

ABSTRACT

The Antigua Formation (Antigua, Leeward Islands) is divided into ten members, based on lithological and palaeontological differences in the dominantly limestone sequence. In the northwest the formation is divided into three members. In the southeast six members are distinguished. In the central region a single tuffaceous unit is recognised.

Palaeoecological and lithological evidence indicates deposition in varying shallow water environments, generally within the euphotic zone. The Wetherill Point and the Conk Point Members are near-reef deposits, containing predominantly corals in a medium to fine-grained matrix. The Langfords Bay Member is a shallow water deposit formed in a quiet bay or lagoon, containing mainly larger foraminifera. The Boon Point Member is a calcareous sandstone deposited in very shallow water and showing cross bedding. The Elliots Member is also a shallow water member and is highly tuffaceous, containing scattered larger foraminifera. The Mill Reef and Long Bay Members were deposited in deeper water and contain a high planktonic/benthonic foraminiferal ratio.

Two biostratigraphical divisions are recognised. The lower is characterised by an assemblage including Lepidocyclina undosa, L. favosa, L. gigas, L. yurnagunensis, Heterostegina antillea, Operculinoides antiguensis, C. dia and planktonic foraminifera which correspond to the Globigerina ampliapertura assemblage zone. It corresponds to the Lepidocyclina (Lepidocyclina)/Lepidocyclina (Eulepidina) zone of the Caribbean area. The upper division is characterised by the presence of Miocypsinoides and Eulepidina, but lacks Miocypsinina ss. It contains planktonic foraminifera which correspond to the Globigerina opima opima assemblage zone. It is called here the Miocypsinoides sub-zone, falling at the base of the Miocypsinina sub-zone of the Eulepidina zone. Both are dated as Upper Oligocene.

The Antigua Formation is correlated with the San Sebastian and Juana Diaz Formations of Puerto Rico, the opima and ampliapertura zones of the Cipero Formation of Trinidad, the Tinguaro Formation of Cuba and the Bas Obispo Formation of Panama.

Three species of larger foraminifera, new to Antigua are recognised. They are Archaias operculiniformis Henson, A. angulatus Fichtell and Moll, and Miogypsina (Miogypsinoidea) c.f. complanata Schlumberger.