Carboniferous, Northern Ireland

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Introduction

Position of the continents in the early Carboniferous (c. 350Ma (1)) (P947814)

Position of the continents in the late Carboniferous (c. 300Ma (17)). (P947838)
At the end of the Devonian, Ireland lay on the southern margin of Laurentia that stretched from the Appalachians, northeast across Britain into Fennoscandia (P947814). Coastal alluvial plains merged into shallow tropical waters at the edge of an inhospitable desert landscape. Although marine conditions had reached the southern tip of Ireland at the Devonian-Carboniferous boundary (c.355Ma) the succeeding 10Ma passed before the transgression reached the north of Ireland in the late Tournaisian [2]. This is only the first event in the turbulent 65Ma history of the Carboniferous in Northern Ireland (c.355–290Ma). Throughout the succession there is evidence of intermittent tectonic activity. Northern Ireland was not an area of quiet sedimentation, as previously envisaged, but straddled a zone of dextral strike-slip comparable to the Midland Valley of Scotland and the Maritimes Basin in Atlantic Canada [2]. Thus, by the end of the Carboniferous, when the Variscan Orogeny had reached a maximum intensity, all of Ireland was now land and the Variscan Mountains stretched across the northern part of the country (P947838).
Carboniferous rocks in Northern Ireland were deposited close to the northern margin of the "Northern Province" and reflect the proximity of land at all times. Their cumulative thickness of 7000 m is represented mainly by Lower Carboniferous (Tournaisian, Viséan and early Namurian) rocks in Co. Fermanagh, the Fintona Block, peripheral sections at Coalisland and isolated basins such as Newtownstewart. The most continuous outcrop and succession extends from Co. Fermanagh and south Co. Tyrone into north Co. Armagh. The Carboniferous outcrop in the eastern part of Northern Ireland is reduced to outliers at Ballycastle, Cultra, Castle Espie and Carlingford Lough.

**Litho- and biostratigraphy**

**Eastern Carboniferous outliers of Ballycastle, Cultra, Castle Espie and Carlingford**

- Ballycastle
- Cultra
- Castle Espie
- Carlingford

**Co. Londonderry**

- Fintona Block

**Tempo-Lisbellaw Segment**

- Kilskeery Group (Table 7.5)

**Milltown Segment**

- Greenan Sandstone Formation (Table 7.1)

**Slievebane Group (Table 7.6)**

**Co. Armagh**

- Tyrone Group
- Armagh Group

**East Co. Tyrone**

- Tyrone Group (Table 7.7)
- Armagh Group
- Leitrim Group
- Millstone Grit
- Coal Measures

**Newtownstewart Outlier**

**Co. Fermanagh-south Co. Tyrone**
Derrygonnelly-Marble Arch-Cuilcaqh Mountain

Tyrone Group
Leitrim Group

Lisnaskea

Tyrone Group
Leitrim Group

Fivemiletown-Clogher-Aughnacloy-Benburb

Fivemiletown-Clogher

Tyrone Group

Aughnacloy

Benburb

Kesh-Omagh

Omagh Sandstone Group
Tyrone Group

Palaeogeographical and environmental reconstruction

Late Courceyan (CM Biozone)
Chadian (Pu Biozone)
Arundian
Holkerian
Early Asbian
Late Asbian
Brigantian–Arnsbergian
Late Namurian-Westphalian A/B
Late Carboniferous-Early Permian

References


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