

The (serra da) Estrela Aspiring Geopark (Portugal): preserving geoheritage, while promoting science and its links to local communities

Hugo Gomes (1,2), Magda Fernandes (1), Emanuel Castro (1,3), Gonçalo Vieira (1,4)

(1) Associação Geopark Estrela, Guarda, Portugal (info@geoparkestrela.pt), (2) Centro de Geociências, Coimbra Portugal, (3) Instituto Politécnico da Guarda, Portugal, (4) CEG/IGOT, Universidade de Lisboa, Portugal

The serra da Estrela (1,993 m asl) is the highest mountain range in mainland Portugal. Bounded by two main fault scarps, a granite massif occupies the central area forming a summit plateau between ci. 1,500 and 2,000 m. To the north and south, schists and greywackes dominate the landscape, also with granite presence. During the Last Glacial a plateau ice-field and five radiating valley glaciers occupied the highest parts of the mountain with an estimated equilibrium line altitude at 1,650 m asl. The plateau style of the glaciation and the Equilibrium Line Altitude just below the plateau edge made the Estrela very sensitive to climate fluctuations, having resulted in several terminal moraine complexes that reveal several glacial stages. The central plateau area shows widespread glacial erosion features and an almost complete stripping of the Cenozoic weathering mantle. The non-glaciated plateaus show a rich landscape dominated by granite weathering landforms. The remarkable glacial landscape of the serra da Estrela when considering its setting in SW Europe, together with other significant geoheritage such as periglacial, weathering and mass wasting phenomena, tectonic, petrological and hydrogeological features, are at the core of Estrela's application to become a UNESCO Global Geopark. But the framework of the application encompasses both the natural and the human landscape, involving nine municipalities in the wider Estrela range, whose population bears an Estrelean signature in its roots, traditions, culture and economy. The Estrela Aspiring Geopark builds on a high value geoheritage closely bonded with biodiversity and the local communities, and its strategy aims at conservation and promoting regional development in an interdisciplinary approach committed UNESCO's principles. This presentation is a brief overview of the Estrela geoheritage, with a focus on the strategy for the implementation and management of the Geopark, emphasising on the science-support plan, which includes the implementation of a mountain research centre, a program for the development of the geosciences targeting at key-topics for the Geopark management and at consolidating the new generation of geoscientists. The Geopark science program will bring together scientists, the local communities and stakeholders, aiming at socio-economical development, empowering the local players will also promoting the advancing of the geosciences.