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ABSTRACTS BOOK

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Geological heritage and high-school students: sedimentary aspects from SW Portugal

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The “Parque Natural do Sudoeste Alentejano e Costa Vicentina” (PNSACV, the Portuguese southwest’s Natural Park) is one of the most well preserved European coastal areas, with important natural values. From the geological point of view, this protected area presents magnificent exposure conditions and great geodiversity, including predominantly (meta)sedimentary rocks from Palaeozoic, Mesozoic and Cenozoic ages, sometimes in the same outcrop. Especially well exposed are the metasedimentary Palaeozoic turbidites and the carbonate Mesozoic sequences (Oliveira, 1984; Rocha, 1976; Terrinha, 1998). Cenozoic deposits, although less frequent and thinner, exhibit strong relations with the geomorphological evolution of these coastal areas (Pereira, 1990). Unfortunately, many park managers are not aware of the need to implement geoconservation strategies (Brilha, 2002). The present work intends to expose the interesting sedimentary features which may be observed at the PNSACV, envisaging its use for one-day field-trips dedicated to high-school students, as well as for the general public (such as the ongoing “Geology in Summer” Program).

The key-sites have been grouped into three sectors, for high-schools located in different areas of the Park. At each site, many other aspects may be explored, but only the main sedimentary features are presented here:

1. Northern Sector (from Sines to Odeceixe): N1 (Pessegueiro) – Cenozoic sands, consolidated quaternary sand-dunes and glacio-eustatism. N2 (Malhão) – Palaeozoic turbidites. N3 (Milfontes) – Marine abrasion surface developed on Quaternary consolidated sand-dunes. N4 (Almograve) – Palaeozoic turbidites; recent sand-dunes. N5 (Zambujeira) – Palaeozoic turbidites. 2. Central Sector (from Odeceixe to Vila do Bispo): C1 (Aljezur) – Miocene marly deposits with marine fossils in a small inland graben. C2 (Almograve) – Palaeozoic turbidites; Cenozoic geomorphological coastal evolution. C3 (Arrifana) – Palaeozoic turbidites with alternating shales, greywackes and quartzites. C4 (Carrapateira) – Mesozoic mostly carbonated outcrops, surrounded by Paleozoic shales. C5 (Amado) – Upper Triassic fluvial sandstones, lying over Paleozoic shales. 3. Southern Sector (from Vila do Bispo to Burgau): S1 (Telheiro) – Large-scale outcrop, showing the basal unconformity of Mesozoic sub-horizontal strata over deformed sub-vertical Paleozoic shales. Quaternary consolidated sand-dunes. S2 (Belixe) – Large-scale outcrops with dolomitic strata containing abundant cherty nodules. S3 (Tonel) – Dogger-Malm discontinuity; fossiliferous assemblages; intense carsification. S4 (Mareta) – “In-situ” reef, buffled

by terrigenous sedimentation. S5 (Salema) – Bioturbation and load-marks in Cretaceous deposits. S6 (Burgau) – Cretaceous marine and transitional deposits with palaeosoils, showing relative sea-level oscillations.

Pedagogical materials, such as brochures and web pages, would support these field trips. Teachers and students can use the web pages as preparation for the field trip and as a resource for post-activity actions. The use of electronic materials for geology teaching/learning applied to field trips inside Portuguese protected areas was already discussed in Pereira (2002), Coelho (2003) and Quintas (2003). The scientific characterization of the geological heritage is crucial not only for the preservation of scientifically unique sites, but also for its use as a teaching tool for high-school students and general public. Therefore, the cooperation between researchers and high-school teachers is the ideal approach to select those sites. Moreover, the experience of both in activities with the general public may be a useful help to integrate these approaches in a wider set of programs aiming to raise awareness of citizens for the importance of Nature and its preservation for future generations.

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