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Mythe to Mitcheldean Mains Reinforcement, Gloucestershire

Charred Plant Remains

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MYTHE TO MITCHELDEAN, GLOUCESTERSHIRE: CHARRED PLANT REMAINS
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Introduction

A total of 47 samples were taken from features of Late Iron Age/Early Romano-British and Romano-British date during the excavation and were processed for the recovery of charred plant remains. On the basis of this assessment, a selection of 14 of these samples was made for full analysis. Six of these selected samples were from Late Iron Age/Early Romano-British Roundhouses A and B in Area D2, three were from Romano-British boundary ditches in Area D2, two from Romano-British ditches in Area D1 and three were from Romano-British boundary ditches in Area C.

Methods

The samples were processed using standard flotation methods with the flot collected on a 0.5mm mesh. For the nine samples selected for analysis samples all identifiable charred plant macrofossils were extracted from the flots, together with the 2mm and 1mm residues. Identification was undertaken using stereo incident light microscope at magnifications of up to x40 using a Leica MS5 microscope, following the nomenclature of Stace (1997) for wild species and the traditional nomenclature as provided by Zohary and Hopf (2000, Tables 3, page 28 and 5, page 65), for cereals. The results are presented in Tables 1 and 2.

Results

Late Iron Age/Early Romano-British

There are some variations between the assemblages from the six samples from Roundhouse A and Roundhouse B in Area D2, although they were all dominated by cereal remains. Charred grain fragments were more numerous in the assemblages from gully 975 group 322 and gully 971 group 324 in Roundhouse A, whereas chaff elements were predominant in the samples from gully 811 group 327 in Roundhouse A and ditch 936 and gullies 859 group 328 and 864 group 328 in Roundhouse B. The assemblages from gully group 328 were particularly chaff rich.

Hulled wheat, emmer or spelt (*Triticum dicoccum/spelta*), grain fragments were generally more numerous than those of barley (*Hordeum vulgare*). The majority of the glume bases identified to species were those of spelt wheat (*Triticum spelta*) but a few were those of emmer wheat (*Triticum dicoccum*).

Weed seeds were most numerous in the assemblages from Roundhouse A gully 811 group 327 and Roundhouse B gully 859 group 328. The assemblages included seeds of vetch/wild pea (*Vicia/Lathyrus* sp.), docks (*Rumex* sp.), oats (*Avena* sp.), brome grass (*Bromus* sp.) and meadow grass/cat's-tails (*Poa/Phleum* sp.). There were also smaller numbers of seeds of goosefoot (*Chenopodium* sp.), fat-hen (*Chenopodium album*), oraches (*Atriplex* sp.), stitchwort (*Stellaria* sp.), redshank/pale persicaria (*Persicaria lapathifolia/maculosa*), knotgrass (*Polygonum aviculare*), brassica (*Brassica* sp.), grass vetchling (*Lathyrus nissolia*), clover/medick (*Trifolium/Medicago* sp.), henbane (*Hyoscyamus niger*), ribwort plantain (*Plantago lanceolata*), red bartsia (*Odontites vernus*), bedstraw (*Galium* sp.), scentless mayweed (*Tripleurospermum inodorum*), wood-rush (*Luzula* sp.), common spike-rush (*Eleocharis palustris*), sedge (*Carex* sp.) and rye-grass/fescue (*Lolium/Festuca* sp.).

Other remains included fragments of hazelnut (*Corylus avellana*) shell, sloe (*Prunus spinosa*) fruit and stone fragments, hawthorn (*Crataegus monogyna*) stone fragments, hawthorn/sloe type thorns, bramble (*Rubus* sp.) seeds, elder (*Sambucus*

nigra) seeds, tubers of false oat-grass (*Arrhenatherum elatius* var. *bulbosum*) and grass stem and rootlet fragments.

Romano-British
Cereal remains were predominant in five of the eight samples from this period. These were the assemblages from boundary ditch 954 in Area D2, boundary ditch 628 group 302 in Area D1 and from boundary ditches 1114 group 200 and 1111 group 203 in Area C. Very few weed seeds were recorded in the assemblages from Area C. Within these assemblages, chaff was more numerous than grain in those from boundary ditches 954 and 628 group 302, and one of them from boundary ditch 1114 group 200, while grain was dominant in the other sample from boundary ditch 1114 group 200 and the sample from boundary ditch 1111 group 203.

Within the cereal remains, as was seen in the assemblages from Late Iron Age/Early Romano-British features, hulled wheat was predominant with a small amount of barley also present. Again the majority of the identified to species glume bases were those of spelt wheat with a few of emmer wheat.

The assemblages from boundary ditch 816 group 321 were dominated by hedgerow/scrub elements including hawthorn stone fragments, sloe stone fragments and hazelnut shell fragments. Whereas the assemblages from drainage ditch 607 group 315 (part of ditch 316) included more weed seeds of species typically found in grassland, field margins and arable environments.

The weed seed assemblages included seeds of goosefoot, docks, vetch/wild pea, bedstraw, oats and brome grass. There were also smaller numbers of seeds of buttercup (*Ranunculus* sp.), small nettle (*Urtica urens*), oraches, campions (*Silene* sp.), knotgrass, sheep's sorrel (*Rumex acetosella*), grass vetchling, clover/medick, field madder (*Sherardia arvensis*), scentless mayweed, common spike-rush, rye-grass/fescue and meadow grass/cat's-tails noted.

There were also a number of grass stem/rootlet fragments, particularly from boundary ditch 954, tubers, including those of false oat-grass and hawthorn/sloe type thorns.

Discussion
Hulled wheat and barley remains were present in the charred cereal assemblages from both periods across all three Areas with those of hulled wheat being predominant. There was more spelt wheat in the samples although remains of emmer were also recovered. Typically spelt wheat is the dominant wheat over much of England during the Romano-British period (Greig 1991). A several remains of emmer wheat were recovered, together with those of spelt wheat and barley, from a few Middle to Late Iron Age and Romano-British deposits at Church Road, Bishop's Cleeve (Lovell *et al* 2007). Whereas although the plant assemblages from a few Romano-British deposits from a site south-east of Tewkesbury also contained cereal remains of hulled wheat and barley, the only glume bases identifiable to species from this site were those of spelt (Stevens 2004).

The assemblages from both Late Iron Age/Early Romano-British and Romano-British deposits on the site where cereal remains were predominant and glumes outnumbered grains are likely to be indicative of waste derived from the dehusking of hulled grain stored as semi-cleaned grain or in spikelet form (Hillman 1981; 1984). In contrast, the assemblage recovered from Romano-British drainage ditch 607 group 315 (part of ditch 316) may be more reflective of crop-processing waste from an earlier stage of processing when the crops when the crops had been harvested,

threshed and winnowed, and coarse and fine sieved in preparation for drying prior to storage as semi-clean grain or spikelets.

The weed seeds are generally those recovered from grassland, field margins and arable environments in the assemblages from both the Late Iron Age/Early Romano-British and Romano-British deposits. There is the indication of the use of some sandier soils, as shown by the small presence of henbane and sheep's sorrel, some heavier clay soils, as indicated by the few seeds of red bartsia, and some wetter environments, as favoured by common spike-rush and sedge, together with the lighter drier soils. A similar pattern of growing crops on a range of soil types was seen from a number of the assemblages from Bishop's Cleeve (Lovell *et al* 2007) and from near Tewksbury (Stevens 2004).

The large number of hawthorn stones recovered from boundary ditch 816 group 321 may be indicative of the exploitation of wild food resources during this period, whereas the presence of sloe/hawthorn thorns and twigs is likely to be a result of using this hedgerow material as fuel. The occurrence of grass stem and root fragments together with a number of tubers may point to the occasional burning of turfs.

References

Greig, J.R.A., 1991. The British Isles. In Van Zeist, W, Wasylikowa, K. and Behre, K-E. (eds) *Progress in Old World Palaeoethnobotany*, 299-334. Balkema, Rotterdam

Hillman, G.C. 1981 Reconstructing crop husbandry practices from charred remains of crops, In R.J. Mercer, (ed.), *Farming Practice in British Prehistory*, 123-162 . Edinburgh, Edinburgh University Press,

Hillman, G. 1984 Interpretation of archaeological plant remains, The application of ethnographic models from Turkey, In W. van Zeist and W.A. Casparie (eds), *Plants and Ancient man: Studies in the palaeoethnobotany*, Proceedings of the 6 th symposium of the international work group for Palaeobotanists, 1-42. Rotterdam, A.A. Balkema,

Lovell, J., Timby, J., Wakeham, G. and Allen, M.J., 2007 Iron Age to Saxon Farming Settlement at Bishop's Cleeve, Gloucestershire: excavations south of Church Road, 1998 and 2004, Trans. Bristol Gloucestershire Archaeol. Soc. 125, 95-129

Stace, C, 1997. *New flora of the British Isles (2nd edition), Cambridge*: Cambridge University Press.

Stevens, C.J., 2004, 'Charred plant remains', in Walker, G., Thomas, A. and Bateman,C., 'Bronze-Age and Romano-British Sites to the South-East of Tewkesbury.Evaluations and Excavations 1993-7', *Trans. Bristol Gloucestershire Archaeol. Soc.* 122, 29-94

Zohary, D, and Hopf, M, 2000 *Domestication of plants in the Old World: the origin and spread of cultivated plants in West Asia, Europe, and the Nile Valley*, 3rd edition, Clarendon Press, Oxford

Table1 Charred Plant Remains from Late Iron Age/Romano-British Features

Area		D2					
Phase		Late Iron Age/Early Romano-British					
Group		Roundhouse A			Roundhouse B		
Group Number		322	324	327		328	328
Feature Type		Gully	Gully	Gully	Ditch	Gully	Gully
Feature		975	971	811	936	859	864
Context		977	972	812	937	861	866
Sample		30	36	23	24	25	28
Vol (L)		18	17	39	36	18	18
Flot size		200	150	375	120	225	150
Roots %		7	25	10	5	5	3
Cereals	**Common Name**						
Hordeum vulgare L. *sl* (grain)	barley	4	1	5	1	2	5
Hordeum vulgare L. *sl* (rachis frag)	barley	-	-	-	-	4	-
T. cf. dicoccum (Schübl) (glume base)	emmer wheat	2	-	5	-	4	6
T. cf. *dicoccum* (Schübl) (spikelet fork)	emmer wheat	-	-	-	-	1	1
Triticum spelta L. (glume bases)	spelt wheat	4	5	11	3	92	40
Triticum spelta L. (spikelet fork)	spelt wheat	-	-	-	-	1	2
Triticum dicoccum/spelta (grain)	emmer/spelt wheat	2	3	4	1	16	7
T. dicoccum/spelta (spikelet fork)	emmer/spelt wheat	2	4	16	2	55	24
T. dicoccum/spelta (glume bases)	emmer/spelt wheat	21	33	90	42	970	388
Cereal indet. (grains)	cereal	9	20	40	9	54	12
Cereal frag. (est. whole grains)	cereal	25	28	45	17	35	25
Cereal frags (culm node)	cereal	-	-	-	-	-	2
Other Species							
Corylus avellana L. (fragments)	hazel	-	2 (<1 ml)	7 (<1 ml)	1 (<1 ml)	2 (<1 ml)	1 (<1 ml)
Chenopodium sp.	goosefoot	-	1	1	-	5	1
Chenopodium album L.	fat-hen	-	-	-	-	-	1
Atriplex sp. L.	oraches	1	-	-	-	3	2
Stellaria sp. L.	stitchwort	-	-	1	-	-	-
Persicaria lapathifolia/maculosa (L.)	redshank/pale	1	2	-	-	1	2

Area		D2					
Phase		Late Iron Age/Early Romano-British					
Group		Roundhouse A			Roundhouse B		
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Feature Type		Gully	Gully	Gully	Ditch	Gully	Gully
Feature		975	971	811	936	859	864
Context		977	972	812	937	861	866
Sample		30	36	23	24	25	28
Gray/Gray	persicaria						
Polygonum aviculare L.	knotgrass	-	-	-	-	1	-
Rumex sp. L.	docks	2	4	6	2	15	-
Brassica sp. L.	brassica	2	2	3	-	2	1
Rubus sp. L.	brambles	1	-	-	-	-	-
Prunus spinosa	sloe stone	-	-	1	-	-	-
Prunus spinosa	sloe stone + fruit	-	1	1	-	-	-
Prunus spinosa/ Crataegus monogyna (thorns/twigs)	hawthorn/sloe thorns	5	-	2	-	9	2
Crataegus monogyna Jacq.	hawthorn	1	-	-	1	-	-
Vicia L./*Lathyrus* sp. L.	vetch/pea	11	10	53	2	4	-
Lathyrus cf. nissolia L.	grass vetchling	1	1	2	-	-	-
Medicago/Trifolium sp. L.	clover/medick	-	1	1	-	1	2
Hyoscyamus niger L.	henbane	-	-	-	-	-	1
Plantago lanceolata L.	ribwort plantain	-	-	-	-	1	-
Odontites vernus	red bartsia	-	-	-	-	6	-
Galium sp. L.	bedstraw	1	1	3	-	-	-
Sambucus nigra L.	elder	-	-	-	-	1	-
Tripleurospermum inodorum (L.) Sch. Bip.	scentless mayweed	-	-	-	-	1	-
Luzula sp.	wood-rush	-	-	1	-	2	-
Eleocharis cf. *palustris* (L.) Roem. & Schult.	common spike-rush	-	-	1	-	-	1
Carex sp. L. flat	sedge flat seed	-	-	-	-	-	1
Poaceae culm node	grass	-	-	-	1	-	-
Lolium/Festuca sp.	rye-grass/fescue	-	-	-	-	2	-
Poa/Phleum sp. L.	meadow grass/cat's-	-	-	1	1	13	4

Area		D2					
Phase		Late Iron Age/Early Romano-British					
Group		Roundhouse A			Roundhouse B		
Group Number		322	324	327		328	328
Feature Type		Gully	Gully	Gully	Ditch	Gully	Gully
Feature		975	971	811	936	859	864
Context		977	972	812	937	861	866
Sample		30	36	23	24	25	28
	tails						
Arrhenatherum elatius var. *bulbosum* (Willd)	false oat-grass	-	-	-	-	1	-
Avena sp. L. (grain)	oat grain	-	-	3	-	3	1
Avena sp. L. (awn)	oat awn	1	-	2	-	4	-
Avena L./*Bromus* L. sp.	oat/brome	3	3	5	1	13	3
Bromus sp. L.	brome grass	-	-	3	1	8	2
Monocot. Stem/rootlet frag		5	2	9	3	8	10
Parenchyma		-	-	-	2	-	3
Tuber		-	-	1	-	1	-

Table 2 Charred Plant Remains from Romano-British Features

Area		D2			D1		C		
Phase		Romano-British							
Feature Type		Boundary ditches				Drainage ditch	Boundary ditches		
Group Number			321	321	302	315 (=316)	200	200	203
Feature		954	816	816	626	607	1114	1114	1111
Context		814	817	817	628	636	1117	1120	1113
Sample		41	16	16a	3	1	54	60	50
Vol (L)		39	10	10	35	16	17	9	18
Flot size		250	120	110	175	60	175	60	150
Roots %		15	20	15	15	20	3	3	3
Cereals	**Common Name**								
Hordeum vulgare L. *sl* (grain)	barley	2	-	-	1	1	-	1	-
Hordeum vulgare L. *sl* (rachis frag)	barley	-	-	-	-	-	-	-	-
T. cf. dicoccum (Schübl) (glume base)	emmer wheat	2	-	-	-	-	-	-	2
T. cf. *dicoccum* (Schübl) (spikelet fork)	emmer wheat	-	-	-	1	1	-	-	-
Triticum spelta L. (glume bases)	spelt wheat	18	-	-	3	1	-	1	3
Triticum spelta L. (spikelet fork)	spelt wheat	-	-	-	-	-	-	-	-
Triticum dicoccum/spelta (grain)	emmer/spelt wheat	3	-	-	3	2	2	-	3
T. dicoccum/spelta (spikelet fork)	emmer/spelt wheat	12	-	-	1	4	-	1	3
T. dicoccum/spelta (glume bases)	emmer/spelt wheat	170	-	1	39	20	5	6	34
Triticum sp. (grain)	wheat	-	1	-	-	-	-	-	-
Cereal indet. (grains)	cereal	17	-	1	6	10	6	1	14
Cereal frag. (est. whole grains)	cereal	30	-	-	16	7	4	4	30
Cereal frags (culm node)	cereal	3	-	-	-	-	-	-	-
Other Species									
Ranunculus sp.	buttercup	-	-	-	1	-	-	-	-
Urtica urens L.	small nettle	-	-	-	-	1	-	-	1
Corylus avellana L. (fragments)	hazel	2 (<1 ml)	2 (<1 ml)	-	-	-	1 (<1 ml)	-	4 (<1 ml)
Chenopodium sp.	goosefoot	2	-	1	-	10	-	-	-
Atriplex sp. L.	oraches	-	-	-	-	5	-	-	-

Area		D2			D1		C		
Phase		Romano-British							
Feature Type		Boundary ditches				Drainage ditch	Boundary ditches		
Group Number			321	321	302	315 (=316)	200	200	203
Feature		954	816	816	626	607	1114	1114	1111
Context		814	817	817	628	636	1117	1120	1113
Sample		41	16	16a	3	1	54	60	50
Silene sp. L.	campions	1	-	-	-	-	-	-	-
Polygonum aviculare L.	knotgrass	-	-	-	-	2	-	-	-
Rumex sp. L.	docks	5	1	1	2	30	-	-	1
Rumex acetosella group Raf.	sheep's sorrel	-	-	-	-	2	-	-	-
Prunus spinosa	sloe stone	-	-	2	-	-	-	-	-
Prunus spinosa	sloe stone + fruit	-	-	-	1	-	-	-	-
Prunus spinosa/Crataegus monogyna (thorns/twigs)	hawthorn/sloe thorns	3	-	-	-	-	-	-	-
Crataegus monogyna Jacq.	hawthorn	-	46	18	-	-	1	-	2
Vicia L./*Lathyrus* sp. L.	vetch/pea	13	1	-	3	19	1	1	1
Lathyrus cf. nissolia L.	grass vetchling	2	-	-	-	-	-	-	-
Medicago/Trifolium sp. L.	clover/medick	3	-	-	6	2	-	-	-
Sherardia arvensis L.	field madder	1	-	-	-	-	-	-	-
Galium sp. L.	bedstraw	2	12	4	-	4	-	-	1
Tripleurospermum inodorum (L.) Sch. Bip.	scentless mayweed	-	-	-	-	1	-	-	-
Eleocharis cf. palustris (L.) Roem. & Schult.	common spike-rush	1	-	-	1	1	-	-	-
Poaceae culm node	grass	-	-	-	-	1	4	1	-
Lolium/Festuca sp.	rye-grass/fescue	2	-	-	-	2	-	-	-
Poa/Phleum sp. L.	meadow grass/cat's-tails	4	-	-	-	2	-	-	-
Arrhenatherum elatius var. *bulbosum* (Willd)	false oat-grass	1	-	-	-	-	-	-	-
Avena sp. L. (grain)	oat grain	1	-	-	-	2	-	-	-
Avena sp. L. (awn)	oat awn	3	-	-	-	-	-	-	-
Avena L./*Bromus* L. sp.	oat/brome	3	-	-	2	5	3	-	3
Bromus sp. L.	brome grass	1	-	-	-	-	-	-	-
Monocot. Stem/rootlet frag		22	-	-	11	2	-	1	-

Area		D2			D1		C		
Phase		Romano-British							
Feature Type		Boundary ditches				Drainage ditch	Boundary ditches		
Group Number			321	321	302	315 (=316)	200	200	203
Feature		954	816	816	626	607	1114	1114	1111
Context		814	817	817	628	636	1117	1120	1113
Sample		41	16	16a	3	1	54	60	50
Parenchyma		-	-	-	-	-	-	1	-
Tuber		1	-	1	-	-	-	-	-

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