

THE PERI-CARIBBEAN OPHIOLITES: STRUCTURE, TECTONO-MAGMATIC SIGNIFICANCE AND GEODYNAMIC IMPLICATIONS

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New geological and petrological data on the ophiolitic complexes deformed and dismembered along the Caribbean Plate margins are presented. A “near Mid-America” location of the Jurassic-Cretaceous original Caribbean oceanic realm (proto-Caribbean phase) is suggested. Its magmatism is referable to multiple spreading centres (LREE-depleted MORB: Venezuela, Costa Rica, Guatemala, Cuba, Hispaniola), evolving to a huge plateau structure (REE-flat MORB associated with picrites: Costa Rica, Hispaniola, Venezuela, Dutch-Venezuelan Islands). At the same time both the South and North American continental margins were affected by rifting and WPT magmatism (Venezuela, Cuba). From Early to Late Cretaceous (eo-Caribbean phase) two main stages of intra oceanic subduction are recognized: 1) an inferred NE and SE dipping sinking of unthickened proto-Caribbean lithosphere, recorded by deformed and metamorphosed ophiolitic melanges and volcano-plutonic sequences (IAT: Guatemala, Venezuela; CA: Cuba); 2) a new intraoceanic subduction, with reverse polarity, responsible of the first tectonic settlement of the Caribbean margins, recorded by unmetamorphosed granitoid intrusives related to the onset of the Aves-Lesser Antilles arc system and its eastward migration. In the Late Cretaceous, the inner and undeformed portions of the Caribbean Plate, i.e. the Colombian and Venezuelan Basins, were trapped by the intervening Pacific subduction, building the Central American Isthmus. The Tertiary to Present eastward displacement of the Caribbean Plate led to the progressive dismembering of the deformed ophiolitic belts, and their involvement in its margins.