

Between prehistory and history: the archaeological detection of social change among the Picts

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The development of small-scale kingdoms in the post-Roman world of north-west Europe is a key stage in the subsequent emergence of medieval states. In the absence of adequate historical evidence, however, much that is known about this period is reliant on archaeological investigation of formative centres of power. Recent excavations at Rhynie in north-eastern Scotland have thrown important light on the emergence of one such kingdom, that of the Picts. Enclosures, sculptured 'symbol stones' and long-distance luxury imports identify Rhynie as a place of growing importance during the fifth to sixth centuries AD. Parallels can be drawn with similar processes in southern Scandinavia, where leadership combined roles of ritual and political authority. The article also highlights the growing evidence for a range of Pictish enclosed sites that emerge in the same time period and where dating suggests that, through time, power was increasingly focused on larger and more elaborate fortified places. A transitional stage in the development of new power structures in the fifth to sixth centuries AD in north-eastern Scotland was hence superseded by the establishment of increasingly Christianised and centralised Pictish kingdoms in the seventh century. The excavations at Rhynie and the synthesis of dated Pictish enclosures are excellent examples of the contribution that archaeology can make to the understanding of state formation processes in early medieval Europe.

Keywords: Scotland, Rhynie, early medieval, kingdoms, hillforts, Picts, sacral kingship

Radiocarbon dates from enclosed sites of Pictland

This online appendix gives fuller detail of the enclosed sites of Pictland referred to in the full article and discusses the radiocarbon dating evidence that is available in each case. A table of dates with contextual information (Table S1) is also provided together with Oxcal diagrams.

Outline of sites

Hillforts

Dundurn, Perthshire

The hillfort of Dundurn consists of a prominent summit ‘citadel’ on top of a craggy outcrop that is enclosed by a series of ramparts defining a series of lower enclosures. Excavations at Dundurn were conducted as part of Leslie Alcock’s programme of work on early royal sites of early medieval Scotland. Alcock’s project targeted sites with first-millennium-AD historical references (Alcock & Alcock 1987, 1990: 216; Alcock *et al.* 1989). The excavations at Dundurn included a limited number of ‘keyhole’ trenches across the ramparts of the citadel enclosure and an upper terrace enclosure (Alcock *et al.* 1989). A series of ramparts that define lower terraces were largely unexplored. Alcock’s interpretation of the sequence at Dundurn envisaged the development from a timber palisade enclosing the hill dating perhaps to the fifth or sixth centuries AD (Phase 1) to the construction of the summit citadel (Phase 2) and expansion and rebuilding of the fort through construction of terrace walls and rebuilding of citadel defences (Phase 3) over the following centuries. The archaeological evidence is complemented by a historical reference in the Annals of Ulster to a siege of Dundurn in AD 683 (Mac Airt & Mac Niocaill 1983).

Urquhart Castle, Inverness-shire

Urquhart Castle, also excavated by Alcock, lies at the head of the Great Glen in northern Scotland (Alcock & Alcock 1992). Here a medieval masonry castle overlay a site that Alcock suggested could have been the sixth-century fort of Bridei son of Maelchon (*Brudei munitio*) referenced in Adomnán’s *Life of Columba* (Sharpe 1995). The scale of excavation at Urquhart was very limited, but suggested the presence of some form of hillfort enclosure. The excavations focused on the craggy rock boss upon which the later medieval motte stood. The project identified a cobbled surface and a revetment of boulders that may have served as the foundation for a rampart or enclosing wall that represented the primary phase of occupation on the rock boss. Possible lower terraced enclosures akin to those found at Dundurn were also identified (Alcock & Alcock 1992: 260). Radiocarbon dates suggest early medieval activity beginning in the fifth or sixth centuries cal AD stretching into the early centuries of the second millennium ADⁱ.

Clatchard Craig, Fife

At Clatchard Craig in Fife more extensive excavations were carried out by Ritchie in the early 1950s and by R. Hope-Simpson in 1959 and 1960 in advance of the total destruction of the hill by quarrying. Despite having long been thought to be an Iron Age enclosure, dating showed that the extensive ramparts belonged entirely to the first millennium AD (Close-Brooks 1986). The hill had been enclosed by no less than seven individual defensive circuits. The inner ramparts defined a summit ‘citadel’ comprising a relatively small internal area. Below that, two further ramparts (2 and 3) enclosed an upper terrace, while a further series of ramparts (3a–6) seemingly reinforced the upper terrace ramparts. All of the ramparts excavated showed evidence of stone wall facings and timber lacing.

Mither Tap, Bennachie, Aberdeenshire

At Mither Tap, Bennachie, in Aberdeenshire, smaller-scale work and recent dating of deposits in the interior has confirmed occupation in the first millennium AD of a hillfort long suspected to be a Pictish stronghold closely similar in morphology to other early medieval ‘nuclear’ forts (Feacham 1955: 76; Shepherd 1993; Atkinson 2007; RCAHMS 2007: 105–107). Work during path-upgrading by Forestry Commission Scotland in 2006 identified occupation layers dated to the fifth to eighth centuries AD at the entranceway to the fort just within the lower ramparts of the lower citadel (Atkinson 2006, 2007). The morphology of the fort has direct parallels with both Dundurn and early medieval forts elsewhere in northern and western Britain such as Dunadd in Argyll.

Craig Phadrig, Inverness-shire

The scale and significance of the hillfort at Craig Phadrig is uncertain, but radiocarbon and artefactual evidence suggests an important early medieval phase to this reused Iron Age fort. The site was excavated by Small and Cottam in the 1970s, but a full report remains unpublished (Small & Cottam 1972). The Iron Age oval fort, of a type now securely dated to the second half of the first millennium BC, saw episodes of re-occupation and perhaps re-fortification in the first millennium AD (Cook 2010a). The first phases of an outer enclosure at Craig Phadrig appear also to be Iron Age in date, but there could have been two phases to this line of rampart (Small & Cottam 1972: 29–30). Within the inner fort, finds of E-ware, a fragment of a mould for the escutcheon of a hanging bowl and a radiocarbon date all suggest a high-status early medieval occupation.

Barra Hill, Aberdeenshire

Barra Hill in Aberdeenshire also conclusively shows reuse of an earlier fort (RCAHMS 2007: fig. 6.25; Cook 2010b, 2011). The site was dated as part of an extensive programme of keyhole excavation across Aberdeenshire's hillforts. A multi-phase trivallate Iron Age enclosure with multiple entrances appears to have been re-fortified in the early medieval period by the digging of a ditch between the two outer banks of an Iron Age enclosure. This ditch along with the pre-existing banks would have enclosed a substantial area over 150m in diameter. Charcoal from the primary fill of the ditch gave a date of AD 380–580 for its construction. No clearly diagnostic early medieval finds were recovered from the site, but excavations were limited.

Coastal forts

Burghead

The early medieval archaeology at Burghead is perhaps richer than at any other site in Pictland, despite its chequered history. A large portion of the fort was destroyed in the early nineteenth century with the construction of a planned village and harbour. Despite this, antiquarian and archaeological interest in Burghead has a long history, documented in a recent article by Oram (2007: 241–49). The archaeological record at Burghead includes over 30 bull 'plaques' and a fascinating well structure with possible cult associations (Young 1890, 1891, 1893; Ralston 2004; Oram 2007). Excavation at the site has had a long, though unglamorous, pedigree extending back to MacDonald's work in the 1860s. He excavated the ramparts of the upper and lower citadel enclosures and identified walls standing up to 2m in height (MacDonald 1862: 348). Thirty years later, the local antiquarian Hugh Young provided, in a quite remarkable series of reports, the most detailed evidence for the ramparts. Young (1891: 189, 436) showed that the lower fort ramparts were composed of inner and outer drystone walls utilising dressed and carefully quarried stone with a core of earth, stone and midden material between. The two facing walls were linked or at least bonded to the rampart core by oak planks and logs riveted together by iron nails or spikes up to 0.2m long. The logs and planks only projected through the facing wall in the interior of the fort and this has been later interpreted by Small (1969: 66) as evidence that there may have been some sort of wooden wall walk or structure around the interior of the fort. Young's work showed that the rampart of the lower citadel had been over 7m wide and perhaps as much as 6m high. Further work in the late 1960s by Alan Small focused on the upper citadel and largely corroborated Young's earlier findings (Small 1969). The most recent work at Burghead by Edwards and Ralston and latterly by Ralston has provided additional

chronological and environmental information focusing on rampart construction and dating (Edwards & Ralston 1978; Ralston 2004).

Portknockie

The small promontory fort at Portknockie on the Moray coastline is situated overlooking a small bay (Ralston 1980, 1987, 2004). The first phase of enclosure consisted of a palisade cutting off the promontory from the mainland. This in turn was overlain by a timber-framed rampart which was destroyed by fire, thus preserving an intricate framework of charred timbers in the lowest courses of the rampart. A rectangular building of uncertain date was found inside the enclosure.

Cullykhan

The evidence for a Pictish phase of occupation on a larger promontory at Cullykhan is piecemeal, though intriguing (Greig 1970, 1971, *pers. comm.*). The promontory had several Iron Age phases of activity including the construction of a palisade and enclosing ramparts in the last centuries BC. A first millennium AD date was obtained from a layer of cobbling on the promontory and a ditch has also been assigned to this period on stratigraphic grounds. The most fascinating find was a large wooden object which has been interpreted as a door with iron fittings and has been dated to the fifth–sixth centuries AD (Table S1).

Ringforts

Maiden Castle, Aberdeenshire

Maiden Castle, on the slopes of Bennachie in Aberdeenshire, is another site that has been dated as part of the extensive programme of keyhole excavation of Aberdeenshire enclosures (Cook 2011). There were remains of at least two successive enclosures—a thick stone-walled enclosure (around 20m in internal diameter) with perhaps successive phases of surrounding ramparts and ditches (max. 40m overall diameter). It is uncertain whether the stone-walled enclosure was roofed or, perhaps more likely, surrounded internal buildings. Excavation in the interior discovered wall lines that may have belonged to a rectilinear building, and a posthole produced a glass bead of the first millennium AD (Cook 2011: 27). Test pits around the fort found further midden layers, cobbled surfaces and fragments of four early medieval crucibles. A small sherd of decorated glass from the same area is part of an imported Continental glass beaker (Group C) of the type found on high status, often royal sites in western Britain and Ireland (Campbell 2007: 68–69, 2012). Deposits outside the enclosure

show that the site was the focus of a wider open settlement associated with metalworking and other manufacturing processes of the first millennium AD. Radiocarbon dates suggest the enclosures date to the fifth–early seventh centuries AD, which is consistent with the limited artefactual material.

Cairnmore

An enclosure very similar to Maiden Castle, at Cairnmore near Rhynie, has also been dated as part of recent keyhole excavations (Cook 2011). It comprises a double banked sub-oval enclosure measuring at maximum 64m long × 48m wide (Cook 2010, 2011b), with an additional external ditch and rampart at its south-eastern entrance. The inner rampart measured some 1.6m thick and 0.4m high, the middle rampart 4.5m thick and 0.3m high, the outer rampart 1.3m thick and 0.2m high, and the outer ditch measured 0.5m wide and 0.22m deep. From the foundation cut of the middle rampart two brooch moulds and a pin mould of early medieval date were recovered (Cook *et al.* 2010).

Radiocarbon dates indicate that the enclosure was both constructed and destroyed between cal AD 410–630.

Radiocarbon dating

All existing radiocarbon dates for the major hill and promontory forts of Pictland were brought together for this article alongside an important series of new dates for the smaller enclosures such as Maiden Castle and the extensive series of dates recently obtained for the lowland palisaded enclosure at Rhynie. The combined dataset comprises 64 dates (Table S1). It must be noted, however, that many of the dates are of questionable quality. Some derive from unidentified or mixed samples that would not be accepted for radiocarbon dating today (Ashmore 1999). Moreover, several dates have error margins that make their use similarly questionable. Burghead offers an unfortunate example of this problem. Three of the five available dates for Burghead come from large burnt timbers from the ramparts. These timbers are of oak, one of the most problematic sources for radiocarbon dating owing to the potential ‘old wood’ effect. The calibration ranges for these dates (N-329, N-327 and N-328) span four or five centuries and therefore only give a *very general* date bracket for the construction of the Burghead ramparts. The dataset also includes dates from the Iron Age phases of reused hillforts such as Cullykhan and Craig Phadrig.

All of the dates falling in the first millennium AD are displayed in Figure 1. As the article highlights, the majority of dates fall after cal AD 400. The exceptions to this are three dates—one each from Burghead, Rhynie and Portknockie. The last of these has such a wide error margin that it cannot be taken as a reliable indicator for activity prior to cal AD 400. The oldest date for Burghead

(UB-2208) comes from an upper organic layer *underlying* the rampart on the seaward side of the upper fort wall; it therefore gives at best only a *terminus post quem* for the construction of the rampart in this area. The oldest date from Rhynie comes from oak charcoal from the palisade trench. It differs significantly from the dates obtained from other elements of the palisade, and the discrepancy undoubtedly results from an ‘old wood’ effect.

The dates have been refined further by removing (a) dates with wide error margins (greater than ± 90 years) and (b) those dates from uncertain contexts, such as occupation spreads within Mither Tap, Cullykhan and Craig Phadrig. The resulting smaller dataset of 33 dates (Figure S2) strongly underlines the trend for the construction and use of defended enclosures in Pictland in the period after cal AD 400.

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Table S1. Radiocarbon dates for the enclosed sites of Pictland.

Site	Lab no.	Material	Context/ sample	Radiocarbon age (BP)	Calibrated date range (95.4% confidence)
Burghead	UB-2208 ¹	Organic material including charcoal: <i>Quercus robur</i>	Organic layer under upper fort western rampart	1690±40	cal AD 240–430
Burghead	N-329	Charcoal: <i>Quercus robur</i>	Western rampart of upper fort.	1560±115	cal AD 230–680
Burghead	N-327	Charcoal: <i>Quercus robur</i>	Western shore rampart	1560±110	cal AD 240–670
Burghead	N-328	Charcoal: <i>Quercus robur</i>	Western shore rampart	1340±104	cal AD 440–960
Burghead	UB-2083	Charcoal: <i>Quercus robur</i>	4m below rampart crest, cavity within rampart rubble	1085±40	cal AD 880–1030
Rhynie	SUERC-35638	Charcoal: <i>Quercus robur</i>	Palisade	1710±30	cal AD 250–410
Rhynie	SUERC-35643	Charcoal: <i>Betula</i> sp.	Inner ditch	1655±30	cal AD 260–540
Rhynie	SUERC-35639	Charcoal: <i>Corylus avellana</i>	Palisade post	1600±30	cal AD 400–540
Rhynie	SUERC-35641	Charcoal: <i>Corylus avellana</i>	Building	1595±30	cal AD 400–550

Site	Lab no.	Material	Context/ sample	Radiocarbon age (BP)	Calibrated date range (95.4% confidence)
Rhynie	SUERC-35647	Charcoal: <i>Betula</i> sp.	Sunken structure	1590±30	cal AD 410–550
Rhynie	SUERC-35642	Charcoal: <i>Betula</i> sp.	Building	1580±30	cal AD 410–550
Rhynie	SUERC-35648	Charcoal: <i>Corylus avellana</i>	Building destruction layer	1580±30	cal AD 410–550
Rhynie	SUERC-35649	Charcoal: <i>Salix</i> sp.	Outer ditch destruction layer lower	1580±30	cal AD 410–550
Rhynie	SUERC-35637	Charcoal: <i>Betula</i> sp.	Outer ditch destruction layer upper	1565±30	cal AD 420–570
Rhynie	SUERC-35640	Charcoal: <i>Betula</i> sp.	Palisade post	1550±30	cal AD 420–580
Cullykhan	BM-639	Section of Oak stump	Gateway	2347±59	cal BC 750–210
Cullykhan	BM-446	Unidentified charcoal	Occupation level	2337±65	cal BC 750–210
Cullykhan	GU-2097	Unidentified charcoal	Occupation layer, palisade site	2290±60	cal BC 520–190
Cullykhan	GU-2098	Unidentified charred timber	Rampart construction	2060±50	cal BC 200–AD 60
Cullykhan	GU-2096	Unidentified charred timber	Rampart construction	2010±60	cal BC 180–AD 130
Cullykhan	BM-445	Unidentified charcoal	Cobbling: occupation	1633±40	cal AD 260–540
Cullykhan	GU-2094	Wooden object	?Wooden structure	1540±50	cal AD 410–620
Mither Tap, Bennachie	SUERC-13465	Charcoal: <i>Quercus robur</i>	Occupation layers: under cobbles	1625±35	cal AD 340–540
Mither Tap, Bennachie	SUERC-13466	Charcoal: <i>Quercus robur</i>	Occupation layers: under cobbles	1330±35	cal AD 640–780

Site	Lab no.	Material	Context/ sample	Radiocarbon age (BP)	Calibrated date range (95.4% confidence)
Hill of Barra	SUERC-28730	Charcoal: <i>Alnus sp</i>	Fill of ditch associated with inner enclosure	2405±35	cal BC 750–390
Hill of Barra	SUERC-28728	Charcoal: <i>Alnus sp</i>	Primary fill of ditch	1615±35	cal AD 380–580
Cairnmore	SUERC-32840	Charcoal: <i>Corylus avellana</i>	Burnt deposit on top of rampart 3	1580±30	cal AD 410–550
Cairnmore	SUERC-32839	Charcoal : <i>Alnus</i>	Primary fill of foundation cut of rampart 2	1510±30	cal AD 430–630
Maiden Castle	SUERC-15908	Charcoal	From under bank 2, the outer defense	1540±40	cal AD 420–610
Maiden Castle	SUERC-22160	Charcoal	From under inner stone wall enclosure	1500±30	cal AD 440–640
Maiden Castle	SUERC-15909 ²	Charcoal	Upper fill of ditch 2 backfilled then cobbled	1495±40	cal AD 430–650
Craig Phadrig	N-1124	Peat and turf	Within outer rampart	2320 ±105	cal BC 770–160
Craig Phadrig	N-1112	Unidentified charred timber	Below rubble adjacent to inner rampart	2280±100	cal BC 750–50
Craig Phadrig	N-1120	Unidentified charred timber	Outer rampart section	2250±100	cal BC 750–40
Craig Phadrig	N-1123	Unidentified charcoal	Inner rampart	2220±100	cal BC 530–AD 10
Craig Phadrig	GX-2441	Unidentified charcoal	Below inner rampart	2130±100	cal BC 400–AD 60
Craig Phadrig	N-1118	Unidentified charcoal	Fort interior	2030±100	cal BC 360–AD 210
Craig Phadrig	N-1119	Unidentified charcoal	Upper occupation layer	1540±85	cal AD 340–660

Site	Lab no.	Material	Context/ sample	Radiocarbon age (BP)	Calibrated date range (95.4% confidence)
Urquhart	GU-1768	Charcoal including <i>Betula</i> sp.	Cobbling UR 221	1465±50	cal AD 430–670
Urquhart	GU-1769	Unidentified charcoal	Cobbling UR 262	1225±55	cal AD 660–950
Urquhart	GU-1837	Unidentified charcoal	Cobbling UR 263	1210±90	cal AD 650–990
Urquhart	GU-1836	Unidentified charcoal	Cobbling, later re- occupation UR214/1	1085±100	cal AD 690–1160
Urquhart	GU-1835	Unidentified charcoal	Cobbling, later re- occupation UR 214/2	985±50	cal AD 900–1180
Urquhart	GU-1924	Animal bone	Domestic waste overlying fort destruction UR 259/1	860±50	cal AD 1040–1260
Urquhart	GU-1925	Animal bone	Domestic waste overlying fort destruction UR 259/2	845 ±60	cal AD 1040–1280
Urquhart	GU-1926	Animal bone	Domestic waste overlying fort destruction UR 259/3	805±50	cal AD 1050–1290
Green Castle, Portknockie	GU-1822	Unidentified charcoal	Old ground surface	1620±115	cal AD 140–650
Green Castle, Portknockie	GU-2092	Unidentified charcoal		1290±50	cal AD 650–870
Green Castle, Portknockie	UB-2149	Charcoal: <i>Quercus robur</i>	Rampart timber	1265±40	cal AD 660–870
Green Castle, Portknockie	UB-2150	Charcoal: <i>Quercus robur</i>	Rampart timber	1210±45	cal AD 680–950
Green Castle, Portknockie	GU-1820	Unidentified charcoal		1210±85	cal AD 660–990

Site	Lab no.	Material	Context/ sample	Radiocarbon age (BP)	Calibrated date range (95.4% confidence)
Green Castle, Portknockie	GU-1816	Unidentified charcoal		1155±50	cal AD 720–1000
Green Castle, Portknockie	GU-1817	Unidentified charcoal		1115±50	cal AD 770–1000
Clatchard Craig	GU-1794	Charcoal: <i>Quercus robur</i>	Rampart 1	1560±55	cal AD 390–620
Clatchard Craig	GU-1796	Unidentified charcoal	Rampart 2	1475±55	cal AD 430–660
Clatchard Craig	GU-1797	Unidentified charcoal	Rampart 3	1470±60	cal AD 430–670
Clatchard Craig	GU-1798	Unidentified charcoal	Rampart 1	1400±55	cal AD 540–770
Clatchard Craig	GU-1795	Charcoal: <i>Quercus robur</i>	Rampart 1	1350±75	cal AD 550–870
Dundurn	GU-1042	Charcoal: <i>Corylus avellana</i>	Phase 2A wattle floor	1510±60	cal AD 420–650
Dundurn	GU-1043	Unidentified animal bone	Phase 1 below wattle floor	1435±65	cal AD 430–760
Dundurn	HAR-2519	Charcoal: <i>Corylus avellana</i>	Phase 2A wattle floor	1390±60	cal AD 540–780
Dundurn	HAR-2002	Charcoal: <i>Quercus robur</i>	Phase 2B rampart	1310±70	cal AD 610–890
Dundurn	HAR-2001	Charcoal: <i>Corylus avellana</i>	Phase 2B rampart	1260±70	cal AD 640–950
Dundurn	HAR-2000	Charcoal: <i>Corylus avellana</i>	Phase 2B rampart	1190±70	cal AD 680–990

¹Uncertain context—organic material taken from eroding material below rampart—could be old ground surface?

²It is not clear if this material derives from the same source as SUERC 15908 and 22160 or slightly later material contemporary with the occupation of the enclosures.

Figure S1. Radiocarbon dates for enclosed sites of Pictland.

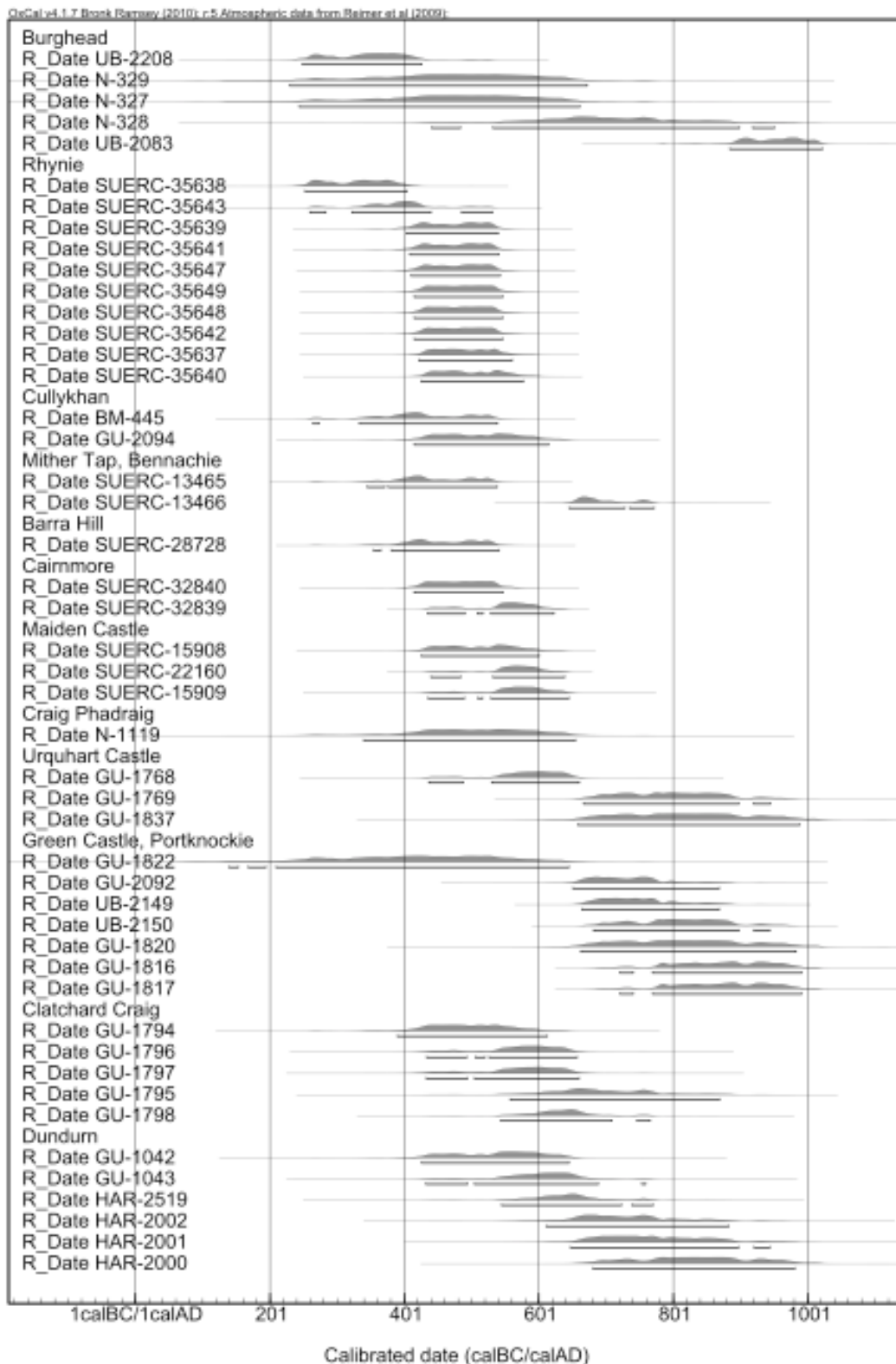
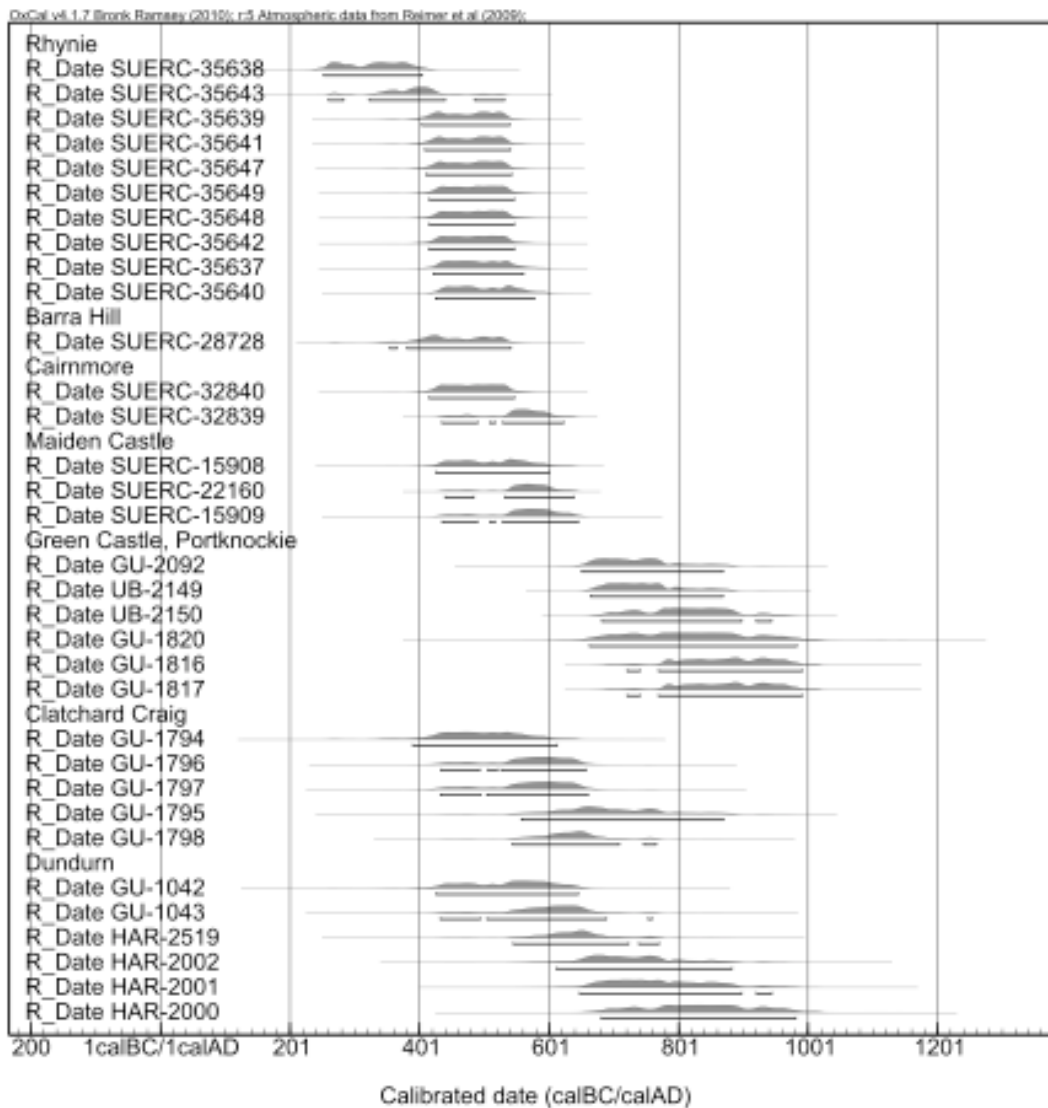


Figure S2. Refined radiocarbon dates for enclosed sites of Pictland.



ⁱ Alcock also excavated at a third Pictish site at Dunnottar Castle, but his excavations failed to locate any in situ early medieval deposits despite the existence of two historical references to a fort at this location. Alcock and Alcock 1992; Table 2.