

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

Jörg Fröbisch, Rainer R. Schoch, Johannes Müller, Thomas Schindler, and Dieter Schweiss
Acta Palaeontologica Polonica 56 (1), 2011: 113-120 doi: <http://dx.doi.org/10.4202/app.2010.0039>

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.

Jörg Fröbisch [jfroebisch@fieldmuseum.org], Department of Geology,
The Field Museum, 1400 South Lake Shore Drive, Chicago, Illinois
60605, USA and [joerg.froebisch@mfn-berlin.de],
Museum für Naturkunde Leibniz–Institut für Evolutions– und
Biodiversitätsforschung an der Humboldt–Universität zu
Berlin, Invalidenstr. 43, D–10115 Berlin, Germany; Rainer R.
Schoch [schoch.smns@naturkundemuseum-bw.de], Staatliches
Museum für Naturkunde, Rosenstein 1, D-70191 Stuttgart, Germany;
Johannes Müller [johannes.mueller@mfn-berlin.de], Museum für
Naturkunde – Leibniz-Institut für Evolutions- und Biodiversitätsforschung
an der Humboldt-Universität zu Berlin, Invalidenstr. 43, D-10115 Berlin,
Germany; Thomas Schindler [psg.t.schindler@t-online.de], Büro für
Paläontologie, Stratigraphie und Geotopschutz, Am Wald 11, D-55595
Spabrücke, Germany; Dieter Schweiss [dj.schweiss@t-online.de], Geoskop Urweltmuseum, Burg
Lichtenberg, D-66871 Thallichtenberg, Germany.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see creativecommons.org), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

-  [Full text \(367.3 kB\)](#) |
 [Supplementary file \(221.6 kB\)](#)