**Morphosedimentary evolution pattern during the Late Quaternary of the Oliva-Pego Coastal Marsh System (Valencia, Spain)**

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The Oliva-Pego coastal marsh is a small barrier-lagoon system, located in the southeastern end of the Valencian Gulf (Western Mediterranean - Fig. 1), bordered by two Prebetic mountains. The complex corresponds to the "choked lagoon" model from KJERFVE (1986). These landforms are usually found in microtidal coasts and they are characterized by their restricted connections to the open sea. However, the wetland deeps a quite steady paludal morphology with a widespread development of marshes but has not been fully filled despite the large amount of sediments that have been accumulated in the bassin, as this wetland is well supplied by groundwaters and it is placed on an area of enhanced land subsidence. This last factor is essential to the functionality of the system and thus this coastal landform can persist a long time (NICHOLS, 1989).

Geomorphological study and tectonic evolution of the area, as well as sedimentological, micropaleontological and chronological analysis of the materials from subaereal profiles and core-holes are carried out. We have added the information from electric soundings and ecoseismic profiles of the marine shelf.

We can observe from all these data, that the present morphosedimentary barrier-lagoon pattern is not similar to the ones developed during previous moments of the Late-Quaternary. In the Pleistocene record (mainly related to the isotopic states 4, 3 and 2 deposition) important thickness of weil oxygenated lagoonal sediments from fresh and/or brackish waters are detected. These features suggest that the ancient systems were larger and "leakier" with better connections between the open sea and the lagoon (VIÑALS, 1991). So, we can deduce that a well hydric exchange and entrances of marine waters with euryhaline fauna took place. Sedimentation in these environments was controlled mainly by chemical processes of precipitation, principally carbonates (some times they meant a 98% of the grains). The marine regressions caused the emergence and consequently the drying of the bottom of theses lagoons, together with the climatic aridity were responsible for the eolic erosion of the sediments surface.

The morphostratigraphic pattern of evolution derived from the sequential analysis and the tridimensional display of the units allows us to point out the following:

- The sedimentation of the last 125.000 years testify the development of barrier-lagoon complexes, where the lagoonal, marin and barrier facies alternances are observed (Fig.2).

- The sedimentary bodies geometry and the deposits sequences are the result of the relation between the high land subsidence late, the relative sea level oscillations and the kind and quantity of sediments that reach the coast.

- In a simplier morphostratigraphic approach and in the limited range of sedimentary settings in which insert the coastal environments migration, the lagoonal units represent episodes of marine regression or coastal progradation; while the beach-barrier and marine units are associated to sea positive pulses or transgressions, that often cause a coastal retreat.

The prequaternary palaeotopography bassin explains the perseverance in the formation of these coastal systems and the succesion of different morphosedimentary patterns from the Pleistocene to present time. The proximity of the mountains end to the coastline and the land subsidence have influenced the changes of the barrier-lagoon bodies morphology, causing the onlapping and retrogradation of the different highest sea levels. So, each new littoral body is more inland located than the older ones, chocking more and more the lagoons and changing them into small cellules or "pocket lagoons", that are closed by a very hermethic barrier thaencourages the accumulation of the organic muds in the inner part of the system. This model reached its maximun development during the Flandrian transgression (5.7-10±100 and 5.330±90 BP).


Fig. 1: Surveyed area

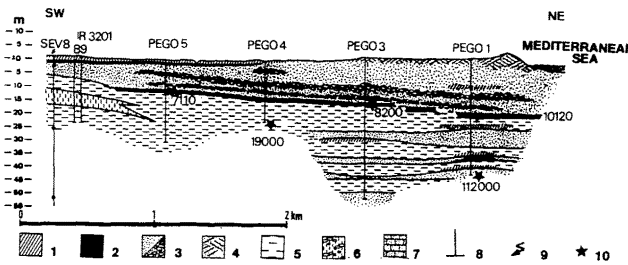


Fig.2: Barrier cross section of the Oliva-Pego Marsh. 1. Organic muds; 2. Presh/brackish marsh; 3. Beach-barrier/Marine environment; 4. Eolic deposits and dunes; 5. Lagoon; 6. Alluvial fan deposits: 7. Calcoarenitc formations; 8. Core-hole; 9. Electric sounding; 10. Absolute dating.

## REFERENCES

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