



Estonian Journal of
Earth Sciences
2023, 72, 1, 125

<https://doi.org/10.3176/earth.2023.30>

www.eap.ee/earthsciences
Estonian Academy Publishers

ABSTRACT

Received 1 April 2023
Accepted 29 April 2023
Available online 8 June 2023

Keywords:

Tha Manao Formation, Pa Kae Formation,
Scolopodus striatus Assemblage Zone,
Kanchanaburi Province

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Citation:

Chen, Z., Li, W., Fang, X., Li, C., Burrett, C.,
Udchachon, M. et al. 2023. Ordovician
conodonts from the Ban Tha Kradan area,
Western Thailand. *Estonian Journal of Earth
Sciences*, 72(1), 125.
<https://doi.org/10.3176/earth.2023.30>

Ordovician conodonts from the Ban Tha Kradan area, Western Thailand

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During the Ordovician period, Western Thailand was part of the Sibumasu Block. Most studies on Ordovician conodonts in this region have focused on the Thong Pha Phum area, where the *Triangulodus larapintinensis* Range Zone of Floian and *Aurilobodus leptosomatus* Range Zone of Darriwilian have been documented.

In this study, conodont samples were collected from two sections in the Ban Tha Kradan area of Western Thailand: from the Wat Mong Krathae (WMK) and Nautiloid Site Geosite (NSG) sections. In total 24 conodont samples were collected from the WMK section, all from the Tha Manao Formation characterized here by laminated and cross-bedded thin- to medium-bedded limestones. From the NSG section only three conodont samples were processed, one of them from the Tha Manao Formation and two from the revised Pa Kae Formation, which consists of thin- to medium-bedded laminated limestones and stylonitic limestones.

Eleven Ordovician conodont species representing nine genera are documented and illustrated from the Ban Tha Kradan area for the first time. The species identified are *Baltoniodus* cf. *alobatus* (Bergström), *Cornuodus longibasis* (Lindström), *Drepanoistodus pitjanti* (Cooper), *Drepanoistodus* cf. *pitjanti* sensu (Zhen et al. 2021), *Erraticodon patu* (Cooper), *Protopanderodus nogamii* (Lee), *Plectodina* sp., *Scabbardella altipes* (Henningsmoen), *Scolopodus striatus* (Pander), *Triangulodus larapintinensis* (Crespin), and *Triangulodus* sp. In the WMK section, the *Scolopodus striatus* Assemblage Zone can be recognized in the Tha Manao Formation. Roughly, it corresponds to the eponymous assemblage zone in the northwestern peninsular Malaysia.

Furthermore, the upper part of the Tha Manao Formation in the NSG section as identified earlier has been revised and assigned to the Pa Kae Formation, based on the lithostratigraphic features. Considering the occurrences of cephalopod *Sinoceras chinense* (Foord) and conodont *Baltoniodus* cf. *alobatus*, as well as on the recognition of the Guttenberg Carbon Isotope Excursion (GICE) in the lowermost part of the formation, the revised Pa Kae Formation in Western Thailand has a similar temporal range as that of the Pa Kae Formation in the southern peninsular Thailand. Thus, the Tha Manao Formation in Western Thailand is assigned to the upper Floian to Darriwilian, and the conformably overlying Pa Kae Formation to the Sandbian–lower Katian.



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ESTONIA 2023