



CARIBEANA, A POSSIBLE SOLUTION TO A LONG STANDING PUZZLE: THE CARIBBEAN LATEST CRETACEOUS TECTONIC EVENTS

Manuel Antonio Iturralde-Vinent⁽¹⁾ y Antonio García-Casco⁽²⁾

(1) Museo Nacional de Historia Natural, Obispo no. 61, Plaza de Armas, La Habana 10100, Cuba.

(2) Departamento de Mineralogía y Petrología, Universidad de Granada, Fuentenueva s/n, 18002-Granada, España.

ABSTRACT

In this contribution it is demonstrated that at the end of the Cretaceous took place a major tectonic event that played a key role in the subsequent evolution of the Caribbean. During the eastward drift of the Caribbean Plate from the Pacific, with respect to North and South America, the leading edge of the Caribbean Plate encountered a thick sedimentary prism represented by a submarine promontory extended eastward into the ProtoCaribbean realm from the Maya Block, somehow as a southern counterpart of the Bahamas. This submarine promontory here is dubbed "Caribeana", today is represented by the Pinos, Cabras-Pino Solo, Escambray and Asunción Terranes. Additional candidates are the Samaná and Northern Puerto Rico terranes. The collision between Caribeana and the Caribbean Plate produced a major turnover in the evolution of the region. Within the Caribbean Plate this event triggered the interruption or attenuation of the magmatic arc activity; along with exhumation and tectonic emplacement of ophiolites and subduction channels. Within the ProtoCaribbean realm, Caribeana was the subject of deep-seated metamorphism followed by rapid exhumation and thrust tectonics. Since the Paleocene, CARIB started a faster north and eastward drift with respect to North and South American Plates, and in this process, the original Caribbean Plate (CARIB) broke into two major segments along the Motagua-Cayman-Oriente fault system, so the Cuban microplate (W-CARIB) ultimately collided with the Bahamas platform (NOAM) in the late Middle to early Upper Eocene. The Eastern Caribbean Plate (E-CARIB) continues eastward drifting up to the present.

Tectonic evolution of terranes attributed to Caribeana and other terranes in the NE leading edge of the Caribbean plate, and final emplacement onto the Bahamas and Yucatan platforms.

