Archaeobotanical Report: Marcham, Oxfordshire (2001-2011).

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Site Name	Marcham, Oxfordshire
NGR	SU 43968 96219
Lat/Long	51.663039, -1.3657145
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Summary

101 flots were analysed for macrobotanical remains from the Marcham excavations. Plant remains were analysed spanning the site's Bronze Age through Early Saxon phases of occupation. Despite the ritual interpretation of many of the Iron Age features, the Iron Age dataset is reflective of domestic activity with multiple depositional pathways evident; beyond cereal grains and chaff dominated by spelt wheat and hulled barley, a diverse range of weeds (segetals), disturbance indicators (ruderals), grassland, and wetland taxa indicates the persistent engagement with different ecologies at the site. This varied sourcing of material implies that many of the features do not represent primary deposits, but secondary or tertiary mixed deposits, formed primarily through the incidental infilling of cut features. For the Roman period data are less rich overall, but a rich assemblage derives from the five samples taken from the Late Roman *favissa* pit within the temple's temenos wall. Early Saxon data is limited but shows barley cultivation continues in this period. A subsequent manuscript concerning this material is currently in preparation that will explore the interpretation of these results in further detail (Payne et al. in prep). Full raw data is available on University of Cambridge's Apollo digital repository: http://doi.org/10.17863/CAM.132053 (Payne 2026).

Materials and Methods.

The decade-long excavation at Marcham (2001–2011) produced a substantial archive of over 500 archaeobotanical samples, collected through judgement sampling by the excavation team. The material was processed on-site and held in storage at the Institute of Archaeology, Oxford, prior to being provided to the author for analysis. Full analysis of a subset of this material commenced in the spring of 2024. To produce a comprehensive dataset, 101 samples were ultimately selected for analysis. Selection was informed by site reports, context and flotation records, with priority given to rich samples identified during scanning, key archaeological features from the site, and otherwise for spatial/temporal coverage of the excavation areas and chronological periods.

A 50% sub-sample of each selected sample was collected using a riffle-box at the University of Oxford's Institute of Archaeology. Samples were sieved to 4 mm, 2 mm, 1 mm, 500 µm, and 300 µm fractions; the 300 µm fraction was scanned, the larger fractions were fully sorted. Analysis was carried out under low-power magnification (6.3–40x) at the Pitt Rivers Laboratory, University of Cambridge. Taxa were identified using the lab's modern reference collection and several reference texts (Cappers et al. 2023; Knörzer et al. 2007; Skilbeck et al. 2019). Taxonomy follows Stace (2019), except for cereals, which follow Zohary et al. (2016). Cereals were quantified by counting apical ends to avoid double-counting fragmented material; grain fragments were otherwise recorded but excluded from quantitative analyses. Chaff elements were counted individually; glume wheat spikelet forks were multiplied by two and added to glume base totals.

Note: as multiple sample numbers from the three excavation areas were repeated (e.g., <1.02> in both areas MFNA and MFP), the area code: MF, MFP, or MFNA has been added as a prefix to the sample codes for clarity (e.g., <1.02> from MFP becomes <MFP.1.02>).

Results.

Table 1. Summary of analysed features by phase and excavation area.

Phase	Excavation Area	Feature Type	No. of Samples	Feature and Layer Numbers
Iron Age	MFNA	Pits	8	F. 1067, 1026, 1074, 1142, 3036
	MFP	Pits	25	F. 1053, 2205, 2302, 3017, 3285, 3045, 3217, 4043, 4067, 4036, 4059, 4163, 4264, 4267, 4072, 4288, 5194, 6025, 6078, 6088
	MF	Pits	3	F. 14142, 14175, 36061
	MFP	Inhumations	9	F. 4232, 4167, 4272, 6027
	MF	Inhumations	4	F. 36104
	MFNA	Barrel-shaped enclosure ditch	2	F. 1014, 2070
	MFNA	Palisade ditch	1	F. 2009
	MF	Postholes	4	F. 2047, 2058, 36100, 36128
	MFP	Ditches	7	F. 1051, 1061, 2278, 3119, 5214, 6009, 6062.
	MF	Ditches	2	F. 3078, 3046.
	MFP	Deposit	1	F. 5245
IA / Roman	MFP	Ditches	3	F. 1002, F. 3040
	MFNA	Ditches	1	F. 1182
	MFNA	Hearths	1	F. 7099
	MF	Hearths	2	F. 15236, 39025
	MF	Dump Deposits	4	F. 22112
	MF	Disturbed layer	1	F. 22082
Roman	MF	*Favissa* pit	5	F. 14295/14232
	MF	Ritual Shaft	1	F. 36127
	MF	Deposits	7	F. 9197, 15182, 18080, 18202, 24072, 34028, 40054
	MF	Other Feature Types	4	F. 8542, 12002, 18293, 32033
Early Medieval	MFP	Sunken Feature Building	3	F. 6122, 6123
Undated	MF	All undated features	3	F. 1052, 2010, 8510

Iron Age Pits.

MFNA: *F. 1067, F. 1026, F. 1074, F. 1142 & F. 3036.*

35 of the samples analysed derived from Iron Age pit features. Pits excavated in trench 1 of the MFNA area produced some of the richest and most diverse plant remains seen at the site. Sample <MFNA.1.02>, from a fill of F. 1067, produced spelt wheat and barley grains, and 32 glume wheat glume bases. This sample also produced 12 *Spergula arvensis* (corn spurrey) seeds, an archaeophyte that grows as

an arable weed and in other open conditions (New 1961:209). Other segetal and ruderal taxa were recovered in the sample, including: *Chenopodium album, Polygonum aviculare*, *Fallopia convolvulus*, *Bromus*, and *Sherardia arvensis* (field madder). Wetland taxa included *Eleocharis* sp., trigonous *Carex* nutlet, *Juncus* sp., and *Montia fontana* subsp. *chondrosperma* (blinks). Sample <MFNA.1.04> a fill of pit F.1026, <MFNA.1.06> and <MFNA.1.08> both fills of pit F. 1074, produced similar compositions. However, < MFNA.1.04> and < MFNA.1.06> also produced *Buglossoides arvense* (field gromwell), a large-seeded Boraginaceae. Samples < MFNA.1.02> and < MFNA.1.06> both produced fungal sclerotia.

Sample < MFNA.1.12> produced the largest number of remains of the samples analysed (n = 651). This included a substantial amount of crop derived material including emmer (n = 2), spelt (n = 19), and hulled barley grains (n = 27; Figs. 1 and 2), and several indeterminate cereal grains (and numerous grain fragments). 214 glume wheat glume bases were identified, along with 57 barley rachises, and a single cereal-sized Poaceae culm node. Two *Tripleurospermum inodorum* (scentless mayweed) seeds, a segetal Asteraceae associated with sandy soils, were identified in this sample; along with several Apiaceae and Caryophyllaceae seeds. 31 *Rumex* sp. seeds were identified, in addition to a single *Polygonum aviculare* agg. (knotweed) seed. A single *Prunella vulgaris* (selfheal) seed, and numerous Poaceae and Fabaceae, are suggestive grassland conditions. While several taxa derived from wet conditions were identified. These included, *Eleocharis* sp., both lenticular and trigonous *Carex* spp. nutlets, and a single *Juncus* sp. (rush). Nine *Corylus avellana* (hazel) nutshell fragments were recovered, alongside two fungal sclerotia, the latter suggestive of at least some degree of subterranean input into the assemblage.

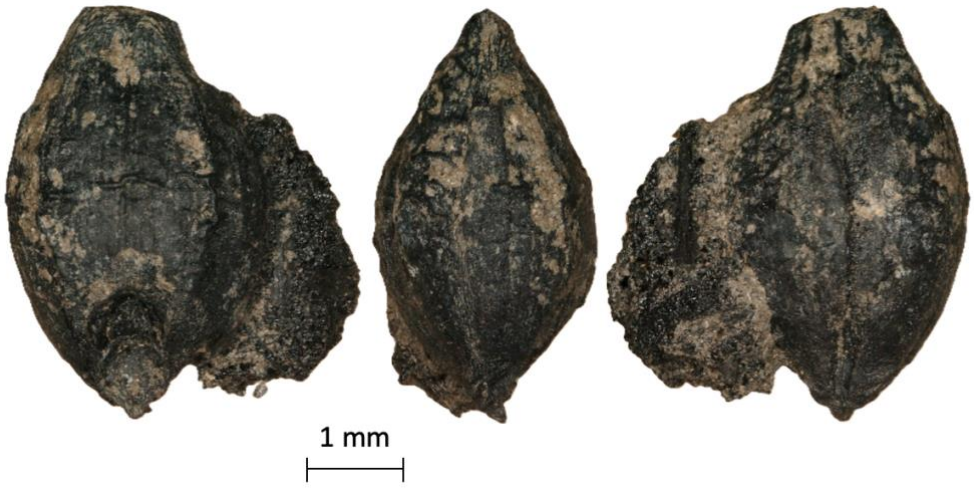


Fig. 1 *Hordeum vulgare* (hulled barley), sample < MFNA.1.12> from the fill of pit F. 1142.

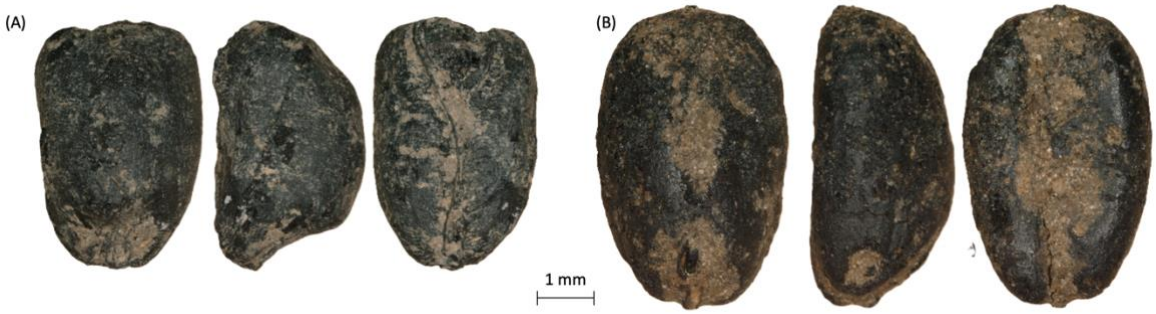


Fig. 2 (A) *Triticum turgidum* subsp. *dicoccum* (emmer wheat) and (B) *Triticum aestivum* subsp. *spelta* (spelt wheat), from Iron Age pits in MFNA area.

Three of these sampled pit fills, <MFNA.1.02>, < MFNA.1.12>, and < MFNA.1.13>, produced calyces of *Trifolium arvense* (hare's-foot clover). This taxon is common on bare ground with sandy soils (Stace 2019:189). While they cannot be taken to species level, medick/clover seeds and other indeterminate small Fabaceae were common across the pit fills in this area.

> **MFP:** *F. 1053, F. 2205, F. 2302, F. 3017, F. 3285, F. 3045, F. 3217, F. 4043, F. 4067, F. 4036, F. 4059, F. 4163, F. 4264, F. 4267, F. 4072, F. 4288, F. 5194, F. 6025, F. 6078 & F. 6088.*

Area MFP produced numerous samples of pit fills as well. 25 samples from 22 of the pits were analysed. Low quantities of spelt and barley were common in most samples, with the occasional barley rachis recorded and variable levels of glume bases, ranging from 2 glume bases in sample <MFP.1.07> from pit F. 1053 to

Wild taxa were broadly equivalent across these samples, and included: common Avena sp., *Bromus* sp., *Vicia/ Lathyrus*, *Trifolium/ Medicago*, and Amaranthaceae,

Galium aparine, *Malva* sp., and *Rumex* sp. identifications; a single *Buglossoides arvense* seed in sample < MFP.6.18 bag2>, *Eleocharis* sp. in < MFP.2.19> from pit F. 2205 and < MFP.4.8> from F. 4288, lenticular and trigonous *Carex* nutlets in sample < MFP.6.18 bag1> from pit F. 6088. *Galium palustre* was identified in sample < MFP.3.12a> from pit F. 3017, and a seed of the parasitic *Euphrasia/ Odontites* grassland taxa in sample < MFP.6.1> from pit F. 6025. Rhizome/tubers were identified in two samples, < MFP.2.19> and < MFP.4.46>, F. 2205 and F. 4043 respectively. While there is some variation between the quantity and diversity of remains in these samples, the overall character of the assemblages is broadly equivalent in the area and to those from area MFNA.

MF: *F. 14142, F. 14175, & F. 36061.*

Samples from several Iron Age pits were also analysed from area MF. Pit F. 14142, sample <MF.14.43>, and pit F. 14175, sample < MF.14.47>, were both situated inside the later Roman temple's temenos wall, whereas pit F. 36061, sample < MF.36.18> was situated outside the late Roman shrine to the east of the main temple and temenos. These pits produced occasional spelt wheat and barley grains. <MF.14.43> produced abundant glume bases (n = 59), whereas < MF.14.47> and < MF.36.18> produced only 8 and 4 glume bases respectively. Overall, < MF.14.43> produced the most diverse assemblage of wild flora from the sampled pits in this area, including *Avena* sp., *Bromus* sp., *Vicia/ Lathyrus*, *Trifolium/ Medicago*, Amaranthaceae, *Silene* sp., Eleocharis sp., *Carex* sp., *Montia fontana* subsp. *chondrosperma*, *Plantago lanceolata*, *Galium aparine*, Rumex sp., and *Fallopia convolvulus*. This sample also produced a single *Arrhenatherum elatius* swollen basal culm internode and an indeterminate charred fruit. While sample < MF.36.18> produced a *Malva* sp. seed, amongst other commonly identified wild taxa, sample < MF.14.47> produced nothing beyond a single *Fallopia* and several Poaceae caryopsis fragments. No remains from these pits imply ritual function, despite their later spatial associations.

Iron Age Inhumations.

MFP: *F. 4232, F. 4167, F. 4272 & F. 6027.*

Thirteen samples deriving from five inhumations were analysed. In area MFP, sample <MFP.4.47> from the grave fill (4224) of F. 4232 (associated with inhumation SK25) produced emmer, spelt, and hulled barley grains, in addition to 41 glume wheat glume bases and two barley rachis fragments. The accompanying wild flora was dominated by common ruderal and grassland indicators, including *Chenopodium album*, *Plantago lanceolata*, *Lolium/Festuca* sp., and *Bromus* sp., alongside trace occurrences of *Eleocharis* sp., *Sherardia arvensis*, and *Galium aparine*. Conversely, samples < MFP.4.63> (F. 4167, SK27) and < MFP.4.76> (F. 4272, SK26) produced very small assemblages. Sample < MFP.4.76> did produce 2 tuber-like swollen basal culm internode of *Arrhenatherum elatius*, and a further indeterminate rhizome/tuber fragment. Sample < MFP.4.63> yielded only three indeterminate grains, four glume bases, and rare *Rumex* and *Galium* seeds, while sample < MFP.4.76> contained a single barley grain, three glume bases, and one *Montia fontana* seed.

Also from MFP, samples <MFP.6.01>, < MFP.6.03>, < MFP.6.04>, < MFP.6.05>, < MFP.6.06>, and < MFP.6.07> were taken from different areas of fill 6026 within grave cut F. 6027, associated with inhumation SK 24. These samples produced several spelt and barley grains, together with a small number of spelt glume bases and a monocot stem fragment. Wild taxa were relatively sparse and included *Rumex* sp. (docks), *Polygonum aviculare*, *Galium aparine*, and *Urtica urens*. Sample < MFP.6.01> produced the highest taxonomic richness and was derived from the largest volume of processed sediment, 8 litres.

MF: *F. 36104*

In area MF four samples <MF.36.23>, < MF.36.25>, < MF.36.27>, and < MF.36.28> derived from fills of grave cut F. 36104, associated with inhumation SK19; this inhumation was situated just outside a late Roman-period small square shrine. These samples produced spelt grains and a small number of Hordeum grains, alongside 43 Triticum glume bases and two barley rachis fragments distributed across the contexts. The wild taxa present included *Vicia/Lathyrus*, Amaranthaceae fruits, Caryophyllaceae seeds, and Cyperaceae nutlets. Individual samples also yielded trace occurrences of *Montia fontana* subsp. *chondrosperma*, *Fallopia convolvulus*, *Polygonum aviculare*, *Avena* sp., and other various large (>2 mm) and

small (<2 mm) Poaceae caryopses. This selection of material is broadly reflective of secondary deposition seen in other Iron Age inhumations and cut features; there is no evidence of intentionally deposited material that might be associated ritual function proposed for the brunt stones seen in this feature.

Iron Age Barrel-Shaped Enclosure Ditch.

MFNA: *F. 1014 & F. 2070*

Two samples were analysed from fills of the large barrel-shaped enclosure ditch, sample <MFNA.1.09> from F. 1014 and < MFNA.2.01> from a later re-cutting of the ditch F. 2070. Both samples produced glume wheat glume bases. Sample < MFNA.1.09> produced four spelt grains alongside six unidentified grains and 17 glume bases, whereas sample < MFNA.2.01> produced a single hulled barley grain, and a single barley rachis.

Sample <MFNA.1.09> produced a large *Vicia sativa* (common vetch) seed; while verging on pea-sized the large hilum supports the vetch identification, and a slightly smaller less well-preserved *Vicia* cf. *sativa* was present in the same fraction. 10 additional smaller *Vicia / Lathyrus* sp. seeds were also recovered in this sample.

This sample also included several plausibly weedy taxa, an oat (Avena sp.), soft-/rye-brome (*Bromus hordeaceus/secalinus*), corn-spurrey seed (*Spergula arvensis*), ivy-leaved speedwell (*Veronica hederifolia*), and a knotweed (*Polygonum aviculare* agg.). Several wetland taxa, including spike-rush (*Eleocharis* sp.) and a lenticular sedge (*Carex* sp.) were also present. A single elderberry (*Sambucus nigra*) was recovered suggesting at least some degree of woodland/hedgerow input, an indeterminate bud was also identified. These remains broadly replicate the mixed composition of other features on the site and cannot be directly connected to ritual activity associated with this feature. Sample < MFNA.2.01> only produced a single legume family and bedstraw (*Galium* sp.) seed, being substantially more species poor than the other sample.

Iron Age Inner Palisade Ditch.

MFNA: *F. 2009.*

One sample, <MFNA.2.03>, from the palisade ditch within the barrel-shaped enclosure ditch was also analysed. This sample produced a sparse assemblage of cereal grains (spelt and barley, but most indeterminate), spelt glume bases, and several wild taxa including *Vicia/ Lathyrus* sp., *Trifolium/ Medicago* sp., and Poaceae fragments.

Other Iron Age Ditches.

MF: *F. 3078 & F. 3046.*

Samples from the Iron Age ditches in area MF, sample < MF.3.01> from F. 3046 and sample <MF.3.02> from F. 3078, produced sparse assemblages. Sample < MF.3.02> produced four barley grains and five *Triticum* glume bases, while sample < MF.3.01> produced only two cereal grains. Wild flora in these samples included a single Vicia / Lathyrus, an *Atriplex* sp., and three *Galium* sp. seeds. Sample < MF.3.02> also produced a *Corylus avellana* nutshell fragment. While sparse, this material aligns with the broad site character.

MFP: *F. 1051, F. 1061, F. 2278, F. 3119, F. 5214, F. 6009 & F. 6062.*

Sample <MFP.1.11> from ditch F. 1051 produced a sparse assemblage of eight glume bases and a single barley rachis, and two Poaceae caryopsis fragments. The remaining ditches in the MFP area produced small (n = <10) counts of spelt and hulled barley, with larger amounts of *Triticum* glume bases, and in <MFP.3.07> and <MFP.5.07> each produced a single rachis. Sample <MFP.2.2> from ditch F. 2278, produced a single *Vicia* cf. *sativa* (possible common vetch), and low numbers of *Vicia/Lathyrus* sp. and *Trifolium/ Medicago* sp. seeds were present in most of these samples, as were Amaranthaceae.

Samples <MFP.1.09> and < MFP.1.1> both derived from the v-shaped ditch F. 1061, fills [1062] and [1088] respectively. Both samples produced abundant *Triticum* glume base (n = 47 and 90), minimal wheat grains, a range of wild taxa. <MFP.1.09> produced two *Medicago* / *Trifolium* seeds, three Amaranthaceae seeds, a single seeds of each, *Rumex, Polygonum aviculare*, *Fallopia convolvulus*, *Bromus*, and *Lolium* / *Festuca*, and frequent Poaceae caryopsis fragments. < MFP.1.1> produced only a single *Galium* sp. seed, five *Avena* caryopses, several other full Poaceae, frequent Poaceae caryopsis fragments, and two charred nutshell fragments.

Sample <MFP.5.07> from ditch F. 5214 produced eight *Buglossoides arvense* (field gromwell), archaeophyte weeds associated with arable fields and other open habitats (Stace 2019:585), this species produces robust, silica-rich, seeds that are likely to persist even under intense charring conditions. This sample produced a range of other wild taxa: including *Fallopia convolvulus*, a dozen *Galium aparine*, 22 additional *Galium* sp., *Malva* sp., *Ranunculus* subgen. *Ranunculus, Persicara lapathifolia/maculosa*, and numerous large and small Poaceae caryopses and caryopsis fragments. A small wetland component is also evidenced by a single lenticular *Carex* nutlet and two *Persicaria amphibia* seeds. Sample <MFP.3.07> from ditch F. 3119, also produced a single *Buglossoides arvense*, alongside a *Thlaspi arvense* (field penny-cress) seed, ten *Rumex* sp., four *Bromus* sp., two *Galium aparine*, and numerous other Poaceae seeds and fragments. Samples from these ditches were otherwise broadly reflective of wider site-level assemblage composition.

Iron Age Postholes.

MF: *F. 2047, F. 2058, F. 36100 & F. 36128*

Four samples from Iron Age postholes in area MF – <MF.2.2> (F. 2047), < MF.2.02> (F. 2058), < MF.36.24> (F. 36100), and < MF.36.32> (F. 36128) – produced sparse assemblages. Cereal remains were limited to small quantities of barley and occasional wheat grains and chaff, while the wild flora consisted of a minimal suite of ubiquitous taxa such as *Chenopodium* sp., *Galium* sp., and occasional *Carex* spp. No distinct concentrations or unique taxa were identified.

Sample < MF.36.32> from posthole F. 36128 produced five *Crataegus monogyna* (hawthorn) stones (Fig. 3). Although the charred specimens were smaller than modern reference material, the morphology of this species is distinctive. While possibly representing burnt waste from gathered foodstuffs, this deposit is equally likely to represent waste associated with brushwood cut from *Crataegus* trees growing in the vicinity of the site.



Fig. 3 *Crataegus monogyna* (hawthorn) stone.

Iron Age Summary.

The archaeobotanical evidence from the Iron Age features suggests that the site's botanical profile is characterised by a pervasive mixed-environment signal rather than by distinct, feature-specific activity signatures. As shown in Table 2, all major Iron Age feature groups contain a recurring combination of segetal, ruderal, grassland, and wetland taxa. This broad ecological consistency persists despite considerable taphonomic variability and the inherently heterogeneous nature of the sampled deposits, indicating the widespread incorporation of occupation-derived sediment and refuse. Pit assemblages from the MFNA and MFP areas are particularly rich and contain the greatest diversity and abundance of taxa, while pit features within the MF area are generally richer than other MF feature types but less diverse and abundant than the pit assemblages from MFNA and MFP. However, these deposits are distinguished primarily by taxonomic richness rather than composition, drawing upon the same ecological spectrum observed elsewhere on the site. The widespread occurrence of wetland indicators, particularly *Carex* spp. and *Eleocharis* sp., further demonstrates the persistent influence of the surrounding river-valley across the site's archaeobotanical record.

Although minor differences in taxonomic richness occur between feature types, these variations are best explained by differences in feature morphology, depositional histories, and taphonomic processes rather than by discrete functional activities. The slightly more restricted assemblages recovered from the inhumations, for example, likely reflect the rapid infilling of grave cuts and the smaller volume of sediment sampled, whereas pits accumulated larger quantities of comparable material over longer periods. Notably, while the barrel-shaped enclosure, associated palisade, and inhumation burials have been interpreted as features of possible ritual significance, the archaeobotanical assemblages from these contexts are compositionally similar to those from more clearly utilitarian features and do not provide independent evidence for specialised depositional practices. The inhumations still contain representatives of the principal ecological groups identified elsewhere on the site, including arable, grassland, and wetland taxa, and therefore do not exhibit a distinctive botanical signature.

Consequently, the Iron Age assemblages appear to represent differing expressions of a common anthropogenic background signal, with individual features reflecting a heterogeneous sample of mixed secondary/tertiary occupation derived material.

Table 2. Summary of wild taxa in Iron Age feature group and broad ecological group.

Broad Group	Taxa	MFNA Pits	MFP Pits	MF Pits	MFP and MF Inhumations	MFNA Barrel-Shaped Enclosure Ditch and Palisade Ditch	MFP Ditches	MF Ditches	MF Postholes
Segetal/ Arable	*Avena* sp.	•	•	•	•	•	•		
	Bromus sp.	•	•	•	•	•	•		
	Buglossoides arvense	•	•				•		
	Fallopia convolvulus	•	•	•			•		•
	Galium aparine	•	•	•	•		•		•
	Sherardia arvensis	•				•			
	Spergula arvensis	•				•			
	Thlaspi arvense						•		
	Tripleurospermum inodorum	•							
	Veronica hederifolia					•			•
Ruderal/ Disturbance	*Atriplex* sp.	•	•					•	•
	Chenopodium album	•	•				•		•
	Persicaria lapathifolia/maculosa	•	•				•		
	Polygonum aviculare	•	•		•	•	•		
	Utrica urens		•		•				
Grassland	*Euphrasia/Odontites*	•	•						
	Lolium / Festuca sp.	•	•		•				
	Plantago lanceolata			•					
	Prunella vulgaris	•							
	Ranunculus subgen. *Ranunculus*	•					•		
	Trifolium arvense (calyx)	•							
	Trifolium/Medicago	•	•	•	•	•	•		
	Vicia/Lathyrus	•	•	•	•	•	•	•	•
	Vicia sativa					•			
Wetland/ Damp Ground	*Carex* spp.	•	•	•	•	•	•		•
	Eleocharis sp.	•	•	•		•	•		•
	Galium palustre		•		•				•
	Juncus sp.	•							
	Montia fontana subsp. *chondrosperma*	•		•	•	•			

Broad Group	Taxa	MFNA Pits	MFP Pits	MF Pits	MFP and MF Inhumations	MFNA Barrel-Shaped Enclosure Ditch and Palisade Ditch	MFP Ditches	MF Ditches	MF Postholes
	Persicaria amphibia		•				•		
	Stellaria palustris				•				
Woodland	*Corylus avellana*	•	•					•	•
	Crataegus monogyna								•
	Sambucus nigra					•			
Subterranean	*Arrhenatherum elatius* (swollen basal culm internode)			•	•				•
	Rhizomes/Tubers		•		•				
	Fungal sclerotia	•							

Note: Table excludes identifications with broad ecologies and family-level identifications.

Iron Age / Roman Ditches.

MFNA: *F. 1197*

One sample, <MFNA.1.11>, was analysed from a fill of the Late Iron Age/Roman ditch F. 1182. This sample produced several poorly preserved cereal grains, 17 Triticum glume bases, and a single *Hordeum* rachis. Wild taxa in this ditch fill were limited to larger seeded weeds common across the site, *Bromus* sp., *Vicia/Lathyrus*, *Galium aparine*, and *Fallopia convolvulus*.

MFP: *F. 1002 & F. 3040*

Two samples, <MFP.1.02> and <MFP.1.05>, from a fill [1003] of an Iron Age ditch F. 1002, and one sample, <MFP.3.01>, from a fill [3041] of Iron Age/Roman ditch F. 3040. Although both sample <MFP.1.02> and <MFP.1.05> derived from F. 1003, sample <MFP.1.05> was richer and more diverse, though their overall character was similar and reflective of deposit heterogeneity. Sample <MFP.1.02> produced single *Chenopdium album* and *Euphrasia/Odontites* seeds, while <MFP.1.05> produced *Prunella vulgaris*, *Malva* sp., *Avena* sp., *Bromus* sp., and other large Poaceae, and a Monocotyledon stem fragment. Sample <MFP.3.01> produced a few spelt and barley grains, and 46 *Triticum* glume bases, and wild taxa including: *Medicago / Trifolium* sp., *Malva* sp., *Galium aparine*, *Veronica hederifolia*, *Euphrasia/Odontites*, and a possibly modern *Euphorbia helioscopia*.

Iron Age / Roman Dumped Hearth Deposit.

MF: *F. 22112.*

Four samples, < MF.22.39>, <MF.22.41>, < MF.22.42a>, and < MF.22.42b>, from disturbed Iron Age/Roman dumped hearth deposits, F. 22112. Cereals were limited in these samples with only indeterminate cereal grains present and no chaff present. Sample < MF.22.39> produced the most diverse assemblage, including possible common vetch, seven vetch/vetchling seeds, three *Trifolium/Medicago* sp., and five small Fabaceae seeds. The sample also produced five Amaranthaceae seeds and a *Corylus avellana* nutshell fragment. Sample < MF.22.42a> from this same fill [22103] produced only two identifiable seeds.

From the second sampled deposit [22121] of dump F. 22112, Bromus *hordeaceus/ secalinus* is present in sample < MF.22.41b>, with small (<2mm) Poaceae caryopses and Poaceae seed fragments present across various samples. Samples < MF.22.41b> and < MF.22.39> both produced tubers, possibly deriving from turf in the hearth. The material produced in these assemblages was limited.

Iron Age / Roman Disturbed Deposit.

MF: *F. 22082*

Sample <MF.22.37> collected from the disturbed deposit within a Roman building produced 10 poorly preserved cereal grains, and a single *Medicago* / *Trifolium* sp. seed and a large Poaceae caryopsis.

Iron Age / Roman Hearth inside Temple's Temenos Wall.

MFNA: *F. 7099*

Sample <MFNA.7.01> produced a small assemblage from the fill associated with an Iron Age / Roman hearth situated inside the temple's temenos wall. This sample produced a small number of barley grains, and glume wheat glume bases. Most of the wild plants recovered were Amaranthaceae (n = 17), with six small Fabaceae seeeds, two *Rumex* sp. seeds, and a nutshell fragment.

Roman *Favissa* Pit.

MF: *F. 14295/14232.*

Five samples (<MF.14.66>, < MF.14.65>, < MF.14.69>, < MF.14.70>, < MF.14.71>) from the *Favissa* pit were analysed. This feature was dated to the 3rd and 4th centuries AD. The samples produced largely comparable assemblages with some variation. One of the more unique components of this assemblage is the abundance of dock (*Rumex* sp.) seeds; samples < MF.14.66> & < MF.14.65> yielded 128 and 130 dock seeds respectively. While these remains cannot be reliably taken beyond genus, a single well preserved *Rumex conglomeratus* (clustered-dock) perianth was recovered from sample < MF.14.65> (Fig. 4 [A]). This short-lived perennial species is associated with seasonally flooded meadows and wet grasslands. An additional

Rumex sp. perianth was also identified, but poor preservation prevented it from being taken to species level.



Fig. 4 (A) *Rumex conglomeratus* (clustered dock) perianth and (B) *Rumex* sp. seed, both from *Favissa* Pit.

Indeterminate buds were present in several samples, and sample < MF.14.70> contained a well-preserved ash (*Fraxinus excelsior*) bud. Other woodland or hedgerow macrofossils included 15 elderberry (*Sambucus nigra*) seeds distributed across samples < MF.14.65> and <MF.14.66>, as well as charred fruits, roughly elderberry size, were identified in samples <MF.14.70> and <MF.14.71>. *Corylus avellana* nutshell fragments occurred in the samples. Wild flora consistent with other deposits from both phases of the site were identified in multiple samples, including *Veronica hederifolia*, *Galium aparine*, *Eleocharis* sp., *Carex* sp., and *Silene* sp.. Seven false *Arrhenatherum elatius* swollen basal culm internodes were identified in samples < MF.14.65>.

Large macrofossils identified as conifer needles were recovered from samples < MF.14.66>, <MF.14.65>, and <MF.14.71>. Based on gross morphology, all taxa save for yew (cf. *Taxus baccata*) present in the Pitt Rivers reference collection have been excluded. These remains were examined via low-powered magnification and using scanning-electron microscopy (SEM); however, diagnostic surface texture seen in modern reference specimens were obscured by the high temperature charring of these remains (Figs. 5 and 6). Specimens that were split prior to and through post-charring depositional processes did possess internal structure consistent with conifers including *Taxus* sp. (Fig. 7). These identifications must remain tentative.



Fig. 5 Charred conifer leaf, tentatively identified as cf. *Taxus baccata* (Yew).

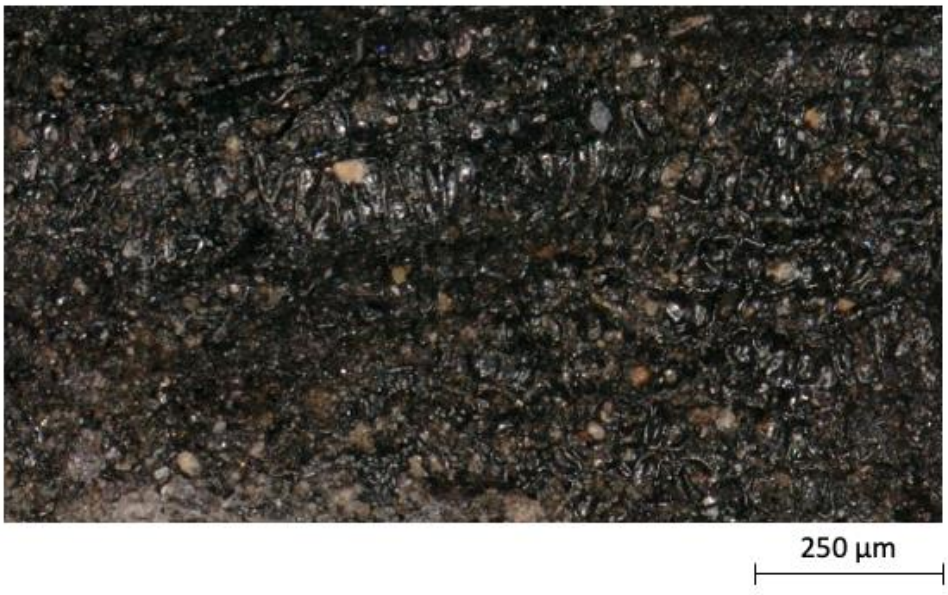


Fig. 6 Charred conifer leaf, tentatively identified as cf. *Taxus baccata* (Yew), cropped and zoomed to show remnants of surface texture.

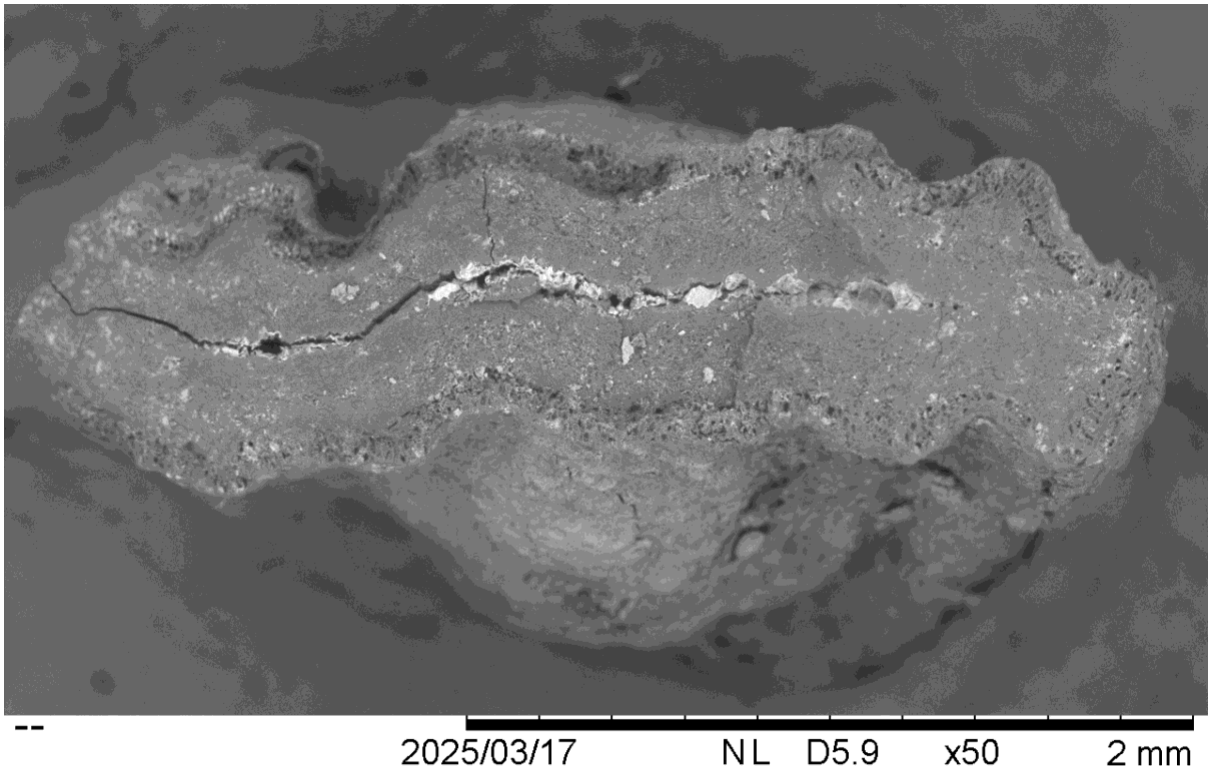


Fig. 7 SEM cross-section of conifer leaf, cf. *Taxus baccata* (yew).

Charred cereal remains in the *Favissa* pit were limited to indeterminate grains showing high temperature charring and four poorly preserved *Triticum* glume bases.

Roman Ritual Shaft inside a small stone shrine.

MF: *F. 36132*.

The assemblage in sample < MF.36.33> from the fill of a ritual shaft inside a small square shrine structure, F. 36132, was very sparse. A single indeterminate cereal grain was recovered, alongside several wild seeds: mallow (*Malva* sp.), small Fabaceae, and small (<2 mm) Poaceae seeds. None of this material would appear to relate directly to use of the shrine and likely represents general background accumulation on the site.

Other Roman Features.

MF: *F. 8542, F. 12002, F. 18293 & F. 32033*

The remaining sampled features include the arena's stone drain F. 8542 (<MF.8.59>), the fill of a depression F. 12002 (<MF.12.01>), probable hearth F.

18293 (<MF.18.61>), and small pit or posthole F. 32033 (<MF.32.01>). Not surprisingly, the two negative features, depression F. 12002 and post-packing F. 32033, produced the richest assemblages from this group.

Roman Deposits.

MF: *F. 9197, F. 15182, F. 18080, F. 18202, F. 24072, F. 34028, & F. 40054*

While its sample number was missing from the flot bag, the sandy deposit F. 9197 produced no cereal grain but 77 *Triticum* glume bases and a single barley rachis. Wild taxa in this sample were limited to single Fabaceae and *Rumex* sp. seeds, and several Poaceae fragments.

Sample <MF.15.15> from a burnt deposit [15182] produced twelve barley grains and fifteen indeterminate cereal grains alongside a single *Triticum* glume base.

Sample <MF.18.63>, brown soil deposit F. 18080, produced no cereal grains or chaff but did provide a familiar assemblage of wild taxa: Amaranthaceae, *Rumex* sp., *Carex* sp., *Eleocharis* sp., *Veronica hederifolia*, and *Polygonum aviculare*. This sample also produced 32 fragments of *Corylus avellana* (hazel) nutshell, including multiple large fragments in the 4mm fraction; while occasionally encountered in other deposits across the site, hazel nutshell was most abundant in this deposit.

Compacted soil F. 18202, dump deposit F. 24072, and dark layer context F. 34028, produced very sparse assemblages of a few cereal grains and scattered weed seeds.

The burnt deposit < MF.40.11> (F. 40054) produced small quantities of cereal grain and chaff alongside Fabaceae, occasional weed seeds, and Poaceae caryopsis fragments.

Waterlogged Archive.

Roman samples with potential for waterlogged preservation were processed prior to this author's analysis, with the resulting finds having become dewatered and degraded in the intervening years. This previously processed waterlogged assemblage contained spelt grain, blackberry (*Rubus fruticosus* agg.), fig (*Ficus carica*), grape (*Vitis vinifera*), and box (*Buxus sempervirens*) leaves; and while the

site's entry on the Rural Roman Settlement Project database also included waterlogged flax (*Linum usitatissimum*; Allen et al. 2015), these specimens were not present and likely have become separated from the rest of the material in the intervening decade. And while it was impossible to identify the exact features where these samples came from due to fading of labels, the outer bag clearly states that some of the material, at least, derives from the Roman drain feature.

Roman Summary.

The Roman assemblage is broadly consistent with the Iron Age material, but with lower quantities of material overall (Table 3). This difference is likely linked to abundance of cut Iron Age features favouring more substantial incidental accumulations of material. The Roman *favissa* pit is the obvious disruption to this pattern; producing several unique taxa and other taxa, principally *Rumex* at uniquely high quantities compared to sampled features from this period. *Favissa* pits were used on Romano-British temple sites as secure and sacred areas where votive material including burnt offerings from altars could be redeposited. As seen in table 3, this feature produced a taxa indicative of a wide range of ecologies. No imported non-local food stuffs – as seen present in the waterlogged material – were identified in this feature, plausibly this was the result of a preservation bias, but grapes and figs do occur in the charred record of Roman Britain; instead, it seems that the *favissa* pit was associated, from a botanical perspective, on the selection and deposition of local materials. While the hazel nutshell, ash bud, elderberry seeds, and possible yew leaves may have been incorporated alongside brushwood used for fuel; the large number of docks seeds, and the clustered dock perianth, would also suggest local vegetation intentionally collected and burnt or redeposited in this feature. Stace (2019:479) attributes this taxon to damp places, often near ponds or rivers, or damp open ground, though Schou et al. (2023:574-575) also notes that while generally associated with at least seasonally damp ground that this species can occur on drier disturbed ground.

Table 3. Summary of wild taxa in Roman features.

Broad Group	Taxa	*Favissa* Pit	Shrine Ritual Shaft	Other Roman Features
Segetal/Arable	*Avena* sp.	•		
	Galium aparine	•		
	Veronica hederifolia	•		•
Ruderal/ Disturbance	*Polygonum aviculare*			•
	Urtica urens	•		
Grassland	*Euphrasia/Odontites*	•		•
	Trifolium/Medicago	•	•	•
	Vicia/Lathyrus	•	•	•
Wetland/ Damp Ground	*Carex* spp.	•		•
	Eleocharis sp.	•		•
	Rumex conglomeratus (perianth)	•		
Woodland	*Corylus avellana*	•		•
	Fraxinus excelsior (bud)	•		
	Sambucus nigra	•		
	cf. *Taxus* sp.	•		
Subterranean	*Arrhenatherum elatius* (swollen basal culm internode)	•		
	Rhizomes/Tubers			•
	Fungal sclerotia	•		

Early Medieval Features.

MFP: *Sunken Featured Building upper and lower cuts F. 6123 & F. 6122*

Three samples from Early Medieval feature in area MFP were analysed, this feature is dated to the Early Saxon period. Sample <MFP.6.14> derives from the fill of the outer and upper cut 6123 of the sunken featured building F., whereas samples < MFP.6.12 > and < MFP.6.13> derive from the fills of the inner and lower cut F. 6122 of the Sunken Featured Building. Barley was identified in all three samples, alongside several poorly preserved indeterminate cereal grains. Highly eroded glume bases were identified: one in sample <MFP.6.14> and one in sample <MFP.6.12> were identified. As glume wheats are generally considered to quickly have declined in importance following the end of the Roman period, it is possible that these represent residual remains reworked into these features; the poor-state of preservation might support this interpretation.

Wild taxa were rare compared to many of the earlier features. Seeds of dock, and a single oat and a single brome were present, alongside several small, poorly preserved legume seeds. Sample < MFP.6.13>, however, produced a *Corylus avellana* (hazel) nutshell fragment (Fig. 8).



Fig. 8 Charred *Corylus avellana* (hazel) nutshell fragment from MFP.6.13.

Discussion.

Crops.

Three crops are recorded in the charred plant assemblage at Marcham: barley, emmer wheat, and spelt wheat. Barley grains are often clearly hulled and occasionally twisted, suggesting hulled six-row barley was being grown at the site (Fig. 1). Barley occurs across all site phases.

While *Triticum* grain identification is well known to be problematic (Jones 1998), several grains had a distinctive 'hump' and were much smaller than the rest of the assemblage; these have here been classified as emmer wheat (Fig 2). These emmer grains occurred only in three samples from features associated with Early or Early/Middle Iron Age ceramics.

Much of the *Triticum* grain recovered has been classified as spelt wheat. These grains were larger and more robust than those identified as emmer, though a

diverse range of spelt morphologies are noted, including drop-shaped, ovate, flat, and elongated types. Spelt occurs across the Iron Age and Roman deposits.

Barley rachises occurred in 20 samples, always fewer than *Triticum* glume bases; since barley rachises turn to ash more quickly and at lower temperatures than the more resilient glume bases (Broadman and Jones 1990), this basis is expected. The *Triticum* chaff was generally poorly preserved though what could be identified was typical of spelt. Several culm fragments were also recorded, several were cereal-sized, while others were smaller monocots, likely other grasses.

Assemblage Formation.

Although the barrel-shaped enclosure, its associated palisade and other Iron Age features may have served a ritual function, the archaeobotanical record does not support the presence of primary, context-specific ritual deposits within Marcham's Iron Age sequence. Instead, the assemblages consistently reflect the diffuse anthropogenic signal associated with everyday occupation. The archaeobotanical composition of samples from these features, comprising a mixture of segetal (arable), ruderal, grassland, and wetland taxa, appears to represent a persistent component of the surface sediment that was subsequently incorporated into negative features during episodes of infilling. The Iron Age inhumations reflect these same signals. Consequently, these deposits capture a homogenised sample of tertiary mixed material derived from daily activities occurring at the site (see, Fuller et al. 2014).

The frequent occurrence of subterranean material across the samples analysed is suggestive of some material originating from a non-arable pathway. While many tubers/rhizomes are not identifiable, the swollen basal culm internodes of *Arrhenatherum elatius* (false oat-grass)[1] can be identified to species. These remains are strongly suggestive of turf-cutting: the extraction of a block of top-soil containing subterranean material, roots, tubers, rhizomes, and the swollen basal culm internodes of *A. elatius,* along with the contemporary seed bank and surface level vegetation is extracted. Turf was likely procured within the river-valley

[1] Note that while often referred to as tubers, these are corm-like swollen basal culm internodes (Stace 2019:1065).

landscape in the site's immediate hinterland. This pattern of floodplain exploitation is not confined to the Iron Age as grassland and wetland taxa and subterranean components occur also in Roman contexts, indicating that engagement with the river-valley environment remained a continuous feature of land use throughout the occupation sequence. The occurrence of fungal sclerotia in several of the samples supports this interpretation.

Despite the substantial reorganisation of the settlement during the transition from the Iron Age to the Roman period, the archaeobotanical record demonstrates remarkable continuity at Marcham. With the notable exception of the Late Roman *favissa* pit, the charred assemblages from both periods appear to derive from the inadvertent incorporation of material generated through routine settlement activities rather than from discrete depositional events. This continuity in ecological composition across the Iron Age–Roman transition suggests that the resource catchment remained broadly stable throughout the occupation sequence. The principal change within the charred record is the absence of emmer from Roman contexts, reflecting a shift in agricultural practice rather than depositional behaviour. The *favissa* pit is exceptional in this regard, representing an intentional and curated deposit that contrasts markedly with the broadly distributed occupation-derived material that characterises the remainder of the assemblage. The charred character of the *favissa* assemblage is consistent with the pit receiving material from repeated burning episodes associated with ritual practice at the temple. A significant component of this feature's assemblage is in the near-total exclusion of the routine agricultural material ubiquitous across other charred contexts at the site, despite the abundance and deliberate selection of locally available wild taxa.

The contrast between the charred assemblages and the previously recorded waterlogged plant remains, which include fig, grape, and box leaves, highlights the importance of taphonomic processes in shaping the archaeobotanical record. Whereas the charred assemblages are dominated by agricultural products and by-products associated with routine settlement activities, the waterlogged remains provide evidence for the use and deposition of imported plant resources, linked to Roman-period activity in the vicinity of the temple complex. Their absence from the

charred record is most plausibly explained by differential preservation rather than a lack of consumption. Together, these datasets suggest that the charred assemblages largely reflect long-term background patterns of occupation and land use, whereas the waterlogged remains capture more specific episodes of Roman-period activity and deposition.

The three Early Medieval samples from area MFP are too sparse to characterise agricultural activity in this period beyond the continued presence of barley. The eroded glume bases recovered from these features are most likely residual from earlier deposits rather than representative of post-Roman glume wheat cultivation.

A note on *Galium* identifications.

Galium is a diverse genus of the Rubiaceae that is commonly encountered on British archaeological sites. At Marcham, three distinctive morphologies of *Galium* (bedstraws) nutlets have been identified in the analysed samples (Fig. 9). The most common was *Galium aparine* (cleavers; Fig. 9 [B]), which occurred in 23 samples. *G. aparine* is an annual native to Britain that is associated with arable fields, hedgerows, and other open ground (Stace 2019:574). While this arable association is generally the default interpretation of archaeological *G. aparine*, modern habitats also highlighted shaded and unshaded tall-herb plant communities in hedgerows and along riverbanks (Grime et al. 2007:318); suggesting more diverse occurrence was certainty possible in the archaeological past, and that this arable default may be potentially misleading. These nutlets were rather large, globose, and possessed the distinctive elongated epidermal cells of the seed coat (Khalik et al. 2008:4,12).

In three Iron Age cut features (pit F. 3017, inhumation F.4232, and posthole F. 36128) single specimens of *Galium palustre* were identified. Morphologically, these nutlets possessed the oblong opening, a sub-globose shape, and five-or six-sided polygonal epidermal cells; following Khalik (et al. 2008) this best fits *G. spurium* but *G. palustre* was not included in their analysis. These specimens do, however, align well with the drawing of *G. spurium* in Bieniek (1999:150) and modern reference material. *Galium palustre* is a native perennial associated with damp habitats (Stace 2019:573), while *Galium spurium* is considered a neophyte, having been introduced to Britain sometime after 1500 CE, associated with arable cultivation

(Stace 2019:574). Stevens and Fuller (2019:27) have already raised the complexities of *Galium* identification and note that *G. spurium* is known from archaeobotanical assemblages in Europe from at least the Bronze Age. However, given the morphology and wider wetland ecological input seen in Marcham's assemblage, a *G. palustre* identification is favoured here.



Fig. 9 (A) *Galium*-type 3, (B) *Galium aparine* (cleaver), and (C) *Galium palustre* (marsh-bedstraw).

The *Galium*-type 3 identification is indeterminate. Within the Pitt Rivers reference collection only two species, *G. aparine* and *G. tricornutum* (corn cleaver), and the non-*Galium* Rubiaceae *Rubia peregrina* (wild madder), are large enough for

consideration, though size can be a problematic criterion. These specimens lack the distinctive elongated epidermal cells of the seed coat noted in the identified *G. aparine*, suggesting they may represent a different species.

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