# Sedimentary features of ooids from the Cambrian Series 3 of North China Platform: A case study of Xiaweidian section, Beijing

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**Abstract**

This paper describes the sedimentary characteristics of oolitic grainstones from Xuzhuang, Zhangxia and Gushan formations of Cambrian Series 3 at Xiaweidian section in the Western part of Beijing, China. Petrographic and morphological techniques were applied to describe the sedimentary features of ooid grains. Observations made on dominant ooids are size distribution, mineralogy, morphology, and internal and external cortical architecture. Radial-concentric ooids with or without nucleus, micritic, superficial, composite,- pseudo ooids, neomorphosed and geopetal ooids are observed under microscope. The principal carbonate minerals are calcite, its unstable polymorph aragonite and dolomite. The twofold role of microorganism during and after the formation of ooids can be recognized under the microscope, which make them unique. Firstly, the dark laminae in several ooids most probably shows the remains of filamentous cyanobacteria taking part in the construction of ooids. Secondly, in several ooids the microorganisms e.g., *Solentia* sp. and *Hyella* sp. destroy the cortex through boring, which is subsequently filled by aragonite. The morphology of the ooids from Cambrian Series 3 strata characterize their development in high energy shallow water environment with an active role of microbe.