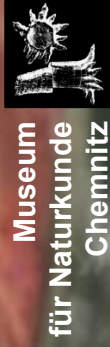


Jahrestagung der Paläontologischen Gesellschaft, ZfB Schiffweiler-Reden, 14.-16. September 2015

First complete scorpions from the Permian: *in-situ* finds and exuvia from a seasonally influenced forest habitat (Chemnitz Basin, Leukersdorf Formation, Germany)

Ronny Rösler, Ludwig Luthardt, Jason Dunlop
David Legg, Victor Fet, Paul A. Selden & Jörg W. Schneider



Oxford University
Museum of
Natural History



First complete body fossils and several exuvia of scorpions from the Permian are presented from a recently excavated locality in Chemnitz. Explosive volcanism preserved these remarkable specimens *in situ* as part of the palaeosol and bedrock of the Petrified Forest. Embedded by the Zeisigwald Tuff this T⁰ assemblage dates to the early Permian (Sakmarian).

Intriguingly, the specimens were obtained from a compacted network of different-sized woody roots belonging to a strongly seasonal multiaged hygrophilous forest, and may thus have been preserved in their likely life position. In this 290 Ma ecosystem they were probably notable predators on other arthropods, and perhaps even small vertebrates.

Details of the pectinal teeth in the two fossils imply sexual dimorphism, with both a male and a female preserved in close proximity to one another and thus conceivably even representing a mating pair. They permit further inferences about the ecology and perhaps even the reproductive biology of these animals. As putative members of a Coal Measures genus, these fossils suggest that at least some Carboniferous scorpion lineages extended their range further into the Permian. This contributes towards a picture of scorpion evolution in which both basal and derived forms coexisted for quite some time; probably from the end of the Carboniferous through to at least the mid Triassic (Dunlop et al. in prep.).