

Capo Caccia (Scala del Cabirol): Late Cretaceous transgressive limestones on Urgonian facies

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LOCALITY About 15 km west-north-west of Alghero in the cliff of the Capo Caccia Promontory.

AGE Coniacian - Santonian.

LOCATION

Capo Caccia Promontory along the narrow stairs (Scala del Cabirol) going from the Grotta di Nettuno to the parking area.

HISTORICAL OUTLINE

Biostratigraphical, palaeontological and sedimentological data were communicated by Pecorini (1965), Cherchi & Schroeder (1995), Philip *et al.* (1978), Haehnel (1983), Carannante *et al.* (1995a, b).

LITHOLOGY, PALAEOENVIRONMENT AND PALAEOBIOLOGICAL CONTENT

In the cliff that bounds the northern side of the Capo Caccia Promontory, along the narrow trail and the steep stairs going from the “Grotta di Nettuno” to the corresponding parking area, Senonian limestones disconformably cover the Urgonian substratum. Weak ante-Cenomanian folding led to a widespread emersion and a subsequent karstification with deposition of bauxite.

Here, the first meters of the lower Senonian succession are characterized by strongly packed rudists in which Philip *et al.* (1978) recognized: *Vaccinites giganteus* (d’Hombres Firmas), *Biradiolites* cf. *angulosus* (d’Orb.), *Radiolites* cf. *sauvagesi* (d’Hombres Firmas), *Vaccinites moulinsi* (d’Hombres Firmas). The presence of a complex boundary fault system does not make it possible to observe the continuity of the outcropping Upper Cretaceous limestones. We will only observe the basal rudist-rich interval. About half a meter of bioclastic wackestones, locally enriched in bauxite fragments and containing rare planctonic foraminifera, occurs here disconformably resting over the gentle karst surface of the Urgonian limestones. Over the wackestones, well-developed rudist clusters are superimposed forming organogenic structures that may reach more than one meter and an half in thickness. The rudists had grown in several superimposed generations, dwelling upward in increasingly larger areas. According to Carannante *et al.* (1995a, b) no evidence of any original significant difference in relief occurs with respect to the surrounding sediment in which rudists grew. Such densely packed organisms colonized loose sediments made up of bioclastic wackestones-packstones in which green algae, benthonic

foraminifera (among which very large and thick-shelled miliolids) and corals are present. The resulting structures had a limited extension and did not create a true rigid framework. In the inter-cluster areas, isolated large rudists float in the bioclastic matrix that shows traces of an intensive burrowing. The traces increase at the top of this level where black fragments are present in the sediment. A whitish lens of unburrowed grainstones, in which well rounded clasts of bryozoans and red algae prevail, seals this interval underlying a thick succession of well stratified bioclastic grainstones/silty packstones. These sediments form beds characterized by variable grain sizes (from fine to very coarse) in which red coralline algae and bryozoans become dominant. They show, in the first meters, impressive burrow systems that may result in a pseudonodular texture of the strata. The permanence of this complex burrow network testify a relatively low energy environment only occasionally interested by high energy episodes.

The uppermost part of the Scala del Cabirol crosses some meters of limestone, which are rich in the miliolacean larger foraminifer *Lamarmorella sarda* Cherchi & Schroeder 1975. The type-locality of this species is Punta del Frara (at the base of Monte Timidone), approx. 3,5 km north-east of Scala del Cabirol. It is also present (Cherchi & Schroeder, 1977) in the Senonian of Martigues (Provence) where it has been determined by Gendrot (1968) as *Praesorites moureti* Douvillé.

AGE

The rudist association from the basal part of the Late Cretaceous indicates a Coniacian age (Philip *et al.*, 1978).

Lamarmorella sarda occurs in the lower part of the Santonian; however, it may appear in the upper part of the Coniacian (Cherchi & Schroeder, 1975).

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