**CITATION**

# RHYNIE CHERT
# SITE OF SPECIAL SCIENTIFIC INTEREST

Aberdeenshire

Site code: 1350

NATIONAL GRID REFERENCE: NJ494277

OS 1: 50 000 SHEET NO: Landranger Series 37
1: 25 000 SHEET NO: Explorer Series 420

AREA: 8.5 hectares

## NOTIFIED NATURAL FEATURES

Geological : Stratigraphy : Non-marine Devonian
: Palaeontology : Palaeozoic Palaeobotany
: Arthropoda (excluding insects and trilobites)
: Palaeoentomology

## DESCRIPTION

Rhynie is located 13 km south of Huntly. Rhynie Chert SSSI is one of the most important sites in the world for fossils of the earliest-known land plants and associated micro-fauna. The site represents one of the best examples of a complete terrestrial wetland ecosystem of the Devonian period.

### Stratigraphy

*Non-marine Devonian*
The Rhynie Chert, formed around 410 million years ago, is one of the earliest-known occurrences of the surface expressions of a hydrothermal spring system, and represents the fossil remains of an entire terrestrial wetland ecosystem preserved in place. The fossil-bearing cherts occur in a sequence of rocks that record an evolving environment, in a semi-arid and seasonally wet climate. River-formed alluvial fans, were followed by eruption of lava, and an alluvial plain with ephemeral lakes and ponds. Hot springs on the alluvial plain deposited a crust of porous silica (sinter) and preserved the existing ecosystems.

### Palaeontology

The Rhynie Chert is an internationally important ‘Lagerstätte’, with an abundance and variety of plant and invertebrate fossils, all preserved in exquisite detail including soft body parts down to the cellular level. The site is crucial for understanding the development of life on land.

*Palaeozoic Palaeobotany*
The chert yields fossils of some of the oldest-known land plants in which full anatomical details are preserved. It is therefore of paramount importance in an understanding of the early Tracheophyta and plant evolution. The Rhynie

assemblage of *Rhynia, Horneophyton, Nothia* and *Asteroxylon* has not yet been recorded in Devonian rocks anywhere else in the world.

*Arthropoda (excluding insects and trilobites)*
In addition, the site is so far the finest in the world (and the first to be discovered) for fossils of Devonian microarthropods. Thirteen species of chelicerate and one crustacean have been described from the site.

Palaeoentomology
The chert is also world famous for yielding fossils of the earliest known insect, *Rhyniella praecursor*, a wingless insect only 1.5 mm long.

## NOTIFICATION HISTORY

First notified under the 1949 Act: 1956.
Re-notified under the 1981 Act: 7 November 1986 with a small increase in area.
Notification reviewed under the 2004 Act: 9 May 2011 and 13 March 2017 (citation only).

## REMARKS

Measured area of site corrected (from 8.29 ha).