
5 Identification and Analysis of Carbonized Plant Remains *by Diane Alldritt*

5.1 Introduction

Material from 14 samples was received for sorting, identification of botanical remains and analysis. Two bags (samples 16 & 17) of charcoal-rich sediment taken from context 055 were also received for the identification of sufficient short-lived charcoal types for radiocarbon dating.

5.2 Methodology

The samples were processed and analysed using standard techniques and equipment. Plant material was identified by comparison with modern material and reference texts (Beijerinck 1947; Schoch *et al* 1988). Plant nomenclature used in the text follows *New Flora of the British Isles* (Stace 1997). Charcoal fragments were identified using *Anatomy of European Woods* (Schweingruber 1990) and *The Structure of Wood* (Jane 1970). In the case of sample 16/17 from context 055, which produced a large quantity of charcoal, only a representative sample of 25 pieces was identified, in order to provide material for dating and to establish the range of charcoal types present. The results of the analysis are shown in Table 4.

5.3 Discussion

The analysis of the material produced no evidence for domestic activities, such as cereal processing, for the use of plant material as votive offerings or for feasting. Pit contexts contained the highest concentration of burnt peat and heather (*Calluna*)

fragments, whilst cist contexts contained the highest concentration of cremated bone fragments, with very few carbonized plant remains.

The main fuel resource used at the site was peat, with possibly some use of drier heath (indicated by heather stems) or wet fen also suggested by the plant macrofossils (in particular, carbonized rhizome fragments). Identification of charcoal species has revealed the presence of birch (*Betula*), hazel (*Corylus*) and alder (*Alnus*), probably growing locally in sheltered areas as low-lying scrub on Sanday, which was used in the construction of funeral pyres, supplementing peat as fuel. The use of driftwood for fuel and construction was indicated by findings of Coniferous wood, in particular larch/spruce (*Larix/Picea*), which are not native species and most likely arrived in Orkney on currents from America (Dickson 1992). Driftwood collected from the shore would have provided a useful supplement in an area of limited woodland fuel resources.

Burnt peat fragments are a common discovery on Bronze Age settlement and burial sites in Orkney and Shetland, with wood charcoal rare or limited in range of species. Heathy turf or peat was extensively used as the main source of fuel at this time. Botanical analysis of samples from the barrow at Mousland, Orkney (Dickson *et al* 1994) also produced wood charcoal of birch. The burials at Linga Field, Orkney produced large quantities of birch branches, probably used as funeral pyres, with a small amount of alder twigs (Alldritt 1996). The use of wild plant resources as fuel and for construction purposes is important in terms of optimizing resources in an island environment (eg Bond 1994a; Smith & Mullville 2003).

Table 4 Identification of carbonized plant remains, in number of pieces and weight g (see **illus 3** & **illus 4** for context locations)

Sample	Volume (litres)	Context	Carbonized wild resources										Wood charcoal											
			Burnt peat fragments		<i>Calluna</i> Heather stems		Rhizomes		Coniferous type		<i>Larix/Picea</i> Larch/Spruce		<i>Alnus</i> Alder		<i>Corylus</i> Hazel		<i>Betula</i> Birch		cf <i>Betula</i>		Unidentified		Indeterminate	
			No	Weight (g)	No	Weight (g)	No	Weight (g)	No	Weight (g)	No	Weight (g)	No	Weight (g)	No	Weight (g)	No	Weight (g)	No	Weight (g)	No	Weight (g)	No	Weight (g)
4	0.5	029			5	0.05					1	0.05	1	0.1										
7	0.5	027			3	0.05			7	1.33	1	0.28											6	0.07
8	4	030		4	0.14																			
11	0.75	046		126	21.71	4	0.12																	
12	1	035		9	0.32	66	0.74	12	0.67				1	0.08										
13	1	039		68	6.58	60	0.7	1	0.06															
14	0.5	051		141	9.75	19	0.06	10	1.12															
15	1	053				7	0.01																	
16+17	25	055		73	3.4	45	0.32																	
19+20	2	043		60	6.53	107	0.52	24	3.22															
21	1.5	062		23	2.88	27	0.2	2	0.06															
24	8	070				1	0.06																	
25	0.75	071							1	0.07														
26	10.25	072							1	0.21														

* Only a representative selection of wood charcoal pieces were identified and counted from this sample.