

## TEMPERATE MARGINAL MARINE INVERTEBRATE ASSEMBLAGE IN A LATE PLEISTOCENE CARBONATIC SEQUENCE IN NORTHEASTERN VENEZUELA

**Macsoy, O.**, Campos Villaroel, R. and Peraza, T.  
Consultants, Apartado Postal 62262, Chacao, Caracas, Venezuela

### ABSTRACT

Discontinuous marine carbonatic beds of plurimetric thickness are well exposed along the shorelines and platform around Margarita Island and the Araya Peninsula, from -50 m to +20 m. They are unconformity-bounded units whose radiometric age is  $130,000 \pm 5,000$  years before present, related to the Sangamon inter-glacial stage. These well-cemented fossiliferous bioclastic limestones exhibit three well differentiated units. The lower unit is a cross-bedded subconglomeratic calcirudite, containing storm-broken small hermatypic corals of eurythermic habits. They are found together with Crassostrea virginica procyon, a common fossil of the East Coast Pleistocene of North America.

The common molluscs of the middle unit's calcarenites are also of eurythermic affinities such as Atrima serrata, Chion cancellata and Macrocallista maculata. Associated with these are temperate taxa well known from the Carolinas and Florida: Phacoides pennsylvanica, Argopecten gibbus and Plicatula gibbosa. Other mollusca found are Caribbean taxa: small Conus, Persicula, Oliva, Strombina, Tegula and Olivella, and tropical stenothermic fauna are absent. The maximum paleo-depth attained was about 6 m with energies ranging from high to medium.

The upper carbonatic unit is mostly vadous, with gastropods (Cyclostoma hodalgoa, Aperostoma) that lived in humid tropical forests of Venezuela since late Pliocene times. The 24 outcrops studied belong to the El Manglillo Formation; in Paraguaychoa and Cubagua Islands they are overlain by the iron-rich paleosoils of the Falca Formation. It is concluded that marine surface waters in the southeastern Caribbean were temperate during Late Quaternary times, where the maximum winter temperatures were slightly above the  $20^{\circ}$  C isotherm. The coastal climate was tropical-humid.