



## **Foramol ramp evolution in different tectonic settings: examples from internal and external Cenozoic Alpine basins (Western Italy)**

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Foramol facies are frequently developed on carbonate or mixed siliciclastic-carbonate ramps in different geodynamic settings. In this work three significant cases from external and internal Cenozoic Alpine basins are compared to evaluate sedimentation rate, duration of depositional systems, richness of faunal communities, paleoenvironmental features and vertical evolution of the foramol ramp facies.

1) Nummulitic Limestone (SW Alps, French-Italy border) developed in the Alpine foreland basin during Bartonian. This formation is 20 to 160 m thick and consists of bioclastic quartzarenite and sandy allochem limestone deposited on a mixed siliciclastic-carbonate ramp. The fossil assemblage is dominated by larger foraminifera (*Nummulites*, *Discocyclina*), gastropods, bivalves and echinoids.

2) Molare Formation (Tertiary Piemonte Basin) developed in the retroforeland Alpine basin during Rupelian. The upper part of this formation consists of 60 to 80 m of hybrid arenite, deposited on a ramp associated with fan delta systems. The fossil assemblage is dominated by larger foraminifera (*Nummulites*, *Operculina* and *Lepidocyclina*), bivalves and echinoids.

3) Visone Formation (Tertiary Piemonte Basin) developed in an episutural basin during Burdigalian. This formation reaches a maximum thickness of 30 m and mainly consists of limestone deposited in a carbonate ramp followed by outer ramp glauconarenite. The fossil assemblage is dominated by larger foraminifera (*Operculina*, *Amphistegina* and *Miogypsina*), bivalves and echinoids.

The three formations are followed by marly units referable to a deep environment.

The three cases, although developed in different tectonically active settings, show similar vertical trends. In these contexts of strong subsidence, foramol ramps, characterized by low carbonate production, have a short life and are subjected to rapid drowning.