

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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