

## Coral Reef Zone

This zone includes the actively accreting hermatypic coral assemblages. The coral reef crest (or “cap”) of the East and West Flower Garden Banks exemplifies this zone. The Coral Reef zone proposed here includes the *Diploria-Montastraea-Porites* zone, the “*Madracis* and Leafy Algae” zone and the *Stephanocoenia* -*Millepora* zones as described by Rezak et al. (1985, 1990).

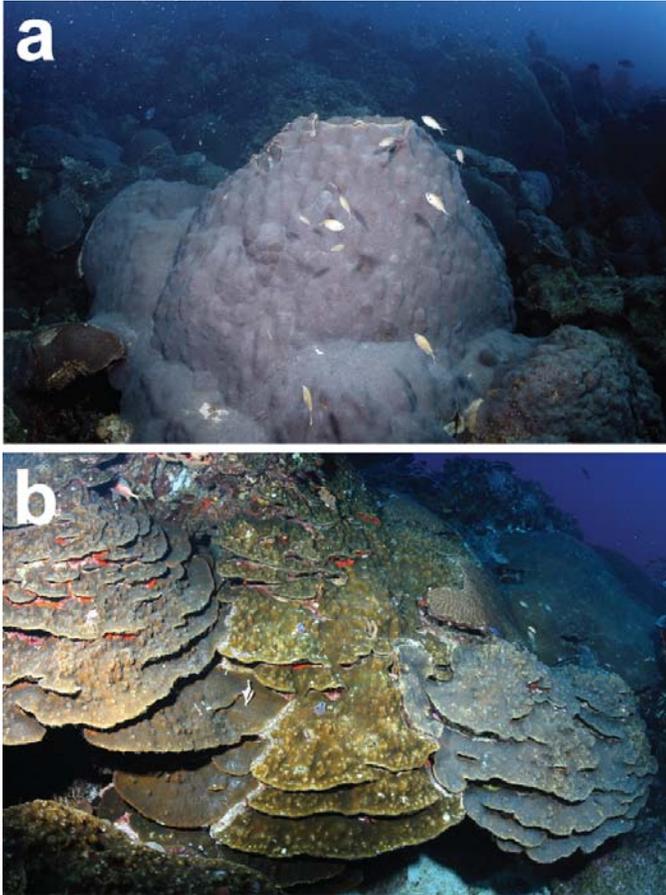


Fig. 6.12. (a) Massive boulder form of *Montastraea faveolata*, the typical morphology on the coral reef cap; (b) At depths below around 30 m, many coral species exhibit a plating morphology in order to maximize the surface exposed to sunlight (Photo credit: G.P. Schmahl)

We propose that these classifications are sub-components of the coral reef zone. Major habitats within this zone are described by the dominant coral species that characterize the assemblage. The primary habitat of the coral reef zone of the Flower Garden Banks is the *Montastraea* habitat (Fig. 6.12a and b). Rezak et al. (1985) called this community the *Diploria-Montastraea-Porites* zone, but this is somewhat misleading in that the brain coral *Diploria* is not the dominant component of the species assemblage. Members of the genus *Montastraea* account for over 65% of the coral species encountered, while *Diploria* accounts for about 11%. Other habitats within the coral reef zone include those typified by *Madracis* (*Madracis* and Leafy Algae zone of Rezak et al. 1985),

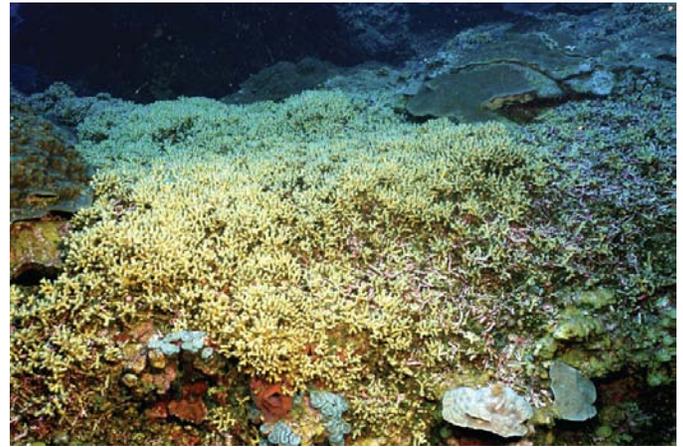


Fig. 6.13. Extensive fields of *Madracis mirabilis*, the yellow pencil cover portions of coral, several flanks of the East and West Flower Garden Bank (Photo credit: FGBNMS/G.P. Schmahl)

*Stephanocoenia* (*Stephanocoenia*- *Millepora* of Rezak et al. 1985), and coral sand. The *Montastraea* habitat of the Flower Garden Banks includes at least 24 species of stony corals. This habitat is interspersed by sand channels comprised of coral sand (coral debris with molluscan and algal components). The *Madracis* habitat occurs on the peripheral parts of the primary reef structure in depths ranging from 28 to 44 m, where large knolls characterized by almost monospecific stands of the small branching coral *Madracis mirabilis* can occur (Fig. 6.13). The *Stephanocoenia* habitat is a lower diversity coral community occurring in water depths primarily below 36 m. While dominated by the blushing star coral *Stephanocoenia intersepta*, other species such as *Millepora alcicornis*, *Colpophyllia natans*, *Agaricia* spp., *Mussa angulosa* and *Scolymia* sp. are also encountered. This habitat occurs in areas surrounding the Flower Garden Banks, and is the primary coral reef habitat at McGrail Bank (Fig. 6.14).



Fig. 6.14. McGrail Bank is dominated by colonies of the blushing star coral, *Stephanocoenia intersepta*, reaching 2-4 m in size. This photograph was taken at approximately 43 m depth by a ROV mounted camera system (Photo credit: FGBNMS/NURC-UNCW)

## *References*

- Rezak R, Bright TJ, McGrail DW (1985) Reefs and banks of the northwestern Gulf of Mexico : their geological, biological and physical dynamics. Wiley, New York, 323 pp.
- Rezak R, Gittings SR, Bright TJ (1990) Biotic assemblages and ecological controls on reefs and banks of the northwest Gulf of Mexico . *Am Zool* 30:23–35.