

The charred plant remains from Castle Hill Banff

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Introduction

Detailed analysis was undertaken on twenty-one samples recovered during excavation at Castlehill Banff. Where preservation allowed, material was identified to species level and counts of individual species were made, the results are presented in Table 1. The samples derived from various contexts including deposits filling a midden, pit fill and enclosure ditch fill.

Method

Twenty one bulk samples, ranging in volume from 5 to 20 litres were obtained during the 2001 excavations. All samples were processed in laboratory conditions using a standard floatation method (cf. Kenward *et al*, 1980). All plant macrofossil samples were analysed using a stereo-microscope at magnifications of X10 and up to x100 where necessary, to aid identifications. Where identification of specific items was required these were undertaken using modern reference material and seed atlases including Cappers *et al* (2006). The results of the assessment are presented in Table 1. Plant taxonomic nomenclature used in the table follows the order of Stace 1991.

Species present

Charred cereal grain

The charred cereal grain assemblage is dominated by indeterminate cereal grains, all of which were extremely heavily abraded, it was therefore not possible to identify them to species level. Of the identifiable species oat (*Avena* sp) was the most common. Unfortunately as oat chaff (florette bases) was not recovered from many of the samples it was not possible to identify to species level. Rye (*Secale cereale*) grains were present in six of the samples taken from the secondary and upper midden accumulation. Hulled barley (*Hordeum vulgare*) was also recovered. A small amount of bread wheat (*Triticum aestivo-compactum*) was present in the secondary midden accumulation (022), burning related accumulation (024), upper midden and the fill (029) of isolated pit [030].

Other charred plant remains

A range of wild taxa were present in the assemblage. The fruits, seeds, achenes, etc (henceforth referred to as seeds) present are indicative of various habitats including heath, damp ground, scrub and freshwater.

Several species with a preference for acidic soils were recovered. These included heather (*Calluna vulgaris*), crowberry (*Empetrum nigrum*), sheep's sorrel (*Rumex acetosella*) and bilberry (*Vaccinium* sp.). Ling, crowberry and bilberries are typical of moors, hillslopes and higher altitudes where *Calluna-Erica cinerea* plant communities are found.

Possible weeds of cultivation and disturbed ground include dock (*Rumex* sp), fat hen (*Chenopodium* sp), corn spurry (*Spergula arvensis*) and chickweed (*Stellaria media*).

Hemp nettle (*Galaeopsis tetrahet*) and spikerush (*Eleocharis* sp) favour damp marshy areas such as between dunes and low lying land by burns and boggy areas of heathland.

Small amounts of water lily (*Nymphaea* sp.) and pond weed potamegeton sp. were present and may have grown in ponds between the dunes.

Discussion

Distribution and composition of the charred plant remains

Primary midden accumulation

Very few plant macrofossils were recovered from the primary midden deposit (Context 026). Charred plant remains included two oats, seaweed fragments, heather stems, hazelnut shell fragments and sedge seeds.

Secondary midden accumulation

The majority of cereal grains and wild seeds derived from the secondary midden accumulation (Context 022). Oat, barley, rye and wheat were present in various samples. The largest concentration of cereals comprised sixty-two rye grains and 101 indeterminate grains, recovered from a sample from the northern area of the midden.

Rye tolerates poor soils and climatic conditions (Boyd 1986) and may have been cultivated as part of a mixed crop with oats. Souter (1812) remarks that rye was not commonly cultivated in Banffshire in the 1800's. He states '*In the less improved state which the agriculture of Banffshire had attained about 30 years ago, rye was cultivated upon such fields as were naturally dry, or which might be accounted of the sandy kind; wet and stiff clay soil being deemed unfit for the growth of this species of grain. Rye was sown after a crop of barley and sometimes after potatoes. Mixed in various proportions with oats and pease, they were cultivated together, and the crop, ground into meal, was deemed a frugal kind of bread for labourers and servants*' (Souter 1812). Three bread wheat grains were also recovered from the secondary midden accumulation.

Cereal chaff was rare throughout, although a small number of oat culms and florettes were present. Several wild species including corn spurry, fat hen, sheep's sorrel, dock, sulphur cinquefoil (*Potentilla/ Fragaria* sp.) and sedge were recovered together with heather florettes and stems. Carbonized moss remains probably of robust heathland species were also recovered from this deposit.

The plant remains in the secondary midden accumulation reflect a variety of possible habitats and sources of material including cultivated fields, dune vegetation, cliffs or heath and damper ground.

Burning related accumulation

Oats were the most frequently encountered cereal grain in the burning related accumulation (Context 024). Three hulled barley and bread/club wheat grains were also recovered from this context together with fourteen indeterminate cereal grains.

A small amount of pondweed (*Potamogeton* sp), burnt seaweed, waterlily and sedge were present in the burning related accumulation. Heather fragments including stem and florettes were also present.

Upper midden accumulation

Ten cereal grains, including 4 oats, 1 hulled barley, 1 bread wheat, 2 rye and 2 indeterminate cereals were present in the upper midden accumulation. A large grass seed (*Poa* sp.) and a single Sulphur cinquefoil (*Potentilla/ Fragaria* sp.) seed were also recovered from this deposit.

Enclosure ditch fill

Few plant remains were present in samples taken from enclosure ditch fill. A total of 13 cereal grains, comprising 7 oats, 2 hulled barley and 4 indeterminate grains were recovered from the enclosure ditch fill. Plant remains recovered included hazel nutshell, chickweed, fat hen, dock and 9 heavily abraded indeterminate weed seeds.

Isolated features

Indeterminate, highly abraded, cereal grain was the most frequently recovered material from the fill of the isolated features. A single common hemp nettle (*Galaeopsis tetrahet*) seed was the only weed seed recovered from the fill (029) of Pit [030]. Ten, heavily abraded, indeterminate cereal grains were also present together with 5 oats, 4 hulled barley and 2 bread wheat.

Small amounts of hulled barley and indeterminate cereal were recovered from the fill (002) of posthole [003] and the fill (019) of irregular feature [020] together with 2 oat grains.

Conclusions

The wide range of flora reflects the exploitation of a variety of habitats including agricultural and upland areas. The variety of habitats in the local area is confirmed by the Reverend Grant (1836), who states 'hazel (*Corylus avellana*), which is found in the lower grounds, ceases in the upper,' and that heather (*Calluna vulgaris*) *grows vigorously at the highest point* (Grant 1836; 14). It is likely that the moss, bilberries and crowberries also grew in the heathland.

The weeds may have grown locally or arrived on site via animal fodder, building material and other collected plants. Species of Knotgrass (*Polygonum aviculare*), curled dock (*Rumex crispus*) and some oraches (*Atriplex* sp) will grow close to the sea. Chickweed (*Stellaria media*), chenopodiaceae (*Chenopodium* sp, *atriplex*) are found today in disturbed and waste places, grassland, woodland, hedgerows and scrub and are all common components of ancient crop assemblages. Sedges (*Carex* sp) and club rush are possible components of marshy field margins.

It is possible that heather was collected locally and used for various purposes including thatching, bedding, furnishing, broom making and dye production (Edlin 1973; 117, 169). The lack of wood charcoal within the assemblage could be explained if peat/turves were used as fuel.

It is likely that the charred plant remains relate to activities including small scale crop processing, possible grain parching and cooking accidents. It is not clear whether the crops were locally cultivated. However, cereals may have been grown on lighter sandy soils. Rye may have been cultivated together with the other cereals. Rye grain was recovered together with oats, hulled six row barley and wheat, during excavations at the rural medieval site of Castle of Wardhouse, Aberdeenshire (Boardman 1998). The lack of cereal chaff and straw suggests that the majority of crops were processed prior to being brought to site and that crop processing was limited. The secondary midden accumulation (Context 022) contained the most mixed cereals and proportionally more weeds. This suggests less thorough crop cleaning. Oats first occur widely on Iron age sites. The main crops at medieval urban sites are barley, bristle oat, cultivated oat and bread/club wheat (Driscoll et al). Rye and emmer were also present at St Andrews reflecting optimal cultivation conditions along the narrow coastal strip (Boyd 1988).

The presence of hazel nutshell fragments within the primary and secondary fill of the midden, in contexts containing cereals and other foodstuffs, is interesting. Hazel was valued as a foodstuff and for providing rods for building or fencing. Although it is possible that hazel nutshell may have been incidentally collected with fuelwood, the lack of charcoal within the assemblage suggests that the presence of hazel is the result of food waste and demonstrates the continued value of the nut as a food

source. The largest concentration of hazelnut shell is in the secondary midden accumulation. Charred nutshells are typical of floor or hearth sweepings. The associated cereals may represent food processing waste, swept up and discarded onto fires.

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