

# NATURTEJO GEOPARK SCHOOL PROGRAMME ANIM'A ROCHA AT PORTAS DE ALMOURÃO GEOMONUMENT

J. Rodrigues<sup>1\*</sup>, C. Neto de Carvalho<sup>1,2</sup> & B. Henriques<sup>3</sup>

<sup>1</sup>Geopark Naturtejo da Meseta Meridional – European and Global Geopark, Geology and Paleontology Office, Centro Cultural Raiano, Av. Joaquim Morão, 6060-101 Idanha-a-Nova, Portugal, <sup>2</sup>Municipality of Idanha-a-Nova, Av. Joaquim Morão, 6060-101 Idanha-a-Nova, Portugal. <sup>3</sup>Escola Básica e Secundária Pedro da Fonseca, Avenida do Colégio, n.º 26, 6150 - 401 Proença-a-Nova, Portugal.

\*joana225@gmail.com

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## Introduction

*Anim'a Rocha* (which may be translated as “Hearten Rock”) is an annual school programme designed for local schools, where Naturtejo Geopark works closely with teachers and students, in a long-term project approach, endorsing activities that reach the specific needs and interests of each school under the frame of the Geopark's territory.

The latest project was developed during Biology and Geology classes, by 20 students from the 11th grade (16 years old) from Pedro da Fonseca High School (Proença-a-Nova), and their teacher with the support of the Naturtejo Geopark staff, during the school year 2011/2012.

The students organized two field trips, the novelty of this project being that the students who guided the visit only knew the stops in theory, after studying them in the classroom, making these young rangers more aware about the features to be presented in each site.

## Portas de Almourão Geomonument Didactical Interest

The selected area for their study was the Portas de Almourão Geomonument, the most important one near the school, a place with almost 500 million years of geological history. This site includes important geological heritage (Neto de Carvalho *et al.*, 2009; Lobarinhas *et al.*, 2010) with tectonic, geomorphological, geocultural, palaeontological and stratigraphical interest.

To learn about the geosites the group chose the geotourist trail “Travel across the Earth bones”, a walking trail that introduces students to the geological context of Serra das Talhadas mountains and Portas de Almourão in particular, providing examples within the curricular contents of the 11<sup>th</sup> grade studied in the classroom. On the other hand this trail introduces the gold context in the area providing excellent views of remains of the Roman gold mining (*conheiras*).

To close the project the students recreated the ancient mining techniques “There's Gold at Foz!”. “Gold of Portas de Almourão” (Rodrigues *et al.*, in press) is a thematic route around Portas de Almourão Geomonument that combines different geotourist products under the gold subject, from its source rocks and geological setting to its ancient and contemporary past exploitation as placer ore. Besides its scientific and didactical interest this route has a great cultural (including traditional jewelry) and ecological importance.

## Classroom activities

At the classroom the students got the first contact with the geosites, together with the Geopark's staff: they analyzed rocks and fossils from the area, models of geological structures, and observed maps and photos.

For the “Travel across the Earth bones” trail the students also used some of the material produced last year by their colleagues in the *Anim'a Rocha* programme “Searching... what is ours” (Rodrigues *et al.* 2011). For this walking trail the students prepared a guided visit and a booklet with questions to be answered during the field trip. The group was divided in small teams. Each one had two stops to discover, explore and encourage their colleagues to observe

and analyze, raise questions, take conclusions and fill the booklet with questions and tasks also prepared by them.

For “There’s gold at Foz” the students were divided in the same teams and made research about gold: physical properties, geological setting, exploration, mines distribution around the world, gold in their municipality - Proença-a-Nova -, etc.

### **Field activities**

The 18 km-long walking trail “Travel across the Earth bones”, was one of the innovative experiences of the project. The students were divided in groups and they were the trail guides for the other colleagues, using as didactical tools the booklet and posters with schemes and models of geological processes. The teacher and the Geopark’s staff only supported the teams, helping the pupils chasing the goals established by them previously or helping in the development of new objectives. The students saw the sites for the first time during this field trip and despite they already knew the theory of the geological aspects of the region it was the first contact with the rocks and the structures. For most of the students this surprise approach involved them and increased the knowledge acquired in the classroom, applying theories already learnt.

During the activity “There’s gold at Foz!” the students experienced these ancient techniques used since Roman times and practiced all the process from the sediment selection till the fine sediments washing, and panning like the former miners. The students filmed all the processes to prepare a small documentary “The Gold in Proença-a-Nova” combining previous knowledge with information achieved during this project.

### **Conclusions**

This educational programme of Naturtejo Geopark was developed to answer to modern society changes, asking for more conscious and skilled citizens, where sustainable development is a priority. While students are working on the heritage around their school they are improving the sense of belonging, understanding geological concepts that otherwise would be studied only in the textbook and learning from examples which exist near them. This project not only contributed for raising awareness for Geology, Biology and Nature conservation but also developed their skills for interpretation.

Anim’a Rocha programme is designed specifically for each case, to answer to specific needs, adapting strategies and methodologies according to student’s age and project goals, and teacher’s needs.

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