

盐湖生物学研究进展——第二届"盐湖生物学及嗜盐生物与油气生成学术研讨会"综述

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中文摘要:盐湖生物学是研究盐湖水体及其沿岸环境中生命现象和生命过程规律的科学.为进一步促进我国盐湖生物学研究,第二届"盐湖生物学及嗜盐生物与油气生成学术研讨会"于2007年9月在京召开.会议主要取得如下成果:(1)在"大盐湖产业"体系基础上,提出了"盐体系"研究模式,初步归纳了盐体系研究与生物学交叉的几个主题,为开展盐湖生物学研究提供了理论指导.(2)盐湖生物提供基因资源和新生物技术:极端嗜盐古菌蕴藏着丰富的可开发资源,是真核生物遗传过程研究得天独厚的原核模型.(3)对盐湖生物在油气生成中的作用有了新的认识,89%的已探明的原油和80%的天然气产于含盐盆地;盐湖相可以发育为优质烃源岩,已发现盐湖相烃源岩形成的大规模油气资源.

中文关键词:[盐湖生物学](#) [嗜盐菌](#) [螺旋藻](#) [盐藻](#) [蒸发盐盆地](#) [油气资源](#) [烃源岩](#)

Research Progress in Saline Lake Biology: A Review of the 2nd Conference of "Saline Lake Biology and Its Relationship with Petroleum Generation"

Abstract: Saline lake biology studies biological phenomena and life process regularity in saline lake water bodies and coastal environments and mainly includes biology taxonomy, geo-ecology, molecular biology, bioengineering of saline lake organisms and bio-resources application. With the purpose of further promoting saline lake biology research in China, the 2nd Conference of the Saline Lake Biology and Its Relationship with Petroleum Generation was held in September 2007 in Beijing. The main achievements of the Conference were as follows: (1) On the basis of "the large saline lake industry", "Saline System" was proposed. Several subjects in the saline system were put forward: the investigation of bio-resources distribution and their composition in such aspects as the species and quantity; the stress resistant mechanism of halophilic organisms and their metabolic products as well as its application; the space and time evolution of the saline system and the life origin; the saline system and petroleum, and the solid minerals as well as biological mineralization. These research topics provide the theoretical basis for the development of saline lake biology research in future. (2) The halophiles in the saline lake provide gene resources and new biological technology: The halo-bacteria contain rich resources with widespread application prospects, such as "purple membrane" —biological nanometer-materials, bio-degrading plastic PHA, special fats, and other biological activity materials. The halocline has large medical market requirement. Halo-bacteria, an important group of Archean, have a special heredity mechanism. Its basic genetics process analysis will be helpful to life evolution understanding as well as to grasping the complex biological phenomena of higher living things. The halo-bacteria will serve as a really advantageous prokaryotic model for the eukaryotic biological heredity process. (3) The saline lake biology has made an important contribution to the study of petroleum generation: There are 115 petroleum- and gas-bearing basins in the world, with 66 of them being evaporation salt basins. 89% verified crude petroleum and 80% natural gas were delivered from evaporation salt basins. For a long time, the role of saline lake halophilic organism for the petroleum generation was underestimated or neglected. It was believed in the past that the saline lake hydrocarbon source rock couldn't act as effective hydrocarbon source rock. In recent years, however, through the study of the saline lake hydrocarbon source rock in eastern China and the Qaidam Basin, the viewpoint that the saline lake sediment may turn into high quality source rock has gradually been accepted. Large-size petroleum gas fields generated from the saline lake source rock were found in prognostic areas.

keywords: [saline lake biology](#) [halo-bacteria](#) [Spirulina algae](#) [Dunaliella](#) [evaporation salt basin](#) [petroleum resources](#) [source rock](#)

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