

## **Panafrican (?) HP relics in mafic-ultramafic rocks from Antarctica (Dronning Maud Land and Shackleton Range)**

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Antarctica is a key piece in every reconstruction of the past continents as the Mawson continent (c. 1.7 Ga), Rodinia (1300-900 Ma) and Gondwana (600-500 Ma). HP/UHP metamorphic rocks are useful in reconstructing the evolution of such continents, because their alignment in an orogenic belt marks a palaeo-subduction zone and/or a suture during continental collision (s.l.). In Antarctica, such relics of HP/UHP metamorphism are scarcely documented, being cancelled by late HT metamorphism or hidden by the ice cap.

The Dronning Maud Land (DML) and Shackleton Range (SR) are two key areas for the study of the Grenvillian (1.3-0.9 Ga) and/or Panafrican (600-500 Ma) orogenies. Preliminary petrological studies on mafic-ultramafic rocks from the Conrad Range (DML) and the ophiolite complex from Bernhardt Heights (SR) suggest that HP metamorphism likely developed before a granulite/amphibolite facies stage. In particular, the presence at the SR of a garnet-bearing amphibolite showing spinel+anorthite+staurolite symplectite after kyanite suggests a complete retrogression from a pristine kyanite-bearing eclogite. The rock is the first evidence for HP metamorphism in the Panafrican ophiolite sequence that developed during the closure of the Mozambican ocean between Africa and Antarctica. At DML, the HP conditions are documented by a garnet-olivine-bearing amphibolite, in which garnet and olivine are separated by a symplectite consisting of orthopyroxene + spinel + plagioclase ± amphibole, and whose matrix mainly consists of amphibole + plagioclase. Three metamorphic stages are suggested by the microtextures: a HP event (Grenvillian or Panafrican) represented by eclogite-facies relics followed by decompression under granulite-facies conditions (symplectite around garnet) and finally by amphibolite-facies retrograde metamorphism.