

## CARBON ISOTOPE DEVELOPMENT IN THE ORDOVICIAN OF THE YANGTZE GORGES REGION (SOUTH CHINA) AND ITS IMPLICATION FOR STRATIGRAPHIC CORRELATION AND PALEOENVIRONMENTAL CHANGE

J. Cheng<sup>1</sup>, Y.D. Zhang<sup>1</sup>, A. Munnecke<sup>2</sup> and C. Zhou<sup>1</sup>

<sup>1</sup> State Key Laboratory of Palaeobiology and Stratigraphy, Nanjing Institute of Geology and Palaeontology,  
39 East Beijing Road, Nanjing 210008. ydzhang@nigpas.ac.cn

<sup>2</sup> GeoZentrum Nordbayern, University Erlangen-Nürnberg, Löwenichstrasse 28, D-91054 Erlangen, Germany.  
axel.munnecke@pal.uni-erlangen.de

New carbon isotope ( $\delta^{13}\text{C}_{\text{carb}}$ ) data of the Ordovician rocks from the Yangtze Gorges region, South China are presented. The Ordovician rocks are well exposed and dominated by carbonates intercalated with shales yielding abundant graptolites and shelly fossils. 534 samples were collected from five sections: Lianghekou–Chenjahe (158), Jingshan (85), Laomatou (89), Gaoluo (22), Houping (180). Some 263 samples in total have been processed for  $\delta^{13}\text{C}$  values. The results suggest: (1) The  $\delta^{13}\text{C}$  values are steadily negative with a slight decrease in Tremadocian to Dapingian, and increase progressively to positive values in the Darriwilian, and further positive in the Sandbian to early Katian. (2) The timing of the transition from negative to positive values falls basically within the middle Ordovician, but shows some variations among the five sections. This pronounced shift from negative to positive values may be an important indicator for significantly changing palaeoenvironments. (3) There is a prominent increase of  $\delta^{13}\text{C}$  in mid-late Tremadocian in most of the five sections, and a negative  $\delta^{13}\text{C}$  excursion near the Tremadocian/Floian boundary. (4) No significant Mid Darriwilian positive  $\delta^{13}\text{C}$  excursions are recognized herein, except for one section (Jingshan) where a minor excursion is observed. (5) In the early Katian, a positive excursion of  $\delta^{13}\text{C}$  is well recognized in all the five sections.