

# SEDIMENTOLOGY OF THE NEOGENE ALMERÍA BASINS: AN ILLUSTRATED GUIDE.

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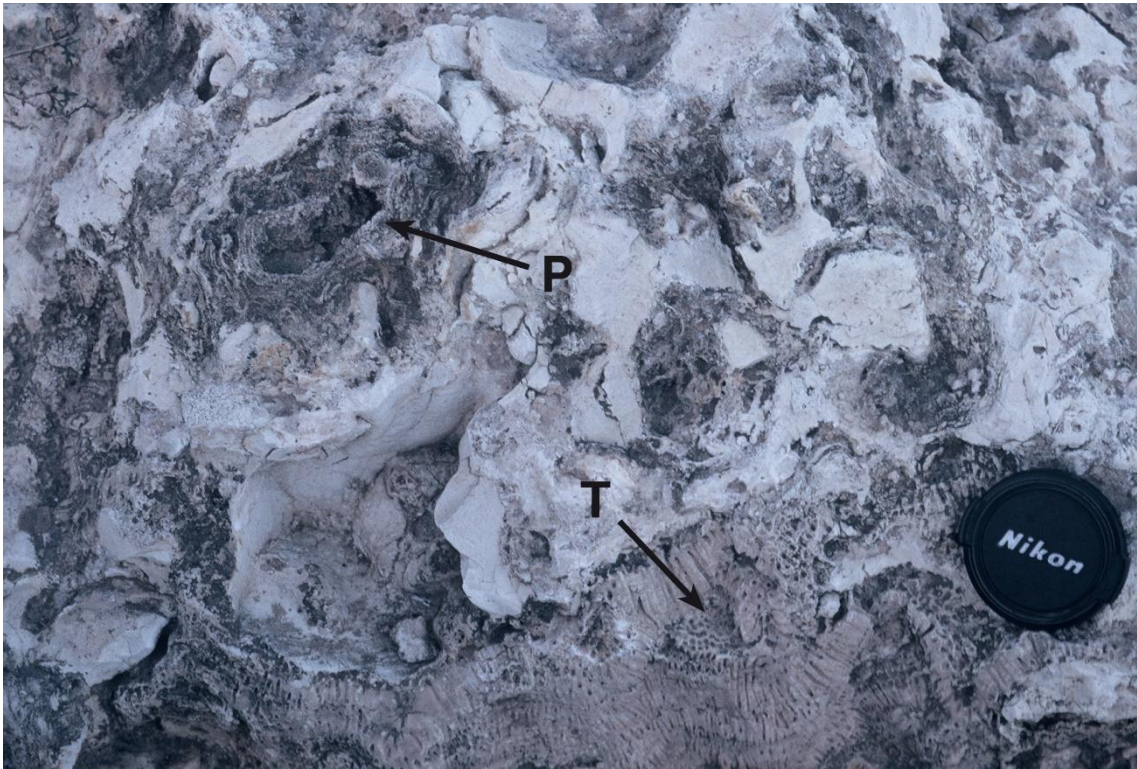
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## Almería-Níjar Basin

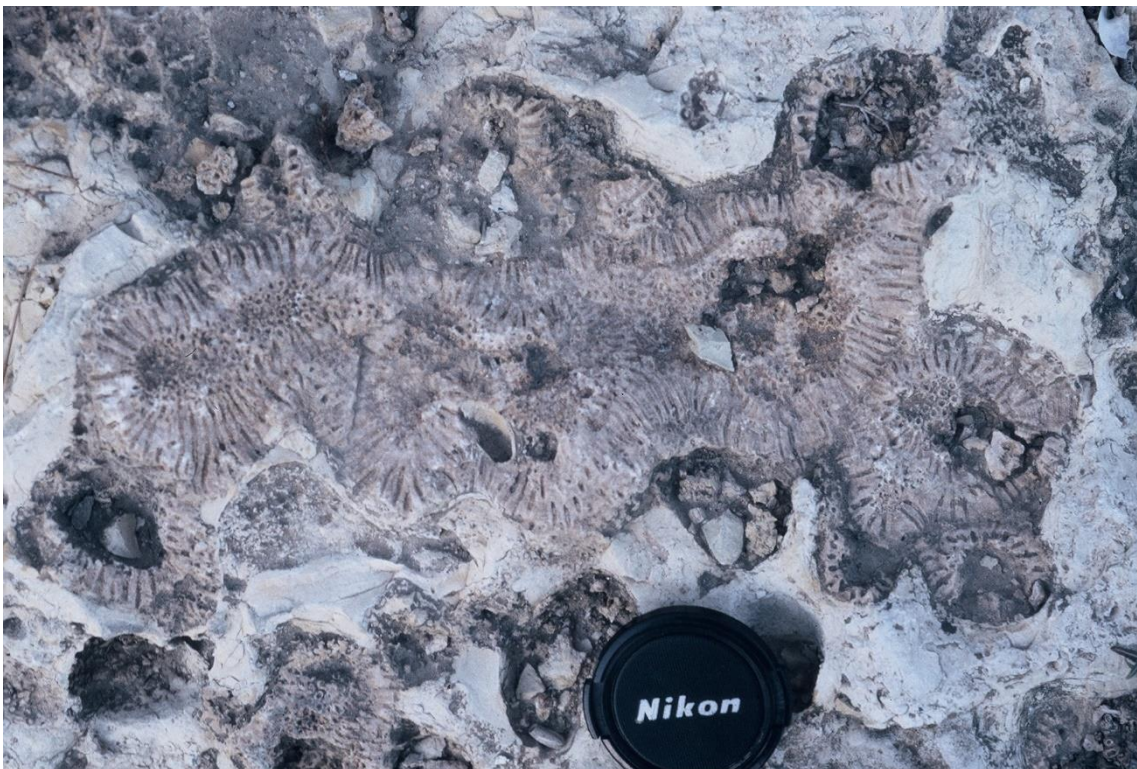
### The Bioherm unit



Photograph 84.- Coral bioherm build mainly by *Tarbellastraea* and minor *Porites*. The outcrop shown in the picture does not exist anymore. It disappears due to recent building works in the area (Almería-Níjar Basin. Huercal de Almería).



Photograph 85.- *Porites* (P) and *Tarbellastraea* (T) growths seen in a close view. Coral skeletons are covered by thick micrite (stromatolite) crusts (Almería-Níjar Basin. Huercal de Almería).



Photograph 86.- *Tarbellastraea* encrusted by stromatolites (micrite crusts) (Almería-Níjar Basin. Huercal de Almería).



Photograph 87.- Close view of a *Tarbellastraea* coral skeleton (Almería-Níjar Basin. Huerca de Almería).

## The Messinian fringing-reef of Níjar: Geological cross section

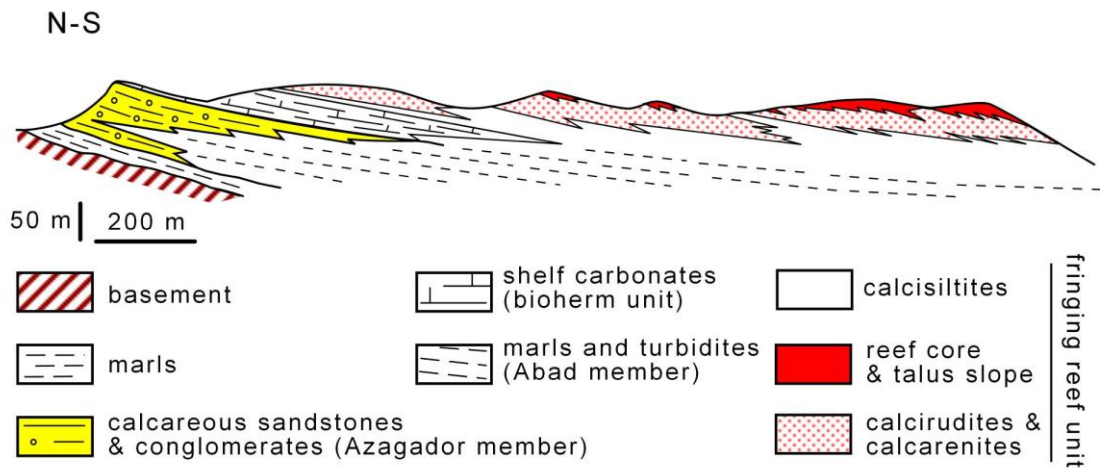


Figure 17. The Níjar section (from Jiménez y Braga, 1993; modified after Dabrio et al. 1981).



Photograph 88.- Cross-section view of the Níjar reef. The reef system is clearly prograding to the South (Almería-Níjar Basin, Níjar).

### The buttresses and channels of the reef drainage system

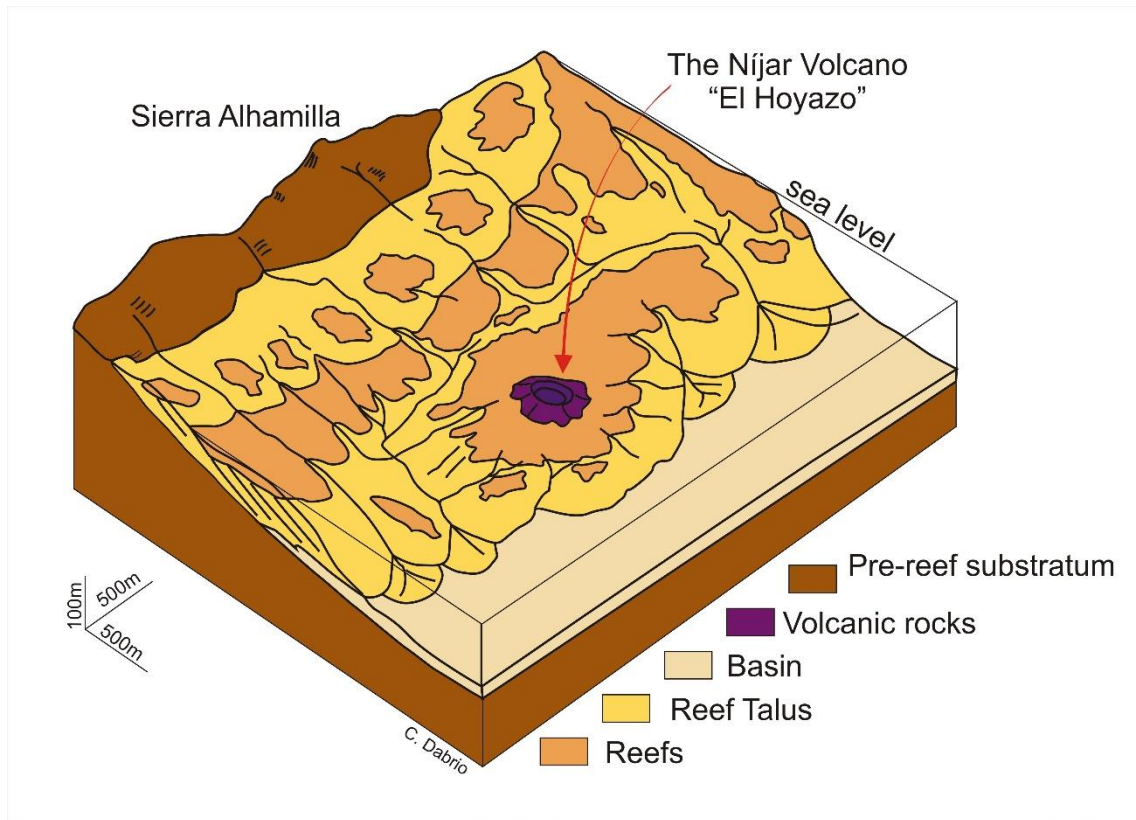
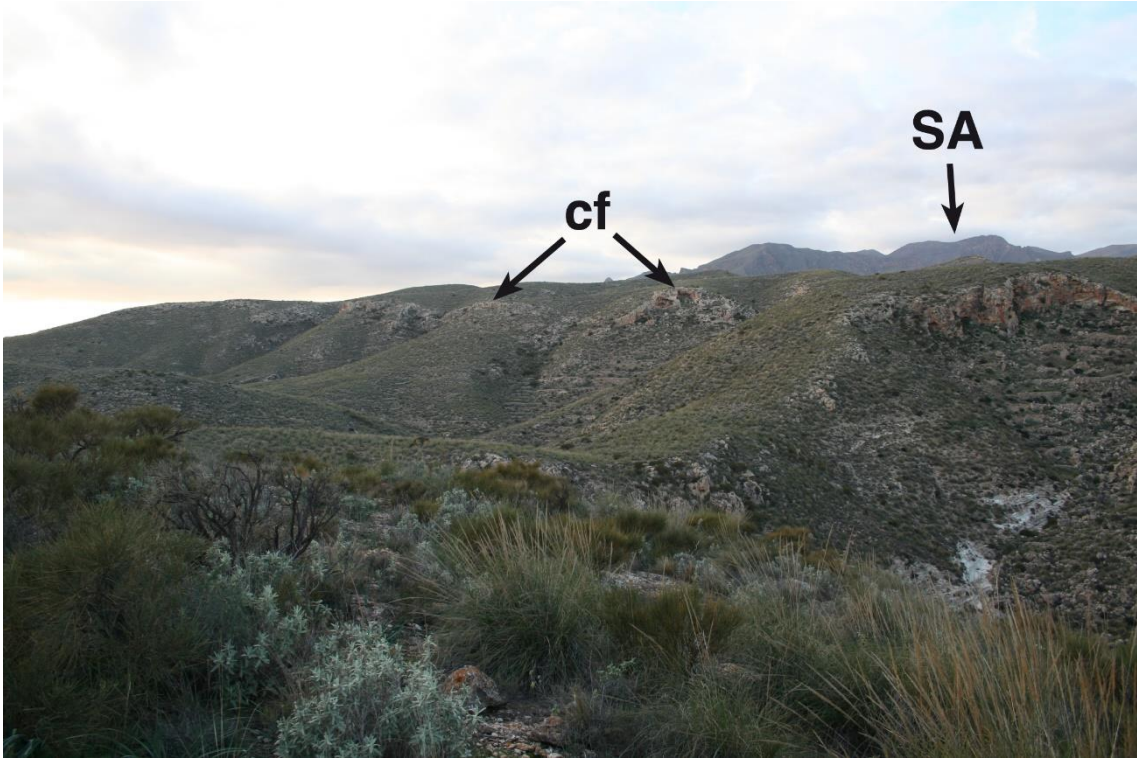


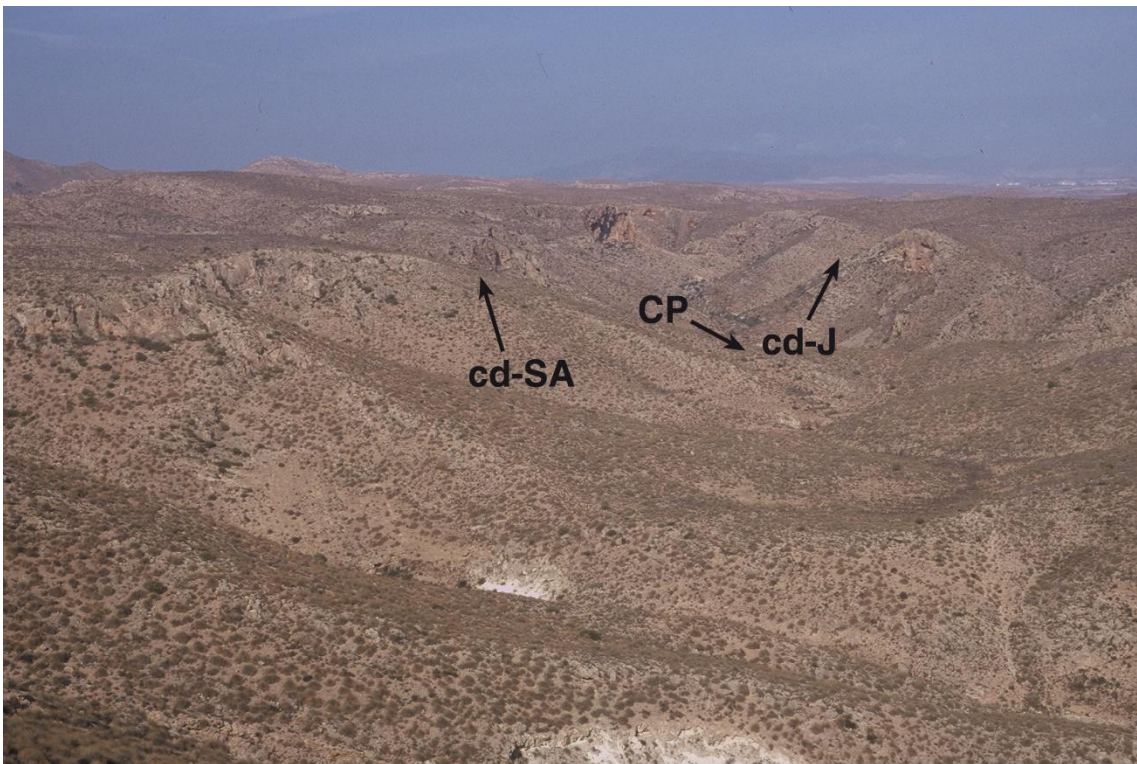
Figure 18. Idealized diagram of the Níjar reef (from Dabrio et al. 1985).



Photograph 89.- General view of the western side of the Messinian Níjar reef (Almería-Níjar Basin. Níjar).



Photograph 90.- Reef butresses (cf) and reef drainage channels bordering Sierra Alhamilla (SA) (Almería-Níjar Basin. Níjar).



Photograph 91.- Minor reef-drainage channels bordering Sierra Alhamilla (cdSA) and those around the El Joyazo (cdJ) converged into the major reef-drainage channel (CP) seen in the picture (Almería-Níjar Basin. Níjar).



Photograph 92.- Fine-grained calcarenites from the distal reef-slope. Well-cemented and weathering-resistant horizontal burrows stand out. (Almería-Níjar Basin. Níjar).

### **The “El Joyazo”**

Photograph 93.- Reef limestones partly covering the El Joyazo volcanic rocks. The Serrata de Níjar appears at the mid-ground just immediately behind the greenhouses. The Sierra de Cabo de Gata can be seen at the background. Both sierras are made up of volcanic rocks (Almería-Níjar Basin. Níjar). →



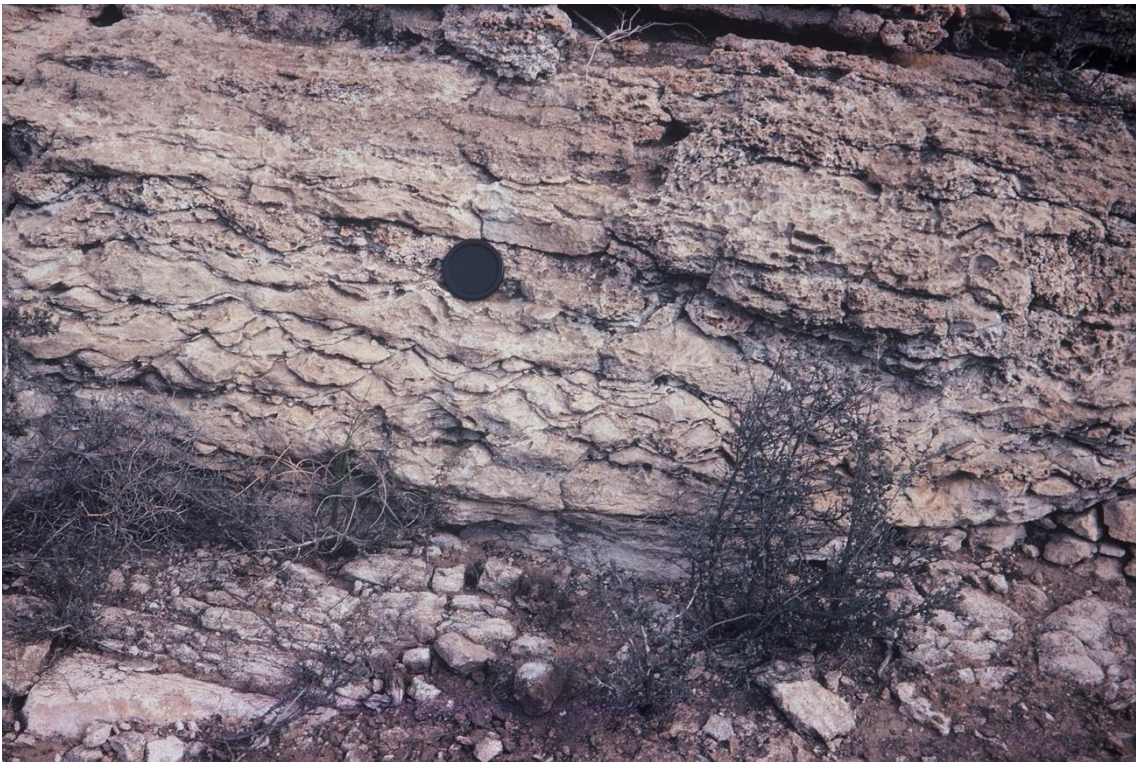
Photograph 94.- Reef limestones around the El Joyazo. The soft horizon (v) within the reef limestone (marked by the black solid line) includes small, sand- to granule-sized, volcanic rock fragments. The rest of a former volcanic chimney (ch) can be identified in the right-hand side of the picture (Almería-Níjar Basin. Níjar).



**The “Terminal Complex” (Sorbas Member) carbonates from the latest Messinian**



Photograph 95.- Cross-bedded, oolitic limestones (Almería-Níjar Basin. Níjar).



Photograph 96.- Oolitic limestones exhibiting symmetrical wave-ripples structures (Almería-Níjar Basin. Níjar).



Photograph 97.- Microbial (stromatolitic-thrombolitic) domes (Almería-Níjar Basin, Níjar).



← Photograph 98.- Close view of a microbial dome showing in detail its internal structure. Horizontal to digitiform stromatolite lamination is visible in its lower part, while its upper part is thrombolitic and has a massive appearance (Almería-Níjar Basin. Níjar).



Photograph 99.- Finely-laminated oolitic limestones exhibiting wave-ripple lamination on top of thrombolitic domes (Almería-Níjar Basin. Níjar).

## RECOMMENDED ITINERARY:

### Itinerary 4.- Níjar-El Joyazo

To be done on foot.

Main subjects: Messinian fringing reefs and Upper Messinian microbial carbonates (stromatolites and thrombolites) and oolites.

Duration: half a day/one day.

Location map



#### Stop 1.- Níjar:

Observed features: 88.

#### Stop 2.- Barranco del Cebollero (a-b-c):

Observed features: (a) 89 y 91; (b) 92; (c) 90.

#### Stop 3.- El Joyazo (a-b-c):

Observed features: (a) 93; (b) 94; (c) 95, 96, 97, 98 and 99.