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The Santanyí Limestone Formation in the Mirador des Pontàs

Location



Municipality: Santanyí

U.T.M. coordinates (31N ETRS89): X: 512246
Y: 43524547



Difficulty and duration



Access

Access is from Carrer Passeig del Mar of the Cala Llobards development. The viewpoint is reached by a small passage perpendicular to the street leading to the cliff (Carrer Mirador es Pontàs).

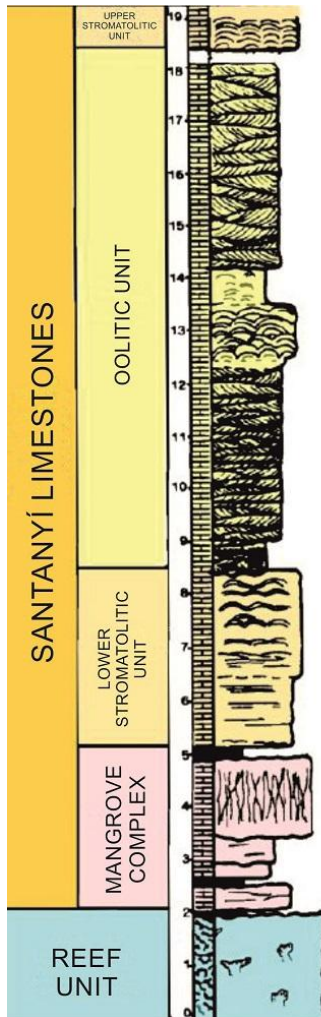
Principal interest

Stratigraphic

Secondary interest

Sedimentological, paleontological

Description of the locality



Stratigraphic column.

In the Mirador des Pontàs is possible observe one of the finest stratigraphic sections of the Upper Miocene.

The base of the cliff corresponds to the reef unit, composed of the remains of an ancient coral reef. Its upper part is eroded and has created a marine trench.

Over this eroded surface, and in a discordant manner, there stands the first section of the Santanyí Limestone Formation, from some 6 Ma ago.

The oldest section of this formation is named the Mangrove Complex and is formed by fine-grained rock, marls, with abundant vertical root moulds (rhizocretions) and accumulations of bivalves. It corresponds to a zone of tropical coastal vegetation, very similar to present-day mangrove swamps like those of Florida.



Mangrove Complex. Note the vertical marks of roots.

Above these facies lies the so-called Lower Stromatolitic Unit, mainly formed by laminated limestone structures called stromatolites and abundant bivalve molluscs.



Accumulation of bivalves in a fallen block.

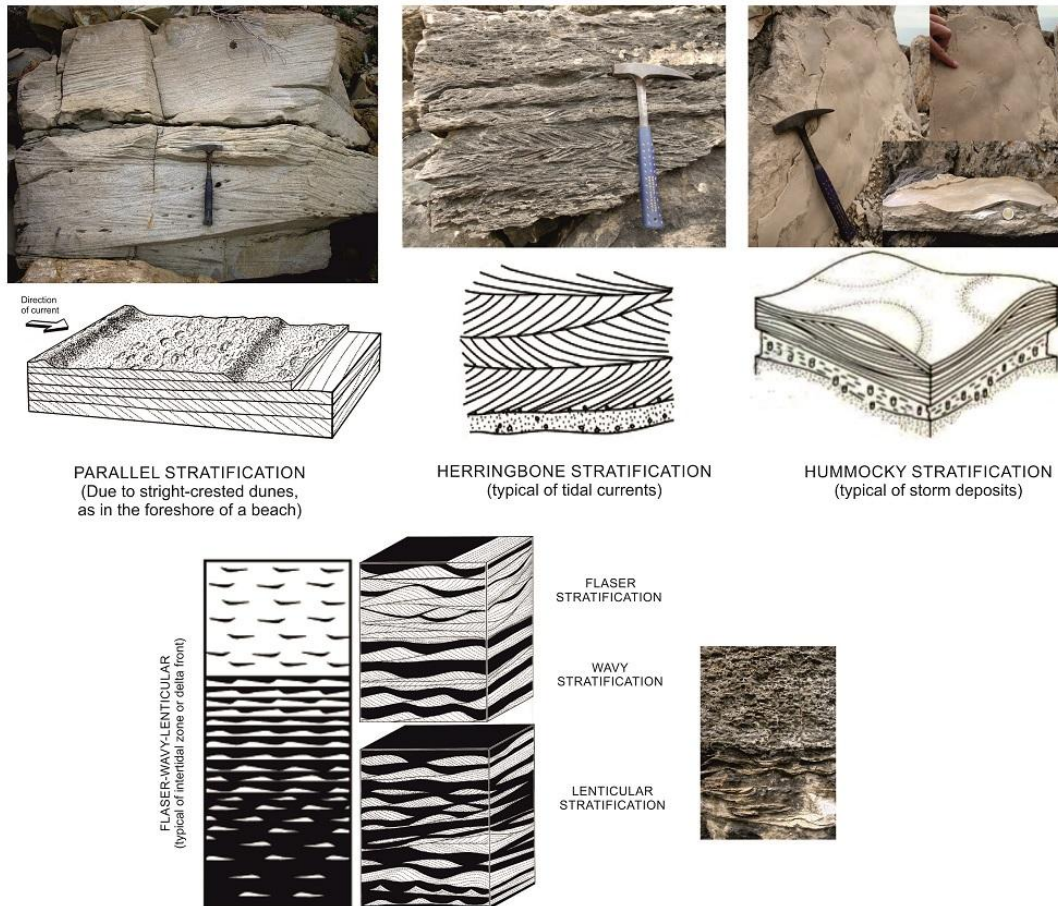


Detail of the stromatolitic laminae of the Lower Stromatolitic Unit.

Above this there appears the Oolitic Unit, which at the Mirador des Pontàs reaches a thickness of 10 metres.

The characteristic rock of this unit, highly valued for construction, is oolitic limestone, formed by countless small limestone grains called oolites. These are formed in clean, shallow and relatively agitated waters by the precipitation of calcite or aragonite around a microscopic nucleus, normally a fragment of rock or a mollusc shell.

As if they were grains of sand, the oolites are transported by the water and give rise to stratified deposits whose geometry will depend on the medium in which it was formed. In this way, in the cliffs of the Mirador des Pontàs (and in the fallen blocks) we find a wide variety of types of cross-stratification and therefore of sedimentary environments.



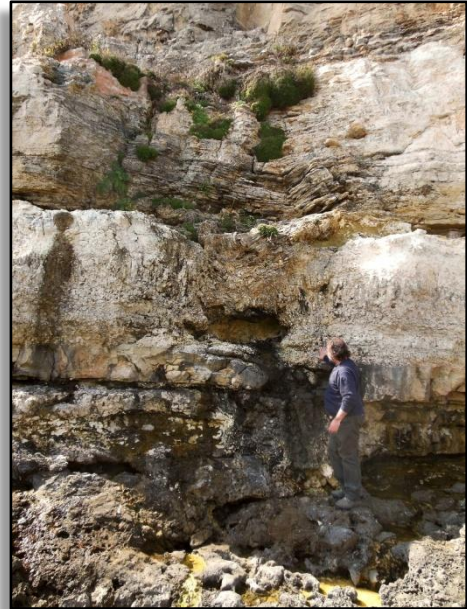
Different types of stratification found in the Oolitic Unit.

Finally, we can point out the presence of a collapse which affects the mangrove facies and the lower stromatolitic unit and can be seen in the cliff at the height of the marine trench.

These collapses are very frequent in this type of materials and can attain large dimensions, like some that are observed in the cliffs of the Santanyí zone.

In the same zone we can also see a littoral collapse cave which has developed underneath the Es Llobards residential area.

Collapse which affects the mangrove facies and the lower stromatolitic unit.



For more information

Pomar, F., Fornós, J.; Marzo, M.; Pomar, L. & Rodríguez-Perea, A. 1991. *Evolución tectónico-sedimentaria y análisis estratigráfico del Terciario de la isla de Mallorca*. Universitat de Barcelona. 145 pp.

Fornós, J.J., Pomar, L. 1983. *Mioceno superior de Mallorca: Unidad calizas de Santanyí ("Complejo terminal")*. In: Pomar, L.; Obrador, J.; Fornós, J. I Rodríguez-Pera, A. (eds.) *El terciario de las Baleares (Mallorca-Menorca)*. Guía de las excursiones. X Congreso Nacional de Sedimentología, Menorca 1983. Grupo Español de Sedimentología. Pp 177-206. Palma de Mallorca.

Pomar, L., Ward, W.C., Green, D.G. 1996. *Upper Miocene Reef Complex of the Lluçmajor area, Mallorca, Spain*. In: Franseen, E., Esteban, M., Ward, W.C. and Rouchy, J. M. (eds.). *Models for Carbonate Stratigraphy from Miocene Reef Complexes of the Mediterranean regions*. SEPM Concepts in Sedimentology and Paleontology Series, 5: 191-225.

Recommendations

It is advisable to take a hat, water and comfortable footwear. The stairs are in poor condition and have to be descended with great care.

The visit can be made at any time of year, but stormy weather can prevent access to the base of the viewpoint. If you visit in summer you can enjoy a swim at one of the nearby coves.

It is interesting to follow the Itinerary of Geological Interest of the Cliffs of the Santanyí Zone, or alternatively to visit the SGIs of Es Pontàs and the *Myotragus* hoofprints at the quarry of S'Estret des Temps, and also Cala Santanyí, where you can also see the Santanyí Limestone Formation and a cave that has developed in it: the Cova del Drac de Cala Santanyí.