CLIMATE & BIOTA of the EARLY PALEOGENE

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Climate and Biota of the Early Paleogene
PROCEEDINGS of CBEP 2011 Salzburg, Austria

Conference hosted by
Geological Survey of Austria

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Preface

The warm early Paleogene is the most recent period in Earth history when large continental ice sheets were absent. The period began with the recovery of the fauna and flora after the catastrophic asteroid impact at the Cretaceous/Paleogene boundary (K/Pg: 66 Million years ago) and ended with the onset of global cooling during the middle Eocene (45 Million years ago). However, multiple short-term extreme warming events (hyperthermals) were superimposed on the generally warm Paleogene climate.

Most likely, the extreme paleoenvironmental changes in the early Paleogene were a response to high greenhouse gas concentrations. Interestingly, the atmospheric CO_2 concentrations predicted for the upcoming centuries have not been equaled since the early Paleogene. Thus understanding the impact of such greenhouse conditions on the global climate in the past is vital to identify and quantify present and future climate feedback processes related to rising atmospheric carbon concentrations.

The conference "Climate and Biota of the Early Paleogene" (CBEP) was held in Salzburg, in June 2011, under the auspices of the Geological Survey of Austria. The scientific sessions attracted over 160 scientists from 27 countries. This was a larger level of participation than in any of the previous meetings devoted to the same topic; Albuquerque (1989, USA), Zaragoza (1996, Spain), Paris (1998, France), Göteborg (1999, Sweden), Powell (USA, 2001), Luxor (Egypt, 2003), Bilbao (2006, Spain) and Wellington (New Zealand, 2009). This demonstrates an increasing interest in the fascinating and important early Paleogene climate and in utilizing this as a model and predictor of future environmental changes in our currently warming world.

Figure 1: Participants at the "Climate and Biota of the Early Paleogene" conference on the grounds of the St. Virgil conference centre (Photo by Peter Schulte).

The scientific sessions of CBEP 2011 were held over three days and comprised 59 oral presentations and 89 poster presentations. The diversity of the contributions was broad in terms of discipline, (palaeo-)geography, taxonomy and time. The contributions illustrated the current state of knowledge of the globally warm early Paleogene and of the reorganization of the biosphere after the Cretaceous/Paleogene boundary mass extinction.

The EO-Award and the ZEISS-Award were presented for the best student oral and best student poster presentations; each winner received 1000€. From the numerous excellent presentations, the CBEP 2011 Scientific Committee selected Heather Birch (UK, University of Cardiff) and Rosemary Bush (USA, Northwestern University), respectively, as the recipients of these awards (Fig. 2). Honorary mentions were given to the

presentations of David Bord (USA, Rutgers University), Lineth Contreras (Germany, University of Frankfurt), David Evans (UK, Royal Holloway University of London) and Donald Penman (USA, University of California).

Figure 2: Recipients of the student awards (from left): David Bord, Lineth Contreras, Heather Birch, Donald Penman, David Evans and Rosemary Bush (Photo by Peter Schulte).

The CBEP 2011 fieldtrips were well attended. Seventy people participated in the two pre-conference trips, based in the surrounds of Salzburg and near-by Bavaria, visiting Paleocene and Eocene successions spanning shallow to deep marine paleoenvironments. A two-day post conference trip to Styria and Carinthia was attended by 45 participants and visited the Cretaceous/Paleogene and Paleocene/Eocene boundaries in the area of Gams, and lower Eocene deposits in the Krappfeld.

Twenty-seven contributions were submitted to the Austrian Journal of Earth Sciences, of which 23 are included in this proceedings volume, giving a representative overview of the research topics discussed at CBEP 2011.

Figure 3: Participants of the post-conference fieldtrip at the Cretaceous/Paleogene-boundary section at Gams in Styria (Photo by Peter Schulte).

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We now are looking forward to the next CBEP meeting, to be held in Ferrara, Italy, in 2014.

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