



## **First evidence of Renlandian (c. 950 Ma) orogeny in Mainland Scotland**

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Central problems in the interpretation of the Neoproterozoic geology of the North Atlantic region arise from uncertainties in the ages of, and tectonic drivers for, Tonian orogenic events recorded in areas such as East Greenland, Svalbard, Norway and Shetland. The identification and interpretation of these events is often problematic because the rock units that record Tonian orogenesis of this age were later strongly reworked at amphibolite facies during the Caledonian orogeny.

Lu-Hf and Sm-Nd geochronology and metamorphic modelling carried out on garnets from the Meadie Pelite in the Moine Nappe of the northern Scottish Caledonides indicate prograde metamorphism at c. 950 Ma at pressures of 6–7 kbar and temperatures of 600°C. Similar-aged ‘Renlandian’ orogenic activity has been recognised previously in East Greenland and Shetland, and our results significantly extend its geographic extent along the palaeo-Laurentian margin. The Meadie Pelite is believed to be part of the Morar Group within the Moine Supergroup. If this is correct: 1) the Morar Group was deposited between  $980 \pm 4$  Ma (age of the youngest detrital zircon (Peters, 2001)) and c. 950 Ma (age of regional metamorphism reported here), 2) an orogenic unconformity must separate the Morar Group from the <920 Ma Glenfinnan and Loch Eil groups, and 3) the term ‘Moine Supergroup’ may no longer be useful.