

Edinburgh Geological Society – Excursions 2024



Excursion title:	Canty Bay – Drift Café, East Lothian. The end of Romer’s Gap.
Date & start time:	07/08 September 2024 10:00am
Finish time:	4:00 pm
Leader(s), organisation:	Dr Tom Challands, Stephen McDonald, Alison McInnes, John Wrench

Excursion summary:	<p>‘Romer’s Gap’ was considered to be a hiatus in the fossil record of tetrapods of approximately 12-15 million years (Myr) in the Lower Carboniferous Tournaisian and early Visean stages. However, the recent “TW:eed” project lead by the late Prof. Jenny Clack of Cambridge University, demonstrated that in the early Carboniferous (Tournaisian) there was a high diversity of tetrapods and other vertebrate groups contrary to previous thinking and that the apparent gap was one of sampling bias.</p> <p>This trip visits a new vertebrate fossil site that represents the very end of Romer’s Gap from the earliest Visean stage. Canty Bay preserves the uppermost Ballagan Formation dominated by semi-arid flood-plain sediments punctuated by conglomerate-filled channels. The Canty Bay Sandstone erodes into this floodplain and preserves a period of fluvial-dominated deposition. An active landslip situated next to the Drift café has recently exposed further flood-plain mudstones and siltstone yielding numerous vertebrate ‘bone beds’. The relationship of these newly exposed beds relative to the Canty Bay Sandstone and similar deposits at nearby Gin Head is uncertain. Tuffs from the adjacent Horseshoe Vent interleave with the floodplain deposits and represent the base of the Garleton Hill Volcanic Formation. The sections at Canty Bay represent a dynamic sedimentary environment in the uppermost Ballagan Formation with a vertebrate fauna that is providing insight into this key stage of vertebrate evolution.</p>
Meeting point:	Drift Cafe car park, NT 5847 8516
Transport details:	Private vehicles. Please share to avoid cluttering car park
Extra pick-up points for coach:	Tantallon Castle car park
Outline of the excursion route:	<p>From Drift cafe car park we will walk east to the road down to Canty Bay. Ensure we stay off the road – there is not always a path.</p> <p>Walk down into Canty Bay where we will examine the Canty Bay sandstone sedimentology and structure and the underlying red silt sediments.</p> <p>We will continue west over very rocky terrain into Quarrel Sands to examine the new fossil site and the underlying red silts in more detail. Juxtaposition of the sediments with tuffs from the Garelton Hills volcanics can clearly be seen in the bay of Quarrel sands.</p>
Terrain, walking distance, height gain:	<p>Easy walking down into Canty Bay along a tarmac road. Easy walking in Canty Bay though care on outcrops.</p> <p>EXTREMELY rocky and slippery between Canty Bay and Quarrel Sands. Participants may want to return up to the Drift cafe and descend into Quarrel Sands by the</p>

	<p>stepp grassy path from the Drift cafe car park entrance.</p> <p>The descent/ascent path to/from Quarrel Sands is steep and in some places slippery. Those who are uncomfortable with rocky, slippery and steep terrain should probably not attend the first part of the excursion.</p>
Additional Hazards not included in the <i>EGS Excursion Handbook</i>:	N/A
Control measures required to mitigate against any Hazards referred to above:	Participants who are uncomfortable with steep/slippery/rocky terrain to only continue as far as they feel they can.
Hard hats or Hi-viz clothing needed?	Hi-viz for walking couple hundred metres to road.
May dogs be brought on the excursion?	Yes
Toilet information:	Drift Café
Geological map sheet:	Haddington S033W
References:	Lothian Geology - an Excursion Guide (Edinburgh Geological Society)

