

# 琉球大学学術リポジトリ

## Recruitment Processes and Maintenance of Scleractinian Coral Populations around Moorea (French Polynesia): the Link among Recruits, Juveniles, and Adults

メタデータ	言語: 出版者: 琉球大学21世紀COEプログラム 公開日: 2008-10-07 キーワード (Ja): キーワード (En): 作成者: メールアドレス: 所属:
URL	<a href="http://hdl.handle.net/20.500.12000/7422">http://hdl.handle.net/20.500.12000/7422</a>

Recruitment Processes and Maintenance of Scleractinian Coral Populations around Moorea (French Polynesia): the Link among Recruits, Juveniles, and Adults

Lucie Penin & Mehdi Adjeroud

Ecole Pratique des Hautes Etudes. Laboratoire de Biologie Marine et Malacologie. UMR 8046 CNRS.

Université de Perpignan 66860 Perpignan, France

and

Centre de Recherches Insulaires et Observatoire de l'Environnement.

BP 1013 Papetoai, Moorea, French Polynesia

Relationships among 3 stages of the life cycle of Scleractinian corals were studied around Moorea Island, in order to improve our understanding of population maintenance and recruitment processes. Abundance and composition of recruits (< 3 months of age), juveniles (1-5 cm in diameter; ~1-4 years of age), and adults were determined at 9 stations disposed on the outer reef slope (3 sites: Vaipahu, Tiahura, and Haapiti; 3 depths: 6, 12, and 20 m).

There was a strong variation among sites and depths in the abundance and composition of recruits, juveniles, and adults. At the station scale (~100 m<sup>2</sup>), no correlation was found between the abundance of recruits and juveniles, nor between recruits and adults (all families/genera pooled). In contrast, we found a positive and significant correlation between abundance of juveniles and adults, except for *Pocillopora* and *Porites*. Moreover, juvenile and adult assemblages showed marked similarities in term of relative abundance of the different genera, whereas recruits differed strongly. Relationships among recruits, juveniles and adults varied among the 3 dominant families (Pocilloporidae, Acroporidae and Poritidae), indicating the importance of life history traits in recruitment and maintenance processes. At the site scale (~10000 m<sup>2</sup>), stronger relationships were observed between recruits, juveniles and adults.

Our results suggest that, at the station scale, early post-settlement processes are major factors influencing the variation in abundance and composition of adult assemblages, whereas at a larger spatial scale, recruitment-regulation processes may play a significant role.