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专论与综述

珊瑚礁区的生物多样性及其生态功能

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摘要 珊瑚礁区生物多样性程度可以与陆地热带雨林相提并论,目前关于珊瑚礁物种多样性及其空间分布特征方面研究进展迅速，是生物多样性研究的重要基地。作为一种生态资源，珊瑚礁还具有重要的生态功能，近年来由于全球气候逐渐变暖、人类活动影响不断加剧，导致其生物多样性缩减、生态功能严重退化。珊瑚礁生态系统多样性、遗传多样性已成为珊瑚礁研究热点，珊瑚礁生态环境效应和保护管理方面的研究也越来越受到重视。我国珊瑚礁主要分布在广阔的南海海域和海南岛、台湾岛、香港和广东广西沿岸，礁区生物种类繁多，多样性程度较高，以往研究主要涉及地质、地貌、生物、环境等方面，现今和今后一段时间里迫切需要加强生物多样性和生态功能研究，以确保更有效地保护和管理珊瑚礁。

关键词 珊瑚礁 ；生态系统 ；生物多样性 ；生态功能

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Review on coral reefs biodiversity and ecological function

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Abstract Coral reefs are habitats to hundreds and thousands of organisms and are thus well known as “the rainforests in the ocean”. They constitute one of the world’s most spectacular ecosystems. Many biologists and ecologists have employed a multitude of experimental approaches in the study of coral reefs. These studies have revealed that reef systems host invaluable biodiversity. Albeit about a third of all marine organisms thrive in coral reef ecosystems, surprisingly, their total area makes up <1% of marine surface area. Furthermore, only about 10% of all species on reefs have been studied and described with the direct implication that about 90% of the species on the world’s coral reefs have remained undiscovered. There are two major coral faunas: Indo-pacific and Atlantic. The Indo-pacific reef system is characterized by relatively higher biodiversity than the Atlantic probably due to different dynamic processes taking place in these two systems. Corals are sensitive to factors such as salinity, sediment and nutrient inputs to marine systems, leading to the emergence of new and distinctive patterns. In addition to species diversity, genetic and ecological diversity has emerged as the new focus in this field. From a human perspective, coral reefs are not only a source of wonder, but also an invaluable source of marine food, medicine and industrial material. They also provide a protective role for mangrove and other near-shore ecosystems from tropical storms in addition to being an ideal treasured study destination for scientists. Different species may compliment the functions of each other in coral reef ecosystem. Recently due to anthropogenic activities and especially climate change (global warming), which have aggravated destruction on coral reef systems, biodiversity reduction and ecological function degradation have received incredible attention from researchers and nature conservationists. Therefore, the study of reef ecological function in relation to dwindling biodiversity is a current situation that requires extremely urgent attention to redress. In China, coral reef is very pretty and characterized by high biodiversity and important ecological functions, hence, the need for deep research aimed at conserving this rich ecosystem. The primary approach towards this important goal of conservation is to ide

ntify the species distribution and their ecological functions, classify and catalogue them and develo p a long-term monitoring program for the coral reef dynamic processes. This approach, if effectiv ely applied and implemented, will boost the recovery and conservation of coral reef systems not o nly in the South China Sea but also in other world marine environments.

Key words coral reef _ biodiversity _ ecological function _ ecosystem

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