

# Presentation

[Online: General Information for this Meeting](#)

**Paper No. 98-10**

**Presentation Time:** 9:00 AM-6:00 PM

## **EDIACARAN GNEISSES ALONG THE OSSA-MORENA - CENTRAL IBERIAN ZONE BOUNDARY, PORTUGAL; THEIR DISTRIBUTION, CHARACTER, AGE AND METAMORPHIC HISTORY**

**HENRIQUES, S.B.A.**<sup>1</sup>, DUNNING, G.R.<sup>2</sup>, RIBEIRO, M.L.<sup>1</sup>, NEIVA, A.M.R.<sup>3</sup>, and ROMÃO, J.<sup>1</sup>, (1) Departamento de Geologia, LNEG, Estrada da Portela, Zambujal-Alfragide, Ap.7586, Lisboa, 2720-866, Portugal, [susana.henriques@ineti.pt](mailto:susana.henriques@ineti.pt), (2) Earth Sciences Department, Memorial University, Alexander Murray Building, 300 Prince Philip Drive, St. John's, NF NL A1B 3X5, Canada, (3) Departamento de Ciências da Terra, Universidade de Coimbra, Largo Marquês de Pombal, Coimbra, 3000-272, Portugal

The studied area is located on the Ossa Morena-Central Iberian Zone boundary, where the following sequence is observed from base to top: the Pouchão Mafic Complex, the Mouriscas-Sardoal Gneisses and the Serie Negra Unit, all bounded by thrust faults. The Pouchão Mafic Complex and the Mouriscas-Sardoal Gneisses are high grade metamorphic rocks. The Serie Negra is a low grade volcano-sedimentary succession intruded by rhyolitic dykes. This paper reports the first radiometric ages obtained by U-Pb ID-TIMS method for the high grade metamorphic rocks. A Mouriscas-Sardoal granitic gneiss contains inherited Proterozoic zircon with ages that range up to 1900 Ma, igneous prismatic zircon with an age of  $570 \pm 5$  Ma and metamorphic monazite that yields an age of  $540 \pm 5$  Ma. The Pouchão Mafic Complex contains zircon with equant multi-faceted metamorphic morphology that also yields an age of  $539 \pm 3$  Ma for the high-grade metamorphic event. Igneous monazite from a rhyolite dyke cutting the Serie Negra succession yields an age of  $308 \pm 1$  Ma. These data outline a sequence of events; the formation of a magma that involved melting of a source that contained mid-Proterozoic material, magma crystallization at 570 Ma, followed by a metamorphic event at 540 Ma during the Cadomian Orogeny, with a second metamorphic overprint in the Variscan event.

[2009 Portland GSA Annual Meeting \(18-21 October 2009\)](#)

Session No. 98--Booth# 54

[Precambrian Geology \(Posters\)](#)

Oregon Convention Center: Hall A

9:00 AM-6:00 PM, Monday, 19 October 2009

Geological Society of America *Abstracts with Programs*, Vol. 41, No. 7, p. 270

---

© Copyright 2009 The Geological Society of America (GSA), all rights reserved. Permission is hereby granted to the author(s) of this abstract to reproduce and distribute it freely, for noncommercial purposes. Permission is hereby granted to any individual scientist to download a single copy of this electronic file and reproduce up to 20 paper copies for noncommercial purposes advancing science and education, including classroom use, providing all reproductions include the complete content shown here, including the author information. All other forms of reproduction and/or transmittal are prohibited without written permission from GSA Copyright Permissions.

---

[top](#)