

MAYO - COUNTY GEOLOGICAL SITE REPORT

NAME OF SITE	Knockmore Hill, Clare Island
Other names used for site	
IGH THEME	IGH2 Precambrian to Devonian Palaeontology
TOWNLAND(S)	Bunnamohaun
NEAREST TOWN	Clare Island
SIX INCH MAP NUMBER	84
ITM CO-ORDINATES	466480E 785615N (centre of feature)
1:50,000 O.S. SHEET NO. 30	GS1 BEDROCK 1:100,000 SHEET NO. 10
GIS Code MO073	

Outline Site Description

Mountainside exposures of red siltstone on the upper flanks of Knockmore Hill at the west end of Clare Island.

Geological System/Age and Primary Rock Type

Bedrock comprises laminated red and green/grey siltstone and mudrock and some sandstones of the Bunnamohaun Formation. A Silurian (post Llandovery – Wenlock) age of the red siltstones has been interpreted from fish fossils identified in the Bunnamohaun Formation at Old Head (near Louisburgh).

Main Geological or Geomorphological Interest

This site is remarkable in that the siltstone and mudrock host an enigmatic frond shaped fossil, which occurs in relative abundance. This small fossil, a primitive charophyte (green algae), usually less than 7mm, may have up to 10 branches. The fossil has been interpreted as an entirely new genus and species called *Peltoclados clarus*. (It was previously attributed to the *Bryozoa*, as a frond shaped faunal form termed *Glauconome*.) Only two fossil sites are known for this organism, one in the Midland Valley of Scotland, discovered in the 19th century and the other at this site on Clare Island. The Clare Island site has yielded by far the most specimens. Most fossil specimens are preserved as either calcite or as moulds where the calcite has dissolved away. Fossils are irregularly clustered together such that individual fossils can be difficult to observe.

Site Importance – County Geological Site; recommended for Geological NHA

The site is located within the Clare Island SAC (0000477). The identification of the fossil in Mayo and in Scotland reinforces correlations of the sediments on Clare Island and Louisburgh with those probably non-marine sedimentary basin environments of the Midland Valley of Scotland. The Louisburgh - Clare Island succession is one of three tectonic and stratigraphical Silurian units in South Mayo, whose age and relationships are the subject of active research and debate, amongst the geological community in many countries. As the one Silurian succession in South Mayo with virtually no fossils, the occurrence at Knockmore Hill on Clare Island of an enigmatic, presumed charophyte, fossil assumes considerable importance. The site is recommended as a geological NHA.

Management/promotion issues

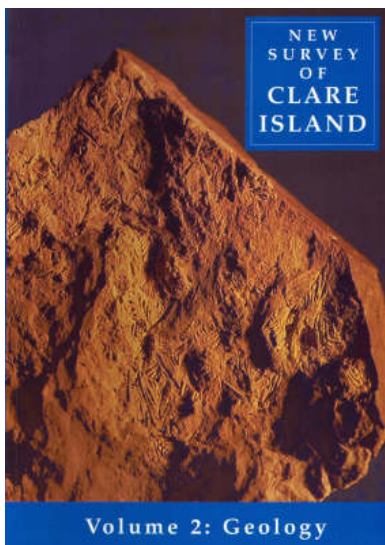
The hillsides are grazed by sheep, and evidence of past turf cutting is evident at elevations above 240m. Access to the site requires a hike and an ascent to over 350m. The site is not deemed under threat. Promotion of the site's palaeontological and geological significance could be included in a geological section of literature/public information accompanying the Clew Bay Archaeological Trail.



The SW side of Knockmore Hill (462m) viewed from Loughanaphuca gravel pit looking NE towards the summit.



Red and grey siltstones exposed near hill summit. South coast of Clare Island in distance.



Peltocladus clarus as displayed on the front cover of *New Survey of Clare Island. Volume 2: Geology*, edited by J.R. Graham, and published by the Royal Irish Academy, Dublin in 2001.

