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Programme, Abstracts, and Field Guides

24.09. – 29.09.2012

Museum für Naturkunde Berlin

Edited by Florian Witzmann & Martin Aberhan



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Table of Contents

| | |
|-----------------------------|-----|
| Welcome | 2 |
| List of Symposia | 4 |
| Schedule of Symposia | 6 |
| Programme | 9 |
| List of Posters | 23 |
| Abstracts | 27 |
| Field Guides | 206 |
| Index of Contributors | 236 |



scribe how such metrics can be applied in practice, using contemporary temperate and tropical fish communities as case studies. The results show that incorporating species similarities can have a large impact on inferred diversity changes in space and time, and that including even imperfect information on species similarities is preferable to ignoring these similarities.

S11 – A Meishucun-type early Cambrian (Terreneuvian) ichnofauna from the Malyi Karatau Range (SE Kazakhstan)

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A trace fossil assemblage from the basal Cambrian phosphorites of the Koksui and Aktugai sections (Chulaktau Formation) of the Malyi Karatau Range (SE Kazakhstan) is reported for the first time. Based on a rich and significant small shelly fossil (SSF) record, the ichnofauna can be biostratigraphically attributed to the early Cambrian (Terreneuvian Series; Fortunian to Cambrian Stage 2) which embraces the middle part of the Chulaktau Fm., Karatau Mb. in the Malyi Karatau Range (e.g. Missarzhevsky & Mambetov, 1981; Evseev, 2012).

The ichno-assemblage yielded abundant simple epifaunal, rarely bilobed and probably branched non-arthropod traces of various ichnotaxa associated with rare (pre-trilobitic) arthropod ichnoassemblage.

The non-arthropod ichnofauna consists of partly large bedding-parallel hyporeliefs of simple straight to slightly meandering repichnia of the *Palaeophycus* type as well as bilobate traces of uncertain taxonomic assignment (?*Didymaulichnus* isp. and/or ?*Psammichnites* isp.). This ichnofauna is accompanied by horizons with short vertical U-burrows of the *Planolites*-type. The evidence of *Treptichnus pedum*-like simple branched horizontal traces is supposed but remains problematic. Additionally, a dark-brown Fe- and Mn-rich dolostone with granular phosphorite bands at the base of a manganese-rich stromatolite bed contains vertical, slightly curved burrows with funnel-shaped openings of decimeter size and of uncertain taxonomic belonging.

The rarely preserved arthropod traces can be attributed to *Rusophycus*-type resting traces (probably *R. avalonensis*) as well as to primitive *Cruziana*-type repichnia. The arthropod traces are concentrated in the lower massive phosphorites of the Karatau Member (middle Chulaktau Formation) in the Aktugai locality.

Most of them are preserved in the granular phosphorite. Rarely, they occur as positive hyporeliefs in the overlying contact to a greenish-grey chert band on the top of the Karatau Member.

The ichnotaxonomic inventory as well as the lithology and depositional facies of the hosting rocks as well as the type of trace preservation in the massive phosphorites resemble the situation in the about contemporaneous Meishucun ichnofauna from eastern Yunnan (South Chinese Platform). This type of ichnofauna appears to be significant for the abundant late Ediacaran to early Cambrian phosphorite-dominated shelf deposits worldwide.

S11 – A late Ediacaran “Tube World“ from China: exoskeletal macrofossils and trace fossils from the Gaojiashan Section (South Shaanxi), northern Yangtze Platform

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On the late Neoproterozoic Yangtze Platform, the Gaojiashan Member (middle Dengying Formation, Upper Ediacaran: 551-542 My) represents a regional siliciclastic interval within a dolostone-dominated sequence. We here present examples of biomat-related trace fossil horizons as well as examples of unusual preservation of metazoan exoskeletons from this Ediacaran fossil lagerstätte.

The hitherto poorly understood Gaojiashan biota consists of partly large, tube-shaped and three-dimensionally preserved exoskeletons of early metazoans. These tubular fossils (*Gaojiashania* and *Conotubus*) occur in large number mainly in distinct event layers (probably storm layers). Some preservations display taphonomic features of biomat-mediated embedding processes forming “Ediacaran death masks”. The trace fossils occurring in the Gaojiashan Member belong throughout to simple bedding-parallel trace types and are exclusively preserved in distinct layers within a dolostone bed above the body-fossil containing siliciclastic sequence. They are always closely related to microbial mat horizons indicating a biomat-related lifestyle (probably undermat-mining lifestyle) of the unknown Ediacaran trace originators.

S18 – Fossil larvae of Berothidae (Neuroptera) from Baltic amber

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The Berothidae (Insecta: Neuroptera), also called beaded or hairy lacewings, is a small neuropteran family with almost 100 species in over 20 genera. It is still under discussion whether Rhachiberothinae should be considered as a family of its own or should be included in Berothidae, but the two taxa most probably are sister-groups. Today, berothids are distributed in a wide range of tropical to warmer temperate regions of the world. The adults are brown in colour and small to medium sized. They have been collected with light traps in diverse habitats, and little is known about their microhabitats. The larvae of only few extant berothid genera are known, and the knowledge of the larval biology is restricted to a few members of the subfamily Berothinae. Like many other neuropteran taxa, they have three larval instars. Information on the larval life style is available for only two genera, *Lomamyia* Banks, which is distributed in North America, and *Podallea* Navás from Africa. In these two berothine genera, the first and third instars live and move actively in the nests of termites and prey on them; the second instar has a very different morphology, it is inactive and does not feed. Fossils of Berothidae have been found since the Middle Jurassic, they comprise mostly adults. The majority of fossils were described from the Cretaceous, only few have been recorded from the Tertiary. Larvae are only known from Eocene Baltic and Rovno amber.

In this study four larval specimens of Berothidae are recorded from Eocene Baltic amber. The inclusions are kept at the Senckenberg amber collection and at the private collections of Thomas Weiterschan (Höchst Odenwald) and Christel and Hans Werner Hoffeins (Hamburg). Two of the larvae probably represent first instars, judged from their sizes around 2 mm. The other two larvae are bigger, and probably represent third larval instars. One of the probable third instar larvae shows remains of possible spider silk in the head region. Additionally, in this specimen deformations of the abdomen are present, which still require some explanation.

S25 – New data on the *Annulata* Events in the Moravian Karst (Famennian, Czech Republic)

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The *Annulata* Events belong to most important global events in the Famennian and correspond to the Upper *Palmatolepis trachytera* zone. They are lithologically characterized by anoxic to dysoxic dark grey to black layers, typically shales or limestones, which are intercalated in sequences of different facies. These event beds yield a rich fauna, especially clymenids, pelecypods, orthocone nautiloids and ostracods. The black limestone lenses from the Moravian Karst, later assigned to the *Annulata* Events, were recorded for the first time by Rzehak (1910), who described their typical fauna from a locality near Brno-Líšeň. Similar facies were later discovered in the Mokrý quarry (Dvořák 1988). Recently, *Annulata* Event beds were found in 4 new localities. The contribution is focused on the preliminary stratigraphical results based on conodont biostratigraphy, gamma spectrometry and carbon isotope geochemistry. Based on conodonts, the black limestone lenses from a locality near Brno-Líšeň can be correlated with lower *Annulata* event.

S3 – Effects of environmental change on the calcification intensity of planktonic Foraminifera: a case study from Sapropel S5

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Planktonic Foraminifera are important marine calcifiers, responsible for almost half of the present-day open-ocean production of biogenic carbonate. Therefore, it is important to understand which environmental parameters influence the calcification of the foraminiferal test. The aim of this study is to test the influence of the exposure to different levels of environmental stress, including terminal stress leading to extinction, on the calcification of planktonic foraminifers. For this purpose we have chosen four species of planktonic Foraminifera from a sediment core section covering the onset of Sapropel S5 in the Eastern Mediterranean (c.125 ka), where the ecosystem was exposed to a high stress environment. For all species,