

## A new akidnognathid synapsid specimen from the Permian of Cradock, South Africa and the revision of *Hewittia albanensis*

Justin Kyle Lloyd and Francois Durand *Acta Palaeontologica Polonica* 70 (2), 2025: 339-355 doi:10.4202/app.01187.2024

The main Karoo Basin of South Africa has yielded a treasure trove of fossil synapsids ranging from the middle Permian to the Early Jurassic, spanning approximately 80 Myr. Hewittia albanensis was first described by Brink (1959) based on AMG 4208 collected from the Chris Hani District Municipality (former Cradock District), Eastern Cape Province, South Africa. Since then, the taxon has been mostly ignored in published research. Here, we provide a redescription of H. albanensis based on a new specimen recovered from the Chris Hani District Municipality within rocks of the Lystrosaurus maccaigi-Moschorhinus Subzone of the Daptocephalus Assemblage Zone. We propose a new genus name for this species, Cradognathus, since Hewittia Brink, 1959, is preoccupied by *Hewittia* de Lessert, 1928, a crab spider from Congo. The position of Cradognathus within the Akidnognathidae, as well as its generic diagnosis, are revisited and discussed. The new specimen consists of an almost complete skull with some dorsoventral distortion. Cradognathus differs from other akidnognathids by the dental formula, a sharply pointed pterygoid transverse process, a median keel anterior to a short interpterygoid vacuity, and the presence of prominent lateral tuberosities at the ends of the ventromedial pterygoid flanges. We find that Cradognathus forms a clade with Euchambersia , Cerdosuchoides, and Moschorhinus within Akidnognathidae.

**Key words:** Therapsida, Therocephalia, Akidnognathidae, South Africa, Changhsingian, Permian.

Justin Kyle Lloyd [justinkl04@gmail.com; ORCID: https://orcid.org/0000-0003-2661-2497] and Francois Durand [fdurand@uj.ac.za; ORCID: https://orcid.org/0000-0003-2966-1163], Department of Zoology, University of Johannesburg, University Road and Kingsway Avenue, Aukland Park, Johannesburg, 2092, South Africa.

This is an open-access article distributed under the terms of the Creative Commons Attribution License (for details please see <u>creativecommons.org</u>), which permits unrestricted use,

distribution, and reproduction in any medium, provided the original author and source are credited.

Full text (1,614.2 kB) | Supplementary file (234.6 kB)