

A new basal sphenacodontid synapsid from the Late Carboniferous of the Saar-Nahe Basin, Germany


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A new basal sphenacodontid synapsid, represented by an anterior portion of a mandible, demonstrates for the first time the presence of amniotes in the largest European Permo–Carboniferous basin, the Saar–Nahe Basin. The new taxon, *Cryptovenator hirschbergeri* gen. et sp. nov., is autapomorphic in the extreme shortness and robustness of the lower jaw, with moderate heterodonty, including the absence of a greatly reduced first tooth and only a slight caniniform development of the second and third teeth. *Cryptovenator* shares with *Dimetrodon*, *Sphenacodon*, and *Ctenospondylus*, but notably not with *Secodontosaurus*, enlarged canines and a characteristic teardrop outline of the marginal teeth in lateral view, possession of a deep symphyseal region, and a strongly concave dorsal margin of the dentary. The new find shows that sphenacodontids were present in the Saar–Nahe Basin by the latest Carboniferous, predating the record of sphenacodontid tracks from slightly younger sediments in this region.

Key words: Synapsida, Sphenacodontidae, Carboniferous, Saar-Nahe Basin, Germany.

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