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珊瑚骨骼生长研究评述 [点此下载全文](#)

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摘要:

珊瑚骨骼生长有年、月、日周期, 能够当作古生物钟来记录地质历史。块状珊瑚骨骼密度条带年周期的发现对后来的珊瑚古气候研究产生了深远的影响, 随后又发现世界各热带海域的珊瑚存在多种多样的骨骼密度变化模式, 起先常从珊瑚的生长环境中寻找骨骼密度变化的控制因素, 但是没有成功, 从80年代后期, 部分学者试图从珊瑚骨骼构架本身出发、综合考虑环境因素和骨骼密度条带之间的关系来探求骨骼密度变化的机理, 并提出了一个可以解释大多数块状珊瑚骨骼密度条带变化模式的骨骼生长模型。块状珊瑚软体层厚度是一个十分重要但至今仍没引起足够重视的珊瑚生长参数, 它相对于骨骼线性生长率的变化影响着骨骼密度变化模式。骨骼钙化作用和虫黄藻光合作用的相互关系还存有争议, 珊瑚骨骼钙化机理仍在探索中。

关键词: [骨骼架构](#) [生长周期](#) [骨骼密度](#) [线性生长率](#) [珊瑚软体层厚度](#) [钙化作用](#)

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Abstract:

Skeleton growth has the annual, month and day rhythms, and the skeleton can record geological history as a paleontology clock through its growth rhythms. The discovery of annual density bands of mass coral skeleton had a profound effect on coral paleoclimatology, and many patterns of density bands have been revealed throughout the global tropic ocean since then. At the first stage, people tended to explore the control factors of density changes from the environment where the coral grows, but they did not succeed. Since later part of 1980s, some researchers have focused on the skeletal architecture and integrated the signals of both environment condition and skeleton density bands to reveal the mechanism of skeleton density changes, and finally a model of skeleton growth was developed which can explain the almost existed patterns of skeleton density changes. The thickness of coral soft tissue layer is a significant parameter because its variations relative to skeleton extensions affect the density patterns, but unfortunately, it has not been got enough attention even now. The relationship between skeleton calcification and photosynthesis of zooxanthellae is a controversial question, and the mechanism of calcification is still being explored.

Keywords: [skeletal architecture](#) [growth rhythm](#) [skeleton density](#) [extension rate](#) [thickness of coral soft tissue](#) [calcification](#)

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