**G-I14**

**Mazarron escarpment : an instable slope composed by Pliouquaternaries Sedimentary Units (Murcia, Spain)**

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The Mazarron escarpment itself, constitutes the geologocal border betwen continental shelf-slope and the abyssal plain in the eastern Alboran basin, being part of the latter margin in the province of Murcia. From a broader perspective it is considered as the extension to the SW of the Baixo Baudot Escarpment. It still corresponds to the limit southwest of the threshold linking the Betic Range and the Betic Promontory.

The surveyed area is the continental margin of Spain, located around Mazarron place, in a depth between 6 and 2000 metres. This margin belong to a passive type and is extremely steep along the Mazarron and Baixo Baudot escarpment. The sedimentary cover, molasse Flimpanuity is age, is fully variable in thickness. It's covering a high tectonized substrat媲 (Betic Range) that correspond close in "Cabo de Palos".

From the sedimentary point of view, can be included in a abrupt-type, characterized by a narrow shelf with some irregularities produced by the proximity of the basement to the bottom, where the sedimentary factor has not exceed the oceanic ones: The morphology of the shelf is dominated by elongated reliefs (convex downslope) as a "tongue-shaped" sedimentary bodies. Those units are independiced one to the other, and are separated by oomorphological valleys eventually deep, which occupationally are coincident with faults in a NW-SE direction or close to it.

The sediments forming the margin are mainly argillaceous with calcareous beds, deposited in prograding series, getting thicker with the slope. Those sediments are extremely unstable and soft, and its plasticity help the slumping.

On base of seismic-reflection profiles (Sparker 7000 Joules and 1000 Joules), has been possible to establish a structural-tectonic outline of the area. The margin is affected by numerous faults in a E-V to ESE-SW and NW-SE directions. Successive erosion stages of the continental margin along the Pliocene period, have produced the replacement of the anciant faults, due to alteration in the distensive regime and the compresive one. In consequence, the mass transport is triggered by the tectonic activity.

According to some tectonic evolution theories about passive margins, it’s easy to explain the present morphology of the margins is the area, where the deposition is produced under a distensive regime followed of a compresive one.

**G-I15**

**Red Algae sediments in the Balearic Shelf**

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The Balearic Shelf is an open marine shelf that ranges in width from 9 km in the north of Menorca to 55 km around Cabrera Is. Water temperatures at 5 m depth fluctuate from 15°C in winter to 27°C in summer. The absence of great terrigenous influx and the nutrient depleted waters make this shelf very clear to the light.

Sedimentation is mainly of biogenic origin (93%) and the lithoclasts (7%) are locally concentrated in littoral areas near the mouths of the rushing streams. Biogenic composition is formed by red algae (50%), molluscs (15%), foraminifers (6%) and brisoans (5%) of the Holocene to the Pleistocene.

Productive communities like *Posidonia oceanica* and *maerl* are the main responsible for the biogenic composition. Second order productive communities are platform coralligenous, coralligenous on hard rock, photophilic algae, *Vidalia volubilis*, *Gymnothorax nodosus*, *Caullara prolifera*... Productive communities and biogenic facies are closely related and so is their special distribution.

One of the most characteristic facies of the Balearic Shelf is originated by maerl communities. Principal components of the algial gravel facies are red algae fragments (60%) but bielitaves, gastrocosmas, foraminifers and crustacea fragments are also present. Textural parameters qualify these sediments as grainstones although locally rudstones are presente.

Algal gravel facies are usually present at depths greater than 40 m and even reach 90 m deep. This range agree with the Lliric community depths. Some carbonate productive species from maerl have been recognized in the sediment and some others have not.

Species that form the basal stage of maerl are among others: *Physetolithon calcareum*, *Lithothamnium corallioides*, *Lithothamnium valens*, *Peyssonnelia* *corallinae*, *Lithothamnium fruticulosum*, *Mesophyllum lichenoideum*, *Lithothamnium expansum*.

From those we have recognized in the sediment fragments of:*Physetolithon calcareum*, *Lithothamnium corallioides*, *Lithothamnium valens*, *Peyssonnelia corallinae*, *Lithothamnium fruticulosum*, *Mesophyllum lichenoideum*, *Lithothamnium expansum*.

An explanation for this disagreement can be found in the biological structural of some carbonate crystal arrangements which are not present in the unrecognized species.

Species distribution in sediments seem to be fortuitous though a depth influence is suitable. Algal gravel facies form growth patches over the sea bed where small mounds with hafflestone textures are found. These mounds are built up by the branching growth of red algae.

From the several areas that have been studied in the Balearic Shelf (Pollença Bay, Campos-Cabrera zone, and South Menorca shelf) the first two are dominated by coralligenous species while the South Menorca Shelf is characterized by a great presence of *peyssonneliae*, especially in the deepest zones.

Apart from this distribution pattern mainly related with depth we have found other red algae sediments related with other processes.

*Posidonia oceanica* sediments are also rich in algial gravel sediments as well as some places from the intrallitoral environment. These localities are placed on irregular coastlines, rather. exposed to the wave action and with very shallow water. The red algae that have been found in these areas are characterized by branching rodolites (more than 16 cm in diameter) that are usually attached to a hard substratum or planted in mobili sands that fill morphological traps.

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