

FIRST RECORD OF *PYRODINIUM BAHAMENSE* (DINOFLAGELLATA) IN BRACKISH WATERS OF THE MEXICAN CARIBBEAN COAST

The analysis of water samples for cell counts (Utermöhl technique) and from 60 μm mesh plankton net, obtained in October 1996 from the brackish waters of the northern section of the Sian Ka'an Biosphere Reserve (20°06'3.6" - 19°47'15.6" N and 87°28'55.3" - 87°29'11.8" W), in Quintana Roo, Mexico (Fig. 1), showed the existence of an important bloom of the dinoflagellate *Pyrodinium bahamense* Plate (Balech, 1985, *Rev. Paleobot. Palynol.* 45: 17-34, pl. I-III) (Fig. 2). Higher densities (1500 cells/ ml^{-1}) were found in mesohaline conditions (12-13‰), corresponding to an area localized between a zone of considerable mangrove development, and the coastal underground drainage. Observed water coloration was red diluted on shallow carstic bottoms (depth from 0.9 to 1.8 m), covering a surface of 6 km^2 .

The discovery of this species in a protected aquatic environment allows approaching some new studies on the population dynamics of dinoflagellates and their production of toxins (Gómez-Aguirre & Licea, *In: Reguera (ed.), Harmful Algae*, in press). Studies of the highly toxic *P.b.* var. *compressum* have been carried out in the Pacific coast of Central America (Rosales-Loessner *et al.*, 1989, *In: Okaichi et al. (eds.), Elsevier, New York*, pp. 113-116; Cortés-Altamirano *et al.*, 1993, *An. Inst. Cienc. del Mar y Limnol., Univ. Nal. Autón. México* 20(1): 43-54; Gómez-Aguirre, 1998, *An. Inst. Biol., Univ. Nac. Autón. México, Ser. Zool.* 69(1):13-22), showing the role of this species in the production of toxins and their bioconcentration by mollusks and other filter feeders.

The analysis of the distribution of *P. bahamense* (Gómez-Aguirre *et al.*, 1997. *In: IOUSP/ALICMAR/FIESP (eds.), vol. I: 385-386*) has suggested an empirical pattern of water circulation in this semi-enclosed lagoon system.

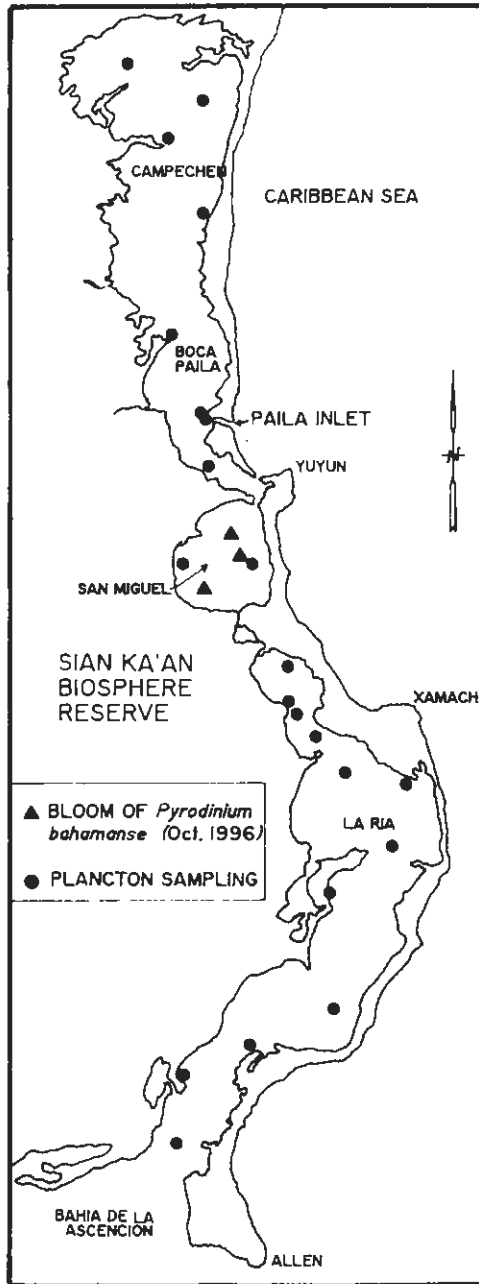


Fig. 1. Coastal lagoon system of the Sian Ka'an Biosphere Reserve, Quintana Roo, Mexico.

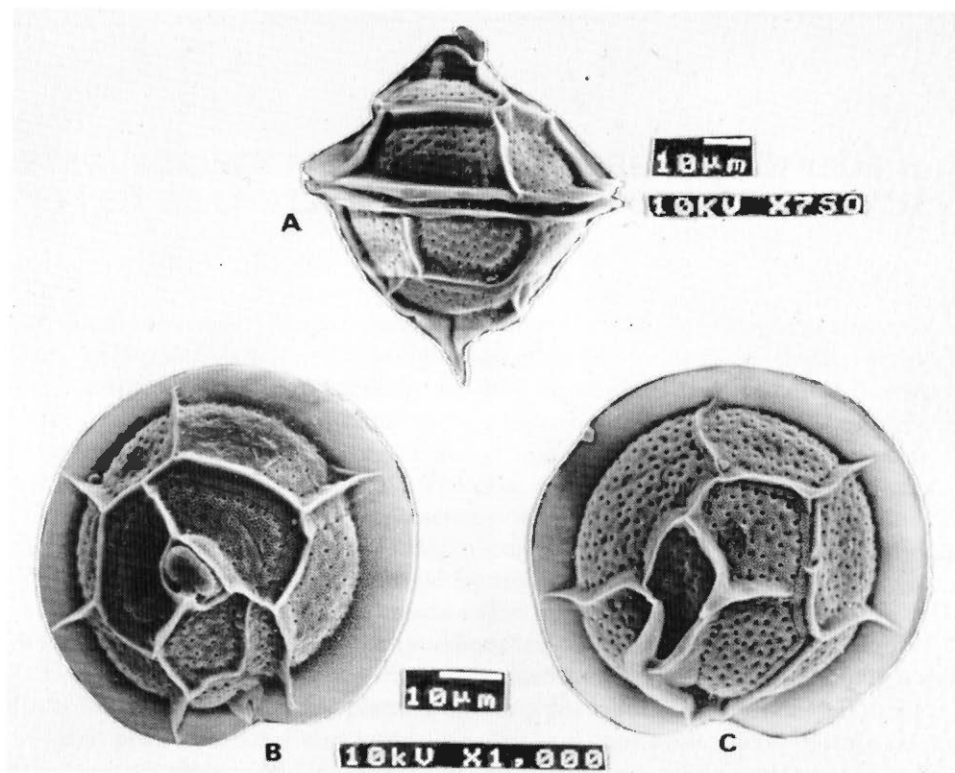


Fig. 2. *Pyrodinium bahamense* Plate, from the coastal lagoon system of the Sian Ka'an Biosphere Reserve, Mexico. A) Dorsal view; B) Epitheca, apical view; C) Hypotheca, antapical view. Size: 77.5 μm longitudinal, and 65.0 μm transversal. Tabulation details in Balech (1985, *Rev. Paleobot. Palynol.* 45: 17-34).

ACKNOWLEDGMENTS

The grants PAPIIT-IN211196, DGAPA, UNAM, and CONABIO H078 provided support for this study. I would like to thank my colleagues L. Sanvicente-Añorve and X. Chiappa-Carrara, the staff of the Sian Ka'an Biosphere Reserve, specially to A. Arellano, and other collaborating students for their field and technical assistance. Finally, I am grateful to S. Licea their contribution.

SAMUEL GÓMEZ-AGUIRRE. Instituto de Biología, UNAM, Apartado Postal 70-153, 04510 México D.F.