

SIMILARITIES AND DIFFERENCES BETWEEN LATE PALEOZOIC FOSSIL TETRAPOD ASSEMBLAGES OF CENTRAL EUROPE AND THE UNITED STATES: IMPLICATIONS FOR PANGEAN LANDFORMS DURING THE EARLY PERMIAN

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Until recently, the majority of information bearing on the structure and evolution of terrestrial vertebrate assemblages of the Early Permian had been derived from North American materials. Now, fieldwork in eastern Germany has added a striking dimension to our understanding of terrestrial vertebrate assemblages from the Lower Permian. Taxa previously known only from North America but now known from both regions include: (1) the seymouriamorph amphibian *Seymouria sanjuanensis*, (2) a new genus of trematopid amphibian that is extremely similar to *Anconastes*, and (3) the diadectomorph *Diadectes*. The former is indistinguishable even at the specific level, and the latter two exhibit only minor differences relative to taxa typically found in North America. Also present is (4) the protorothyridid reptile *Thuringothyris*. Protorothyridids were somewhat more cosmopolitan in distribution, but are a common component of Lower Permian assemblages in North America. Establishment of precise ages for the terrestrial sequence in central Europe has been difficult in the absence of interbedded, easily dated marine sediments. However, age assignments for central European strata may now be based on a tentative correlation with North American strata containing well known fossil assemblages. The German material may be assessed as earliest Permian Wolfcampian in age. The extreme similarity of the German material to that recovered from the Colorado Plateau and north-central Texas demonstrates a high degree of commonality among Early Permian tetrapod faunas worldwide and the probable absence of major physical barriers of exchange between these regions.

The German locality has also produced at least two unique and extremely important specimens: a diadectomorph of unknown affinities, and a small, possibly diapsid, reptile. The former includes a mosaic of features that place it clearly within the Diadectomorpha, however it retains numerous, sharply recurved teeth. The small reptile is characterized by the presence of exceedingly slender limbs and a long, slender tail. The proportional differences between the limbs is striking, as the hindlimb is nearly twice the length of the forelimb. In fact, the hindlimb length exceeds the acetabulum to snout measure. These features indicate most emphatically that this specimen represents the oldest (by tens of millions of years) known facultative biped ever discovered, quite capable of having run on its hind limbs alone. Preservation of the skull is incomplete, but it appears to belong to the "neodiapsida". The recovery of more specimens will be imperative before the full import of this discovery can be elucidated.