



New Oligocene coral reef in central Apennines (Majella mt., Italy)

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The succession of the Majella platform margin has been subdivided into six 2nd order sequences. The Oligocene sedimentary sequence belongs to the Pesco Falcone Formation (Vecsei, 1991) and to the 5th sequence. Four small coral-algal reefs, which did not form a barrier, were found in this Formation and four 3rd order sequences were recognized. In the field it was possible to identify and accurately delimitate every reef. Only in a few cases a correlation was possible between reef and by-pass structures or, reef and overproduced transported sediments, partially shed onto the external platform or on the proximal slope. The discovery of an outcrop, never studied so far, at the locality of “Terzo Portone” allows the extension of the paleoenvironmental reconstruction further to the south, as proposed by Vecsei & Sanders (1997). Paleontologically, it was possible to recognise the sequence from SBZ (*shallow benthic zones*) 16 (Serra-Kiel et al., 1998) to SBZ 22a (Chauzac & Poignant, 1997). The fossil assemblage included alveolinids, nummulitids, discocyclinids, corals, algae and bryozoans and more than 60 taxa were used for facies analysis, dating and paleoenvironmental reconstruction. In conclusion it was possible to observe the carbonate production during TST and HST and how reefs developed during aggradation and progradation sequences. During the Late Eocene and the Early Oligocene, the shelf strongly aggraded and then prograded over the slope. Thus it was possible to study how biodiversity changes until the Oligocene-Miocene boundary due to changing climate conditions.