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ORIGINAL PAPER

A Late Jurassic freshwater shark assemblage (Chondrichthyes, Hybodontiformes) from the southern Junggar Basin, Xinjiang, Northwest China

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Abstract A low-diversity hybodont assemblage from the Late Jurassic (Oxfordian) Qigu Formation at Liuhuanggou in the southern Junggar Basin includes the remains of three taxa based on isolated teeth, two of which represent new species of a hitherto unknown genus: *Hybodus* sp. cf. *H. huangnidanensis* Wang, 1977, *Jiaodontus montaltissimus* gen. et sp. nov., and *Jiaodontus vedenemus* gen. et sp. nov. *H.* sp. cf. *H. huangnidanensis* might represent a new taxon pending future revisions. The two new species of *Jiaodontus* gen. nov. are assigned to the Lonchidiidae and represent endemic species, which are only known from the Junggar Basin. Their teeth superficially resemble those of other lonchidiids, such as *Parvodus* and *Vectiselachos*, but differ in several aspects, including the morphology of the cusp and cusplets and the ornamentation pattern. Two different morphotypes of dermal denticles with hybodont affinities, possibly representing two species, are described. The low enameloid $\delta^{18}O_{PO4}$ values [9.7±0.4‰ (standard deviation), n=5) of *H.* sp. cf. *H. huangnidanensis* teeth indicate that at least this taxon was completely adapted to freshwater. This is in good accordance with the depositional setting and sedimentological results.

Keywords Qigu Formation · Liuhuanggou · *Hybodus* sp. cf. *H. huangnidanensis* · *Jiaodontus montaltissimus* gen. et sp. nov. · *Jiaodontus vedenemus* gen. et sp. nov. · stable isotopes

Introduction

Hybodontiformes are the extinct sister group to all living sharks, skates, and rays, the Neoselachii, and were the most diversified elasmobranchs during the Palaeozoic and Early Mesozoic, dominating contemporaneous chondrichthyan faunas. The origin of neoselachians can be traced back into

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