

Rare Scottish mineral may indicate life on Mars

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(PhysOrg.com) -- A team of NASA (National Aeronautics and Space Administration) scientists is looking for clues about life on Mars in an earthy clay mineral found only in Aberdeenshire in Scotland.

The scientists are studying rocks containing a bright red mineral called Macaulayite, which is known to be present on Earth only in Aberdeenshire. The researchers think Macaulayite could also be the mineral responsible for the red color of Mars.

Macaulayite is named after the Macaulay Land Use Research Institute in Aberdeen, which discovered the mineral in the late 1970s. It is a swelling iron phyllosilicate found only in a disused quarry at the foot of Bennachie, a nine-peak hill in East Aberdeenshire, and at Inverurie and

Buchan Grampian (also in Aberdeenshire).

Macaulayite is understood to have been formed during the weathering of granite in the presence of [water](#) in the [tropical climate](#) that existed in the area before the last Ice Age. Macaulayite is a fine grain mineral containing water bound to the inner surfaces, so if its presence is confirmed on Mars, this would mean water must also have been present, and therefore the planet may have been able to sustain life.

A Mars expert from the SETI (Search for Extra-Terrestrial Intelligence) institute, Dr Janice Bishop, said that every life form we know of needs [liquid water](#), so if Mars has or did have standing water, the chances of life appearing are greatly increased.

Orbiters and probe landings on Mars have so far provided only limited data on the red planet. Dr Steve Hillier of the Macaulay Institute said NASA had asked for samples of the rare rocks to allow them to compare it with minerals found on Mars. If Macaulayite is found to occur on [Mars](#), Dr Hillier said that would imply liquid water has been present on the surface of the planet.

Samples of the rare [mineral](#) have been sent to a [NASA](#) laboratory in California, where they are being tested.

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