

## **Distribution Patterns of Coral Reef Fishes of Yucatan, Mexico**

MAURICIO GARDUÑO and ERNESTO A. CHÁVEZ

*Centro de Investigación y de Estudio Avanzados del I.P.N., U. Mérida*

*A. P. 73 Cordemex*

*Yucatán, México 97310*

### **ABSTRACT**

The fish assemblages of Mexican coral reefs were characterized; these were further interpreted with respect to physiographic features to further examine the factors affecting species composition and relative abundance. Data on fish abundance and species richness were obtained using a rapid visual census method. Cluster analysis was conducted to discriminate differences among groups of abundant species. Major differences between fish assemblages of the Campeche Bank and those on Caribbean coral reefs on the eastern portion of the Yucatan Peninsula were found. On the Campeche Bank, coastal water is more turbid and productive, with a higher primary productivity supporting a greater number of planktivorous species. Reefs on the Caribbean side of the Yucatan Peninsula are influenced by oceanic waters with lower concentration of nutrients and, therefore, a lower primary productivity. Fish assemblages on these tropical reefs are more dependent on benthic production, with snappers and grunts being more abundant. Due to the difference in the physiographic conditions between these two closely associated provinces, the trophic dynamics and resulting fish assemblages are profoundly different.

**KEYWORDS:** Reef fish communities; northwest Caribbean; trophic structure; relative abundance.