CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES

SITE OF SPECIAL SCIENTIFIC INTEREST CITATION

ANGLESEY **MYNYDD PARYS**

Date of Notification: 1986, 1995

National Grid Reference: SH441905

O.S. Maps: 1:50,000 Sheet number: 114
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Site Area: 9 ha

Description:

Mynydd Parys, a hill rising to 147 metres in north-east Anglesey, is undoubtedly one of the most famous mineralised sites in Wales and is selected for its biological and geological interest. Formerly the largest copper mine in Wales, the old workings are now an important site for the study and understanding of mineralogy. The mineralised rocks are rich in metals such as copper and zinc and a metallophyte (metal tolerant) lichen community has developed associated with these rocks.

Great Opencast

The mineralisation seen within the Great Opencast is dominated by pyrite and occurs within lensoid ore bodies, and as slumped sulphides, stockworks and disseminations. The pyrite is associated dominantly with chalcopyrite, but blende, galena, minor lead bismuth sulpho-salts and terradymite group minerals occur. The whole sequence, which is heavily silicified, was folded into a syncline during the Caledonian deformation with an associated remobilisation of some of the sulphides in quartz and chlorite veins. These veins cut the bedding and the primary sulphide mineralisation. As the most famous mineral deposit in Wales, with a form quite unique within Great Britain, Mynydd Parys remains the subject of much active research work.

Morfa Ddu

Morfa Ddu provides exposure of an unusual quartz-rich rock, known as 'Siliceous sinter', which is believed to have been deposited by a hot spring, related to the escape of hot gases and liquids from the volcanic activity which gave rise to the Parys Mountain Volcanos. The associated metalliferous deposits, best seen at the Great Opencast, have been commercially worked since Roman times. Detailed studies of this locality and the adjacent Great Opencast has led to comparisons being made between the style of mineralisation seen here and the classic Kuroko deposit of Japan. Suggests that it is the only locality in Britain where kuroko style mineralisation can be seen.

Lichen Heath

Lichens are small plants composed of an intimate association of fungi and algae. Lichens found on Mynydd Parys include unusual and scarce species able to tolerate the high levels of normally toxic metals such as copper, zinc and bismuth which are found here, as described above.

Natural rock outcrops rich in heavy metals must have occurred in Wales at one time, and supported these unusual lichen communities. So extensive has exploitation of this resource been that no significant natural examples are known to survive. In order to protect these species man-made habitats must be selected. Mynydd Parys is one of a few metal mine workings in Britain which have been relatively undisturbed since mining ceased and lie in areas with relatively low atmospheric pollution. As a result it supports a rich and unusual lichen flora, including a range of species and communities which are restricted to mineralised substrates. More than 125 lichen species have been recorded from the mineralised substrates alone; a number of these are very scarce in Wales, being restricted to metal rich substrates and at least one species is new to Britain and possibly new to science - a *Lecidea* species.

The flora of the old spoil heaps and metalliferous rock outcrops is dominated by lichens of the community *Acarosporion sinopicae* which are particularly characteristic of rocks rich in iron sulphide. The most abundant species here include *Acarospora sinopica*, *Porpidia tuberculosa* and *Rhizocarpon obscuratum*, whilst the notable species *Rhizocarpon furfurosum* is a frequent associate.

The ruined mine buildings and walls provide further distinctive micro-habitats, such as the copper-rich mortar-filled crevices in which a community characterised by *Psilolechia leprosa* occurs. Other distinctive metallophyte species which have been recorded from Mynydd Parys include *Tremolecia atrata*, *Stereocaulon leucophaeopsis* and *Lecanora epanora*.

In less metal rich areas terricolous lichens (those which grow on soil) are found in association with heather *Calluna vulgaris*. The abundant *Cladonia* species in this community include *C. fragilissima* is one of only 3 known localities in Wales.