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三国吴简蚀斑可培养微生物的多样性

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摘 要：采用普通细菌和真菌培养基，从湖南长沙简牍博物馆收藏的一批走马楼出土的三国时期吴国竹简腐蚀浸泡液中分离得到8株细菌和1株霉菌的纯培养。结合培养特征、形态特征、基于细菌16SrDNA和真菌18SrDNA和ITS基因序列的系统发育分析，对分离得到的可培养微生物的多样性进行研究。研究结果表明：8株细菌分别划归为4个纲(α-Proteobacteria，β-Proteobacteria，γ-Proteobacteria和Bacilli)的7个属(Bacillus，Acinetobacter，Staphylococcus，Pandoraea，Novosphingobium，Cupriavidus和Comamonas)；霉菌属于Aspergillus。

关键字：三国吴简；竹简蚀斑病；微生物多样性；16SrDNA；18SrDNA和ITS；系统发育分析

Diversity of culturable microorganisms from erosive bamboo slips of Kingdom Wu

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Abstract:8 bacterial strains and 1 fungus strain were isolated from steeping fluid of the erosive bamboo slips using bacterial and fungal medium, and the bamboo slips were derived from Kingdom Wu during the Three-Kingdoms period and were stored in Bamboo Slips Museum of Changsha, Hunan Province, China, which were eroded severely by microorganisms in the storing period. Based on the cultural, morphological characteristics of the strains, and sequence analysis of the nucleic acids (parts sequence of 16SrDNA of the bacterial strains and 18SrDNA and ITS of the fungi strain), the bacteria belong to seven genera (Bacillus, Acinetobacter, Staphylococcus, Pandoraea, Novosphingobium, Cupriavidus and Comamonas) of four different classes (Bacilli, α-Proteobacteria, β-Proteobacteria and γ-Proteobacteria), and the fungus strain shows great similarity to Aspergillus.

Key words:bamboo slips of Kingdom Wu; erosive microorganisms; microorganism diversity; 16SrDNA; 18SrDNA and ITS; phylogenetic analysis

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