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## Excursion 6 Corrie Burn

### Key details

Author	George E. Bowes
Themes	Sedimentary and volcanic rocks of Lower Carboniferous age and evidence for the Campsie Fault.
Features	The Clyde Plateau Lavas, Calciferous Sandstone Measures, Lower Limestone Group and Limestone Coal Group; sedimentary rocks include sandstone, ironstone, shale and limestone, some of which are richly fossiliferous; igneous rocks include waterlaid volcanic detritus, lavas and ashes, with some minor mineralisation (baryte veining) in the lavas. There is evidence for the Campsie Fault and the Cairnbog Fault.
Maps	O.S. 1:50 000 Sheet 64 Glasgow B.G.S. 1:63 360 Sheet 30 Glasgow
Terrain	The ground is rough in places, with some steep banks; the streams are normally easily crossed on foot.
Distance and time	It is not necessary to cover the whole area in one visit. The minimum useful walking distance, say from Burnhead Farm to Locality 5 and back is about 3 km (2 miles) and this can be accomplished in two or three hours. The whole excursion entails about 6 km (4 miles) walking, and can be done easily in one day.
Access	From the A803, at [NS 689 769], about 3 km (2 miles) west of Kilsyth, follow a narrow unclassified road NNE for about 1.5 km (1 mile), until the road turns right at Burnhead Farm. Cars maybe parked a short distance east of Burnhead Farm [NS 684 782] where the verge is wide enough to get a car clear of the carriageway. Enter the field north of the road, and follow the track northwards; leave the track to reach Locality 1. The Corrie Burn is a geological SSSI and it is advisable to ask permission at the farm: it is also courtesy to do so.

### Locality 1. (Figure 6.1): Limestone Coal Group

About 100 m west of Cairnbog Farm masonry of the entrance to an old mine is visible in the undergrowth a few metres up the west bank of the Queenzie Burn, indicating the proximity of coal-bearing rocks. Old maps show that the Kilsyth Coking Coal outcropped hereabouts. Some 90 m upstream, about 30 m below the confluence of the two branches of the Queenzie Burn, the Clayband Ironstone outcrops in the stream bed. The material is dark and shaly, but markedly heavier in the hand than the dark ferruginous shales forming the stream bank above it. The coal and the ironstone both belong to the Limestone Coal Group.

### Locality 2. Cairnbog Fault

Beside the Corrie Burn some 250 m north of Burnhead Farm, occur the outcrops of massively bedded coarse somewhat ferruginous sandstone of the Limestone Coal Group dipping at 25° to the east. Some 50 m NW of these sandstones is an exposure of volcanic detritus of the Calciferous Sandstone Measures (see Locality 3 for description). The close proximity

of these beds showing similar dip and strike, yet separated stratigraphically by some 100 m, indicates that a fault must run between the two outcrops. This Cairnbog Fault is not exposed at the surface, but some indication of its course may be gleaned from the position of the southernmost exposure of the Hurlet Limestone, which is visible to the NE in the bank above the Corrie Burn, and from the occurrence of the Clayband Ironstone and evidence of mining at Locality 1 some 200 m away to the east, in the Queenzie Burn. The Volcanic Detritus and the Hurlet Limestone lie north of the fault, while the massive sandstones and the Clayband Ironstone lie south of the fault.

### **Locality 3. Volcanic detritus**

Volcanic Detritus is exposed where the Corrie Burn turns southwards, some 400 m north of Burnhead Farm. It comprises green and red-coloured lava and volcanic ash. Many of the fragments are rounded, and it is believed that this material has been transported by running water and deposited as a sediment. Towards its upper part, the volcanic detritus is interbedded with sandstones.

Overlying beds are now largely obscured, although some more resistant layers are exposed. Fragments of the richly fossiliferous Coral Limestone can be found in the burn.

### **Locality 4. The Corrie Burn (Hurlet) Limestone**

The Corrie Burn (Hurlet) Limestone is well exposed in a series of quarries along the strike of the bed, and yields brachiopods including productids, strophomenids, athyrids and spiriferids, corals such as *Caninia* and *Lithostrotion*, bryozoans, crinoid fragments and bivalves (Figure 20.5), (Figure 20.6).

### **Locality 5. The Blackhall Limestone**

The Blackhall Limestone is seen in the bed of the burn. It is dolomitic and oolitic in the lower portion, and crinoidal in the upper part. A little further downstream the decalcified granular limestone or Shields Bed is exposed.

The dark shales (blaes) with abundant ironstone nodules which overlie the Blackhall Limestone form the cliff face immediately east of the burn. The ironstone nodules are curiously asymmetrical, one of the flattened sides commonly having a small local concavity or dimple. Many of the nodules show an internal structure of shrinkage cracks which have been filled with mineral matter—a septarian structure.

The cliff is capped by a thin band of sandstone, fallen blocks of which may be found showing structures on the lower surfaces (sole marks) due to deposition upon a scoured or fluted surface, and some blocks also show evidence of mud-cracks.

Upstream, where the burn first reaches the Blackhall Limestone, fossil plant roots (*Stigmara*: (Figure 2.3)) may be seen in the limestone. Further upstream, in sandstones a short distance stratigraphically below the Blackhall Limestone, several layers show well-preserved ripple marks.

### **Locality 6. The Main Hosie Limestone outcrops in the eastern tributary of the Queenzie Burn**

Eastwards, the burn follows the Cairnbog Fault so that sandstones overlying the Kilsyth Coking Coal occur in the south bank and sporadic outcrops of Top Hosie Limestone are exposed in the stream, having been dragged down against the fault plane.

### **Locality 7. Second Hosie Limestone and Top Hosie Limestone**

The Second Hosie Limestone and Top Hosie Limestone are well exposed further upstream.

The Second Hosie is somewhat arenaceous and more fossiliferous than the dark grey argillaceous Top Hosie. The intervening shales are also richly fossiliferous, yielding *Sanguinolites* and *Posidonia*. Further upstream there are outcrops of the shales overlying the Top Hosie Limestone.

## **Localities 8 & 9. Campsie Fault**

There is a distinct change in slope associated with the Campsie Fault which brings Lower Limestone strata into juxtaposition with Calciferous Sandstone Measures lavas. The feature can easily be traced westwards from the head of the eastern tributary of the Queenzie Burn (Locality 8 at [NS 687 793]) to Corrie Burn (Locality 9) where vertical wedges of Corrie Burn (Hurled Limestone and basalt are caught up in the fault zone.

A short distance north of the fault small veins of barytes are present in the lava, and north and west of the fault a series of lava flows and ashes of varying composition are exposed (see (Figure 6.1)).

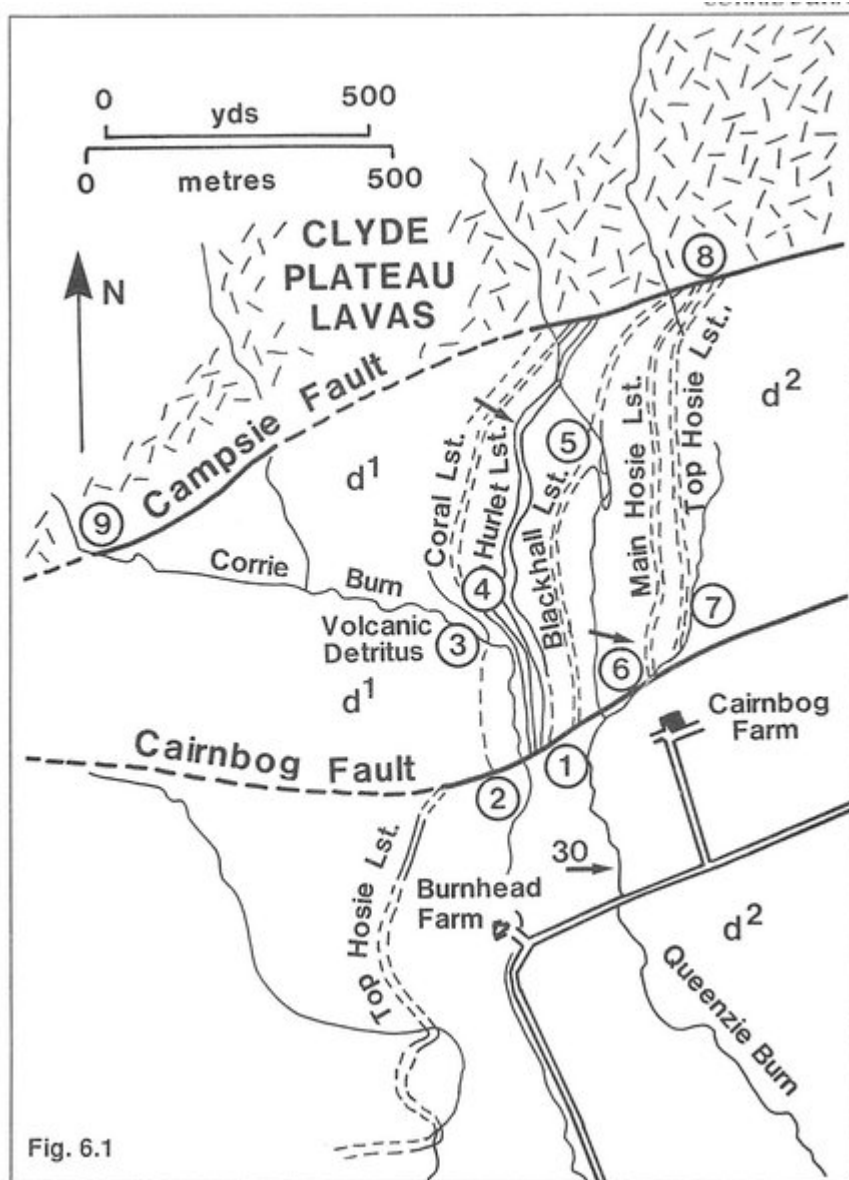
## **References**

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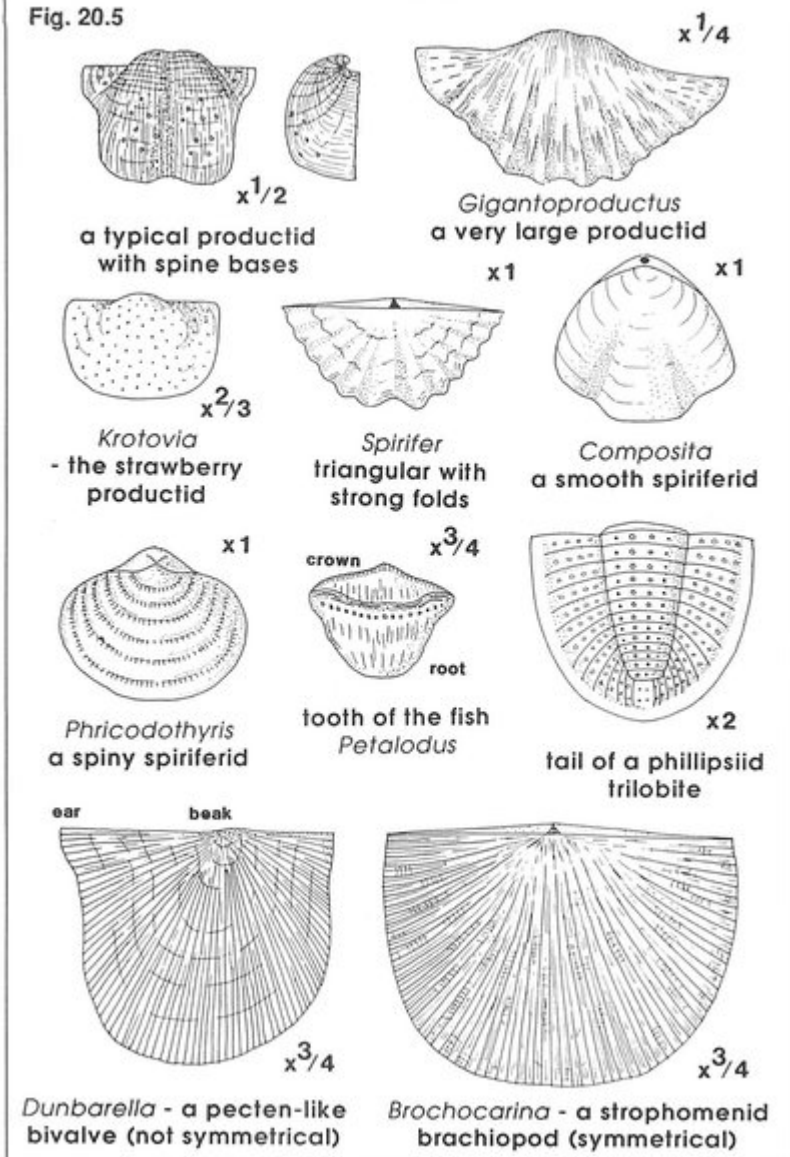
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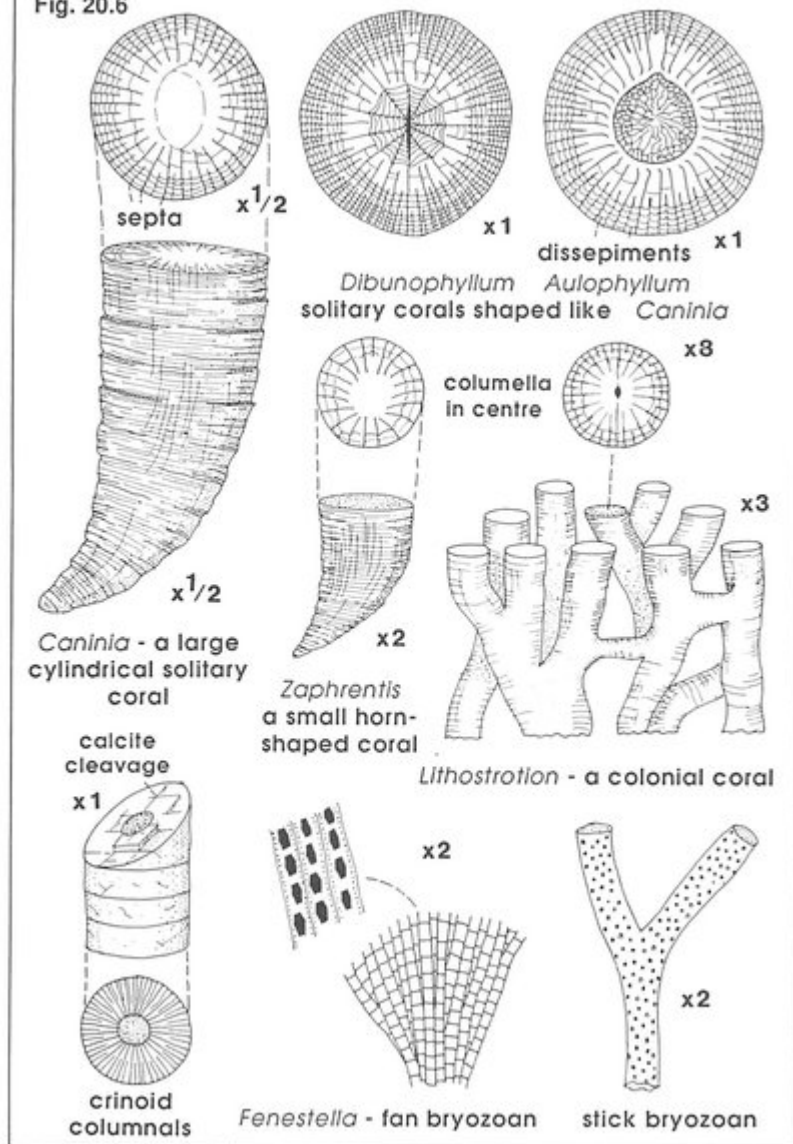
(Figure 6.1) Geological map of the area near Corrie Burn.

Fig. 20.5

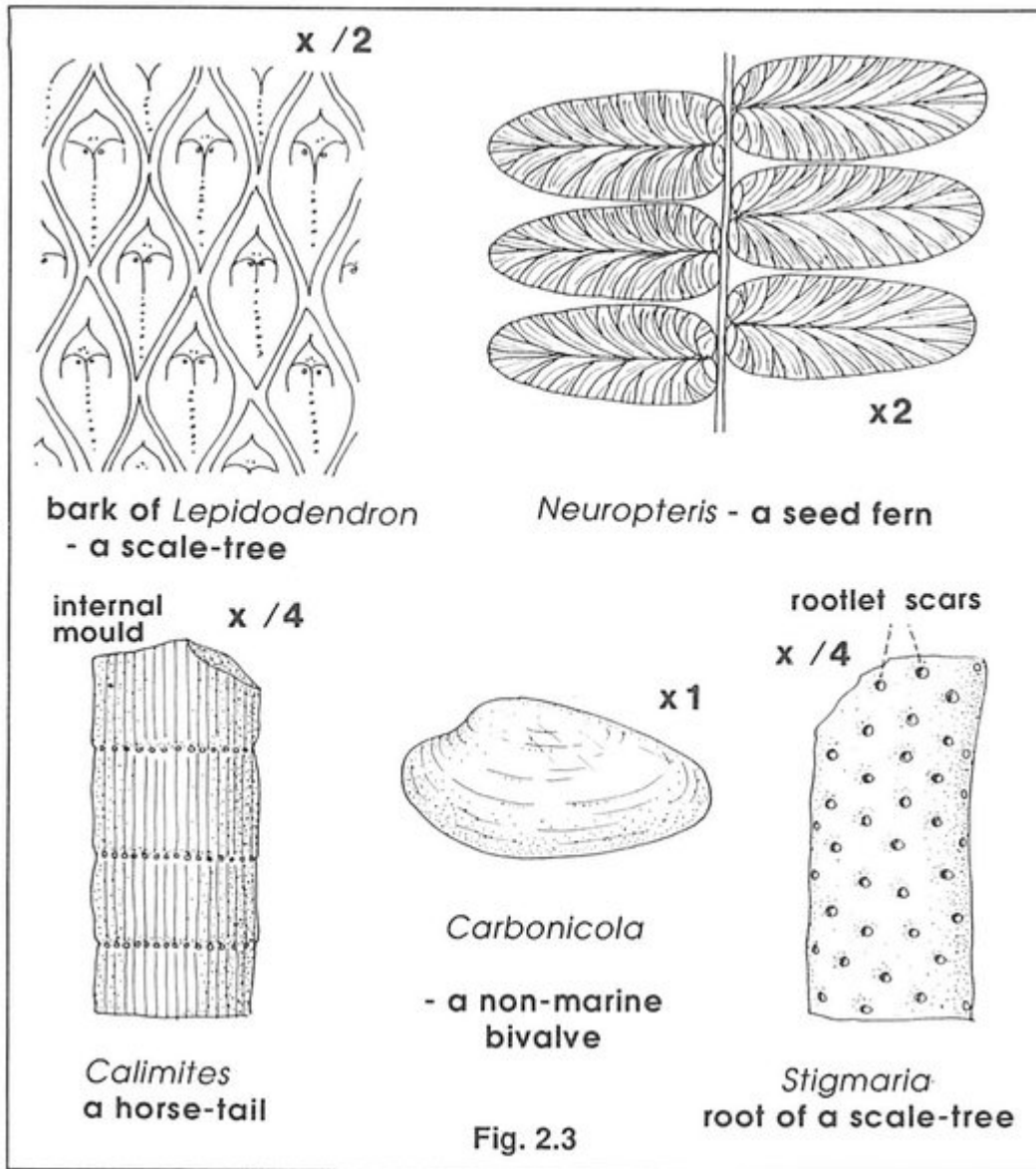


(Figure 20.5) Fossils from Trearne Quarry.

Fig. 20.6



(Figure 20.6) More fossils from Trearne Quarry.



(Figure 2.3) Carboniferous non-marine fossils.