

华南新元古代宏体化石特征及生物地层序列

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中文摘要:华南的新元古代地层(780~542 Ma)保存有许多经典的地层剖面和丰富的宏体化石记录,一直是我国新元古代,特别是南华系和震旦(伊迪卡拉)系地层对比的标准区域。本研究重新考察了部分重要的标准剖面 and 化石点,重点采集了近年来开始研究的云南“江川生物群”,贵州江口“翁会生物群”的宏体化石,在总结了前人研究成果的基础上,集成了最新研究进展,综合记录了华南晚新元古代地层中的宏体化石特征、组合面貌,据此提出了华南晚新元古代生物地层序列。宏体化石的记录表明在这一时期伴随着显著的气候和环境变化,发生一系列重要的生物演化事件,多细胞的宏观后生动物、植物普遍出现了组织分化,器官形成和发育创新,以及生物结构和功能的进一步复杂多样化。这种多样化的发展大体可以划分为三个阶段,分别以震旦(伊迪卡拉)纪的三个宏体化石组合为代表:(1) Anhuiphyton—Thallophyca—Paramecia 宏体藻类化石组合,(2) Enteromorphites—Doushantuophyton—Eoandromeda—Sinospongia 宏体化石组合,(3) Paracharnia—Gaojiashania—Cloudina—Longfengshania 宏体化石组合。由于华南震旦纪宏体化石具有较为独特的组合面貌,与国外末次冰期大量出现的伊迪卡拉型生物群(阿瓦隆生物群,庞德/白海生物群和纳马生物群)如何对比,还有待深入的研究。本文还重点讨论了华南地区新元古代宏体化石的南、北方对比问题。

中文关键词:华南 新元古代 宏体化石组合 生物地层序列 地层对比

Neoproterozoic Macrofossil Records in South China and Biostratigraphic Successions and Correlations

Abstract: Neoproterozoic strata in South China (780~542 Ma) have preserved a lot of classical sections and abundant macrofossils, and hence long served as the contrast standard of the Neoproterozoic stratigraphy in China, especially of the glacial Nanhuan System and the Sinian (Ediacaran) System. The authors reinvestigated the important sections and fossil sites and collected macrofossils respectively from “Houjiashan Biota” in Jiangchuan, Yunnan Province, and “Wenghui Biota” in Jiangkou, Guizhou Province. On the basis of the above study and other latest research advancements, the authors integrated and synthesized the macrofossil features and assemblages of the Upper Neoproterozoic strata in South China and brought forward the biostratigraphic successions as well. The macrofossil records indicate that, in company with the notable climate and environmental changes, the multicellular metazoans and metaphytes experienced a series of important biological evolutionary incidents in this period, such as organ and form differentiations, the growth innovations and the further diversification of biological structures and functions. This kind of diverse developments can be generally divided into three stages represented by three macrofossil assemblages in the Sinian (Ediacaran) Period: (1) the macroscopic algae fossil assemblage Anhuiphyton-Thallophyca-Paramecia, (2) the macrofossil assemblages Enteromorphites-Doushantuophyton- Eoandromeda-Sinospongia, and (3) the macrofossil assemblages Paracharnia-Gaojiashania-Cloudina- Longfeng-shania. Due to the relatively unique macrofossil assemblages in the Sinian strata of South China, its comparison with the Ediacara-type Biota occurring abundantly abroad in the strata postdating the last glaciation of Neoproterozoic (including the Avalon Biota, the Pound/White Sea Biota and the Nama Biota) remains to be studied in detail in future. The correlations of the Neoproterozoic macrofossils in South China and those in North China has also been discussed.