



Evaluation of the biological role in the shore platform evolution. Development of specific methodology and first results.

Mario Neves (1), Ana Ramos-Pereira (1), Delminda Moura (2), Jorge Trindade (1), Francisca Gusmão (1), José Viegas (2), and Paulo Santana (2)

(1) Centro de Estudos Geográficos – Univ. de Lisboa. Edifício da Fac. Letras - Alameda da Universidade. 1600-214 Lisboa – PORTUGAL (marioneves@ceg.ul.pt), (2) Centro de Investigação Marinha e Ambiental–Univ. do Algarve. Campus de Gambela. 8005-139 Faro. PORTUGAL

The formation and the evolution of shore platforms are dependent on several physical, chemical and biological processes. The weight of each of these processes is changeable not only from coast to coast but also within each shore platform. It depends on geographical, geomorphological, climatic and wave climate factors. In the lower intertidal zone of many rock coasts of the world, the biological cover of the surface is extremely high. This almost permanent wrap points out to a very strong biological influence on the downwearing rates and the erosive rhythm of these strips of the shore platforms. Yet, although there are several studies on the erosive ability of the individuals of each species that are found here, analyzed separately, research on the interactions among species with erosive and protective role in the present evolution of shore platforms are rare.

The goal of the BISHOP Project - Bioprotection and bioerosion on shore platforms in the Algarve and Estremadura (Portugal South and West Coast) – is precisely to evaluate the bioprotective and bioerosive role of the communities of macro-organisms in the evolution of shore platforms cut in different type of rocks and in assorted environments. With that purpose, it was necessary to develop specific methodology. To quantify the downwearing of the shore platform, we used a TMEM (Traversing Micro-Erosion Meter) with an accuracy of 0,005mm, and capable of measuring 255 points in a 117 cm² area. Four experimental places were chosen: two at calcarenite shore platforms of the Portuguese south coast, in a coastal zone exposed to the south and sheltered from the waves; and two in the Portuguese Estremadura, facing west on a well exposed coast to the North Atlantic energetic waves, on shore platforms cut in marly limestone. At each place, two pairs of monitoring areas were installed. For each pair, the same methodology was used. At the beginning, it was necessary to completely clean the biological cover of the two areas in order to perform the first measurement. Then, one of the areas is maintained without any biological cover, and is regularly monitored while the other is leaved without any interference. At the end of the project period of three years, both areas will be monitored and the results compared. At the same time, a very detailed survey of the biological cover of the studied places is carried on.

The methodology and the first year results will be presented and discussed.