern@usp.br](mailto:annkern@usp.br)) who never stops keeping our websites up-to-date. If you provide your Researchgate or Academia accounts she will follow you in order to stay connected.

Please remember to mention your network also in the acknowledgements when publishing any related studies.

Thanks again from all of us!  
Angela, Volker and Torsten