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## Upper Visean through Gzhelian conodont zonation in South China

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Abundant conodonts were collected from the continuously deposited Carboniferous slope successions in South China. Totally 28 conodont zones have been established, covering the Upper Visean through the Gzhelian strata. Most zones are defined by the first occurrence of index species, with a few by assemblage zones. These conodonts are, more or less, comparable with those from other areas in Eurasia.

Species of *Gnathodus* and *Lochriea* dominate the Middle and Late Mississippian strata. The upper Visean consists of the *Gnathodus bilineatus* zone in the lower part and the *Lochriea nodosa* zone in the upper, whereas the Serpukhovian consists of the *Lochriea zieglerei* zone in the lower part and the *Gnathodus bilineatus bollandensis* zone in the upper. Three genera, *Declinognathodus*, *Idiognathoides* and *Neognathodus* dominate the early Pennsylvanian strata. The Bashkirian consists of 7 conodont zones, including the *Declinognathodus noduliferus*, *Idiognathoides sinuatus*-*Id. Corrugatus*, *Neognathodus symmetricus*, *Idiognathodus primulus*, and *Neognathodus bassleri*, "*Streptognathodus*" *preexpansus* n. sp., "*Streptognathodus*" *expansus* zones in ascending order. The genus *Idiognathodus* occurs earlier in South China than in other areas. Six conodont zones are defined in the Moscovian, including: the *Diplognathodus ellesmerensis*, *Mesogondolella donbassica*-*M. clarki*, *Idiognathodus podolskensis*, *Swadelina subexcelsus*, *Sw. makhlinae*, and *I. swadei* zones in ascending order. The Kasimovian is dominated by *Idiognathodus* and the Gzhelian is dominated by *Idiognathodus* in the lower part and the *Streptognathodus* in the upper. These two stages consists of 11 zones, in ascending order:

the *Idiognathodus heckeli*, *I. turbatus*, *I. magnificus*, *I. guizhouensis*, *I. eudoraensis*, *I. naraoensis* n. sp., *I. simulator*, *I. nashuiensis*, *Streptognathodus virgilicus*, *S. tenuialveus*, and *S. wabaunsensis* zones.

Middle Mississippian through Middle Pennsylvanian conodonts in South China are dominated and represented by deep-water faunas, most of which can be correlated globally. The Middle Moscovian through Gzhelian stages contain cosmopolitan taxa that may warrant refined 'digital' correlation on a block to ultimately global scale.

