

Special Places for Special Foods? Cereal Cultivation around an early Neolithic Timber Hall at Warren Field, Crathes, Eastern Scotland

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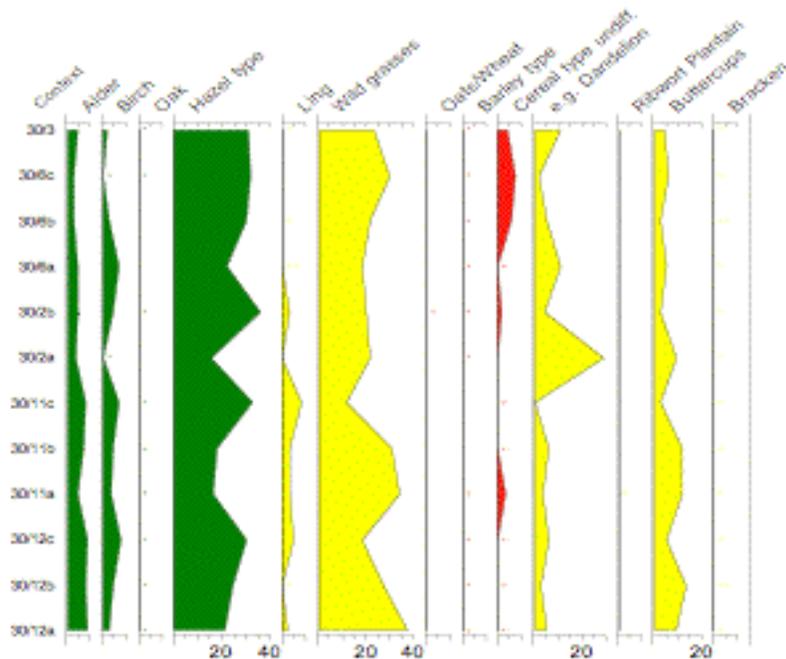
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An early Neolithic timber hall has recently been excavated at Warren Field, close to Crathes Castle in eastern Aberdeenshire, near the east coast of Scotland (Murray *et al* in prep.). The site lies 1km north of the River Dee, at the entrance to the high ground from the Aberdeen lowlands. Perhaps significantly, Warren Field lies on the opposite bank of the River Dee to the early Neolithic timber hall at Balbridie (Fairweather & Ralston 1993). Bayesian analyses of 38 ¹⁴C assays at Warren Field suggest the hall to have been occupied, for between 1 and 90 years, from 3820-3720 cal. BC to 3780-3700 cal. BC, and was probably contemporary with the less thoroughly dated structure at Balbridie. It is one of four halls now known in Scotland (Barclay *et al* 2002).

The Warren Field hall is very well preserved, having been burnt down (see Noble 2006, 45-70), and is very large, measuring 24 x 9 m. The walling was predominantly of oak timbers, some split, dividing the internal space into four partitions and two rounded ‘annexes’. The annexes probably had gaps in the walling as well as entrances. The annexes also contained large and deep central or axial pits.

A central problem has been the use or function of these large halls (Thomas 2004). Charred plant analyses (Fairweather & Ralston 1993; Miller & Ramsay in Barclay *et al* 2002) have not demonstrated the products of local crop production. Pollen analyses can identify such land uses and these were applied to the successive, probably rapidly accumulating fills of one axial pit, Pit 30. The sediments are entirely mineral, and sandy, not good for pollen preservation, but rigorous tests (cf. Bunting & Tipping 2000) show that although pollen grains are not well preserved, biases induced by differential destruction do not severely affect interpretation. There are many potential sources of pollen, not least because Pit 30 was originally inside an ‘annexe’, was occupied by a ‘totem’ before this was removed and the building burnt down, but the pollen analyses (Figure 1) are best interpreted to have received pollen from the immediately surrounding landscape (see below) before and immediately after destruction of the hall by fire. Selected types are shown in Figure 1 in chronological order.

The analyses show that the immediate surroundings of the hall had lost its oak woodland, by comparison with two pollen sequences within 4 km of Warren Field that describe the region (Loch of Park: Vasari & Vasari 1968; Candigarich: Clark & Edwards 2004, K.J. Edwards pers. comm.). Tree removal was selective. It is very unlikely that all oak trees removed were used in construction of the hall. Hazel stands, almost pure and possibly managed, survived, with grass and ‘fields’. Evidence of pasture is very limited, and there is no palynological evidence that animals were grazed near the hall. Cereal type pollen is abundant, with barley type perhaps twice as abundant as oat/wheat, together with weeds of arable/disturbed ground. Cereal crops were grown around the hall, an interpretation that adds much to the well-known charred plant record at Balbridie with its 20,000 cereal fragments (Fairweather & Ralston 1993) in confirming that cultivation was a prominent part of the land around the halls.



From the pollen analyses, simulation modelling estimates that the pollen source area was several hundred metres around the hall. A simple target model centred on the hall best depicts the distribution of plant communities. In this model, the nearest hazel trees may have formed a ring separated from the hall by arable ‘fields’ which had a radius 50-150m. The ‘fields’ were large, and the surrounding woodland substantially altered. Such a treeless and crop-dominated landscape at this time is unparalleled in Scotland (Tipping 1994), yet modelling also suggests that such clearances would not be detected in pollen analyses that receive pollen from the region. The impact of these halls, though substantive, is invisible in most such pollen diagrams.

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