SUPPLEMENTARY MATERIAL

Dun Fhinn, Islay: excavation, woodland exploitation and building an Iron Age chronology for Argyll

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Appendix 1: Methods for wood charcoal analysis

Charcoal was analysed using standard methodology of Leney & Casteel (1975; see also Gale & Cutler 2000). Each fragment was fractured with a razor blade so that three planes could be seen: transverse section (TS), radial longitudinal section (RLS) and tangential longitudinal section (TLS). The pieces were mounted in modelling clay on a glass microscope slide and examined under bi-focal epi-illuminated microscopy at magnifications of ×50, ×100 and ×400 using an Olympus BHM microscope.

Identification was undertaken according to the anatomical characteristics described by Richter et al (2004), Schweingruber (1990) and Butterfield & Meylan (1980), while also drawing on Barnett's own charcoal reference collection. Identification was to the lowest taxonomic level possible, usually that of genus, but sometimes species, where there is only one known native variety, or the features are highly diagnostic. Where a fragment compared favourably with a known taxon but displayed insufficient characters for secure identification, they were recorded as cf juvenile. Twigwood and roundwood were separated from mature wood where the whole radius was visible, or where apparent from ring curvature and ray

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divergence; and where this was not discernible the fragment could be either roundwood or mature (not twig).

Quantification was by fragment number of each taxon and of juvenile/mature per assemblage. The data was in turn used to calculate percentage representation data for the entire site. Because fragmentation rate is broadly similar for all taxa (Chabal 1992) and recording volume, fragment number or weight as indices lead to similar results in terms of relative taxonomic representation, and fragment counts and resulting resultant percentage data are meaningful (cf Keepax 1988: 70–9; Chabal 1997; Asouti & Austen 2005).

Species ubiquity (the number of appearances of a taxon in the contexts represented) was also calculated. Consideration of ubiquity, a partially qualitative measure, arguably overcomes issues of differential fragmentation (due to taphonomic process, post-depositional process, sampling and processing) and over-representation of targeted types for activities at the site; the two indices of percentage representation and number of species per context are therefore used together here to maximise findings. No attempt was made to calculate charcoal volume or relate these to original sample volume; indeed, attempts to do so can provide misleading results (Keepax 1988).

Interpretation of individual genius/species preference and habitat is with reference to modern plant ecology (Ellenberg 1988; Peterken 1993; Stace 2010). Latin binomials are given once at first appearance, common names throughout, and nomenclature is according to Stace (2010). It has been argued that wood collection takes place repeatedly and randomly around and close to its point of use (Théry-Parisot et al 2010; Asouti & Austen 2005; Chabal 1997), and using the least effort required (Shackleton & Prins 1992). It follows that the relative proportions of individual taxa within assemblages will reflect the taxon’s abundance in the local environment, suggesting that common types will be represented given sufficient identifications, although rarer types may be absent. These principles underlie the

interpretation of local vegetation structure; however, some over-representation of types that create more deadwood may occur and a skew in the species data can also be created by socio-economic factors, including targeted selection of wood types for activities (Théry-Parisot et al 2010).