

Regional patterns in bog body distribution - a case study from the UK

Stevens, Jessica; Chapman, Henry

DOI:

[10.1080/14732971.2019.1707402](https://doi.org/10.1080/14732971.2019.1707402)

License:

Other (please specify with Rights Statement)

Document Version

Peer reviewed version

Citation for published version (Harvard):

Stevens, J & Chapman, H 2020, 'Regional patterns in bog body distribution - a case study from the UK', *Journal of Wetland Archaeology*, vol. 19, no. 1-2, pp. 131-153. <https://doi.org/10.1080/14732971.2019.1707402>

[Link to publication on Research at Birmingham portal](#)

Publisher Rights Statement:

This is an Accepted Manuscript of an article published by Taylor & Francis in *Journal of Wetland Archaeology* on 09/01/2020, available online: <https://www.tandfonline.com/doi/full/10.1080/14732971.2019.1707402>

General rights

Unless a licence is specified above, all rights (including copyright and moral rights) in this document are retained by the authors and/or the copyright holders. The express permission of the copyright holder must be obtained for any use of this material other than for purposes permitted by law.

- Users may freely distribute the URL that is used to identify this publication.
- Users may download and/or print one copy of the publication from the University of Birmingham research portal for the purpose of private study or non-commercial research.
- User may use extracts from the document in line with the concept of 'fair dealing' under the Copyright, Designs and Patents Act 1988 (?)
- Users may not further distribute the material nor use it for the purposes of commercial gain.

Where a licence is displayed above, please note the terms and conditions of the licence govern your use of this document.

When citing, please reference the published version.

Take down policy

While the University of Birmingham exercises care and attention in making items available there are rare occasions when an item has been uploaded in error or has been deemed to be commercially or otherwise sensitive.

If you believe that this is the case for this document, please contact UBIRA@lists.bham.ac.uk providing details and we will remove access to the work immediately and investigate.

Regional patterns in bog body distribution – a case study from the UK

Jessica Stevens and Henry Chapman*

*Corresponding author

Department of Classics, Ancient History and Archaeology, University of Birmingham

ORCID: 0000-0002-6033-3945 (Stevens)

ORCID: 0000-0001-8677-7950 (Chapman)

Abstract

Recent decades have seen an unprecedented increase in the levels of information obtained from bog bodies, primarily through the re-assessment of remains held within museum collections. Whilst this has been the case for better-preserved individuals, for the vast majority of bog bodies there has been very little detailed analysis. Consequently, these other examples, often existing only as ‘paper bodies’, remain less visible within debates about interpretation. This paper presents the results of an examination of all known bog bodies found across England, Wales and Scotland and argues that a geographical approach provides very different outcomes compared with focusing on the well-preserved bodies in collections. We highlight that previous assumptions about the predominant dates of bog bodies are misleading, that there are significant sub-regional patterns in the data, and that correlation between body date and the date of discovery provides a likely reason for this bias.

Keywords: bog bodies, regional analysis, chronology

Introduction

Bog bodies are known from across north-western Europe and are characterised by their burial context. As noted by van der Sanden, they are “an elastic concept, comprising both mummies and skeletons, with the shared characteristic that they have both survived in a matrix of undecomposed plant remains” (van der Sanden 2013, 401). They are typically considered to be a phenomenon that centres on the later prehistoric period, as supported by recent dating programmes (e.g. van de Plicht *et al.* 2004, Mannering *et al.* 2010, Nielsen *et al.* 2018), although the full range extends from the Mesolithic, such as Koelbjerg Man from Denmark (Hansen *et al.* 2017, 50), to examples from World War II (van der Sanden 2013, 404).

A characteristic of the fleshed bog bodies is that they hold the potential for providing considerably more forensic information compared with skeletons. As such, numerous examples have undergone detailed analyses of factors including trauma, diet (including final meal), and disease and, more recently, patterns of movement (through isotopic analysis). This has included a number of examinations following excavation (e.g. Stead *et al.* 1986, Turner and Scaife 1995; Baueroschse *et al.* 2018) and significant re-examinations of bodies curated in museum collections (e.g. Gill-Robinson 2005; Asingh and Lynnerup 2007; Nielsen *et al.* 2018). Other analyses have extended the focus on the body to explore their wider landscape context (e.g. Bermingham and Delaney 2006; Chapman 2015; van Beek *et al.* 2019; Chapman *et al.* in press) although these have also concentrated on the better-known, well-preserved bodies.

The emphasis on the better-preserved, fleshed bodies is not surprising since these remains hold the greatest potential for providing detailed information relating to the lives and deaths of these individuals. However, these represent the minority of known bog bodies. Even if we consider caution in relation to the vast number of bodies recorded by Alfred Dieck (1965, 49), other catalogues

indicate many hundreds of individuals. For example, subsequent catalogues have identified at least 130 individuals from Ireland (Ó Floinn 2006, 217), over 140 from England, Scotland and Wales (Turner 1995), over 30 from the Netherlands and perhaps 120 from Germany (Eisenbeiß 2003, 149; Gebühr 2002, 9), with many more from Denmark and other parts of Scandinavia. It has been estimated that the total number might be as many as two thousand (Brothwell and Gill-Robinson 2002).

The focus on the analysis of the best-preserved examples typically means that more recent discoveries are given more attention than earlier ones. At a generalised level, it is likely that earlier discoveries, if equated with higher stratigraphic positions within their peat bogs, represented more recent periods. If this is the case, then the apparent emphasis on later prehistoric bodies (see, for example, Mannering *et al.* 2010, Fig. 4) could be inaccurate.

In order to understand the potential bias in bog body research, an alternative approach would be to examine all known bodies from a region rather than to focus on the details of those that are better preserved and/or better studied. To do this, however, is problematic. Previous discoveries and 'paper bodies' that now exist only in documentary sources can present varying levels of certainty in terms of their archaeology as well as their location and date. With such a fragmented resource of varying quality, the integration can be challenging.

Bog bodies in England, Wales and Scotland – a case study

In order to investigate the regional pattern of all known bog body finds, irrespective of discovery date or state of preservation, bog bodies within England, Wales and Scotland provide a suitable case, and one that benefits from the previous development of catalogues of finds. The first major attempt to generate a catalogue was by Turner and Briggs (1986) which drew together sourced finds mentioned by Dieck alongside evidence from museum records, newspapers and local publications collected over a six-month period. The resulting catalogue included fifty sites from across England and Wales and sixteen from Scotland, together representing over 121 individual bodies (Turner and Briggs 1986, 181-189).

A subsequent gazetteer compiled a decade later (Turner 1995) transformed the previous one into a systematic format, including fields for discovery date, findspot, sex, preservation, associated artefacts, date, position, the individual's age and references, although numerous fields were not known. The core of the catalogue was unchanged compared with the earlier one, although there were several new additions (including discoveries made since 1986) and some removals following a more critical assessment of the evidence. For example, bodies that were found during river dredging were removed, as were those lacking in any evidence. The resulting catalogue contained ninety-six separate entries for England, seven for Wales and seventeen for Scotland, many of which recorded multiple individuals (Turner 1995). A subsequent analysis for Scotland has identified at least thirty-five additional individuals (Cowie *et al.* 2011).

Together, these gazetteers provided the foundation for a new catalogue for England, Wales and Scotland as a single unit; a region where detailed examination of bodies have only been carried out for one site – Lindow Moss in Cheshire (Stead *et al.* 1986; Turner and Scaife 1995). Within this catalogue, the earliest discoveries date to before 1600, but with the greatest frequency of finds occurring from the middle of the 19th century onwards. For the purposes of the study, a number of entries where human remains were inferred rather than identified, as in the case of the wooden coffins from Longside and Oban, were excluded. In contrast, a number of entries were expanded to represent numerous bodies when the catalogue only mentioned one, such as the Mownog

Ystratgwyn and Aberavon bodies (*cf.* Longley and Richards 2000, 92; Keith 1915). In some instances, misplacement of entries were corrected after checking the source material for each one. The resulting catalogue consists of 175 examples from across England, Wales and Scotland. Of these, only 40% had grid references, and so all other entries were ascribed positions based on existing information with the associated differing levels of precision recorded in the database.

Only fifty-four entries within the catalogue were classified in terms of chronology, leaving 70% without any indication of date. A detailed review of information contained within the source material for each entry provided an additional thirty-three dated entries on the basis of factors such as associated finds, providing a total of eighty-seven dated examples of the total corpus of 175. For the majority of the other finds, the lack of certainty and, for many, the lack of surviving remains means that additional dating will not be possible.

Geographical patterning

Despite the low precision of many of the locations of bog bodies, the overall distribution at the scale of the entire study region indicates particular clusters which each associate with areas of peatland. Bodies are mostly clustered within the Fenland region of eastern England and within central England, with far fewer in the Midlands and southern England. Bodies are present within Orkney and Shetland, with fewer examples on the northern and central mainland but a denser cluster around southern Scotland. Overall, five main groups can be identified (Figure 1).

Group 1 extends across the Scottish Highlands, Shetland, Orkney and Lewis, with a total of thirty bodies. The majority are situated on the islands and estuary locations rather than inland. Overall, elevations for the locations of these bodies range from 15m OD to 280m OD, with a mean of 80m OD, indicating a range of upland and lowland wetland locations. This variety is reflected in groups 2, 3 and 4. Group 2 focuses on the southern areas of Scotland which includes thirty-three human remains across both coastal areas and inland, reflected by elevations ranging from 0m OD to 502m OD, with a mean of 144m OD. Group 3 could be subdivided into the eastern area which includes nine bodies all found within the Humber region centred on the Rivers Trent and Ouse, and the western area of twenty-three remains, including Lindow Moss and examples from Yorkshire, Lancashire, and Clwyd. Overall, this group extends from 1m OD up to 530m OD, with a mean value of 76m OD. Group 4 includes the bog bodies from central and south Wales including ten remains from Commins, Dolfawr Fair, Mownog Ystratgwyn, Aberavon, and Gifron. Here, the elevation ranges from 2m OD to 242m OD, with a mean value of 96m OD. Finally, group 5 forms the most distinctive cluster with fifty-six bog bodies clustered around the Fenland region of eastern England. The most easterly four of these were associated with river contexts rather than bogs and are unlikely to be part of the same tradition. This is reflected in the elevations of the body locations, which contrast with other regions. Here, elevations of the body locations range from 0m OD to 29m OD, with a mean value of just 4m OD.

Of those bodies with associated chronological information, there is a distinct difference in terms of elevation between prehistoric and Roman period bodies on the one hand and Medieval and Post-Medieval bodies on the other. For the earlier bodies, despite an overall elevation range of between 0m OD and 337m OD, the mean value for their positions lies at 28m OD. In contrast, the lower range of Medieval and Post Medieval bodies, from 1m OD to 281m OD, provides a mean value of 104m OD. In essence, this implies a shift in the choice of location for the deposition of bodies across these two broad periods. Spatial patterning between these two periods (Figure 2) also indicates regional differences with earlier bodies dominant in northwestern England and the Fens, and later bodies dominating in Scotland and the Scottish Islands.

Chronology

Of the 175 bodies within the database, eighty-eight remain entirely undated, leaving eighty-seven with some chronological information. Of these, eighteen have been radiocarbon dated, and thirty-eight by artefact association, with the remainder indicated by factors including stratigraphic associations. The age range represented by these extends from the Neolithic through to the Post Medieval period. Of the earlier bodies, five can only be ascribed broadly to 'prehistory'. These examples were discovered between the mid-19th to mid-20th centuries and have no additional indication of date.

Neolithic

The earliest of the bog bodies date to the Neolithic period, although they are relatively rare with only six of the total number of dated bog bodies. These remains, from the four sites of Hartlepool Bay, Aberavon dock, Balgone, and Whixall Moss, demonstrate an interesting link to coastal areas in this period. Excluding the Whixall Moss remains, which may alternatively date to the Bronze Age period, all of these bog bodies are located in coastal areas with three residing in tidal peat deposit. If the Whixall Moss remains were reliably dated to this period they would be the only bog body to be found in a peat bog from the Neolithic period but currently the remains are dated using peat stratigraphy to the Neolithic or Bronze Age (Twigger and Haslam 1991, 743-758). Other themes present in the Neolithic sample are that only male remains have been discovered but as only two of the six remains have been sexed, this sample is too small to draw conclusions. There are no children nor evidence for violent deaths or clothing. The only finds associated with these bodies are the animal bones of Aberavon (Keith 1925, 58-9) and Balgone and the jet 'belt-fastener' associated with the latter (Cowie *et al.* 2011, 29).

Bronze Age

The Bronze Age period is much better represented in the national bog body sample with twenty-six remains recorded. The majority, 81%, of these bog bodies are located in the Fenland region of eastern England. The remaining five examples are located in northwestern England, and the north east in the case of the river Blythe remains which are in fact located in an alluvial deposit. With 69% of these remains preserved as complete skeletons it is surprising that such little modern research has occurred in the area (Healy and Housley 1992, 948-955). The proportions and groupings of these bodies in relation to biological sex is notable, with five female and three male adults. This is in stark contrast to the national picture for all sexed bodies where less than a third are female. Four females and two males were found in isolation with the remaining sexed individuals discovered in three groups. The three groupings of remains in the Fenland region were large, possible family units with one male, two females and three children discovered at Methwold Severals, a male adult and two children also in this area, and a female adult and two children at the nearby Methwold. These high numbers of children are also remarkable, with seven children here dating to this period with only two other examples in the country from other periods (and one undated). This pattern, identified solely around the Methwold area, is highly unusual and suggests a different approach to the bog burials in this area during the Bronze Age.

As for the Neolithic period, there is no evidence for violent deaths, and evidence for clothing is very limited. The only examples of preserved fabrics in this group is the deerskin cape from Scaleby Moss and a woollen cloth from Kentucky Farm, Pilling. This lack of clothing could, however, be accounted for by the preservative properties of this Fenland environment rather than the bodies being naked upon interment. This is supported through the fact that the two remains with soft tissue or hair

preserved, Scaleby Moss (Turner 1988) and Kentucky Farm (Turner 1995, 210), are the only two sites where fabrics have been found. The artefacts associated with these are most commonly tools and jewellery. A possible bronze awl was found with the Southerly remains, but this may also be a pin (Healy and Housley 1992). The three groups discussed previously were also discovered with tools including two awls, two scrapers and a flint flake but it is unclear, due to their small portable nature whether these tools were being carried at the point of accidental death or placed as a burial object. The Bronze rapier discovered at Catsholm island is more likely to belong to the latter group but its distance from the body casts doubt on its association to the body at all. Four of the Bronze Age remains were found with jet or amber jewellery beads associated with them: Kentucky Farm, Soham Fen, Southerly Fen and West Tofts. Of the two sexed examples it appears that these beads are solely associated with female remains. The West Tofts body is a rare example of a clearly intentional and wealthy coffined burial dating to the period with finds of a gold funnel, a coal mask, beads, and a faience cipher (Norfolk Historic Environment Record No. 5137).

Iron Age

The Iron Age period is less well-represented with seven individuals belonging to this period from the three sites of Fengate power station, Lindow Moss and Prestatyn. While the Lindow Moss remains are counted here as three remains this may in fact represent only two – if Lindow I and III and Lindow II and IV are each singular bodies (see Brothwell and Bourke 1995). Furthermore, as their radiocarbon dates straddle two periods they may also be Roman in date rather than Iron Age. Three of the seven remains are sexed, and all found to be male with one child, from Prestatyn, also dating to this period (Blockley 1989). The burial of the child was distinctive due to the fence of oak stakes that were constructed around it, marking it as an intentional burial. The example of Lindow Man falls in this category but represents the only violent death to be included. In terms of clothing and adornment, apart from Lindow II's fur armband (Budworth *et al.* 1986), the only other wearable objects found from this period is the broken shale bracelet found at Fengate. This bracelet was found with a boar's tusk; an unusual burial object whose purpose is unclear (Pryor 1991). The only other artefacts found in association with these bodies is the wide range of metalwork found with at the Fengate power station. These finds are problematic as the remains reside in an area of common ritual deposition during this period, so it is unclear whether the finds were deposited with the bodies or as a separate event.

Roman

The Roman period includes nine bog bodies including the Lindow Moss bodies which straddle both the Iron Age and Roman periods. The other sites represented include Worsley Moss, Amcotts Moor, the Sewage Works (Norfolk), Austwick common, and Grewelthorpe Moor. These remains are largely clustered around the northern areas of England. There are no children dating to this period. Eight of the nine remains here have been sexed, revealing six to be male and two as female. Two of the remains were discovered with only shoes preserved in terms of clothing while another preserved as a full body of clothing and shoes. A fourth was discovered with leather fragments but the preservation was not complete enough to suggest its original form. Other artefacts are unusual here with only fragments of flint and glass from Prestatyn, and sherds of Samian ware pottery from the Sewage Works. The only example of burial artefacts dating to this period is the two stones found marking the Austwick Common bog body (Denny 1870). The violent death of Lindow II is well reported (e.g. West 1986) but its similarities to the less researched Worsley Moss body (Giles 2009) is notable. Both of these remains were discovered with garrottes made from animal sinew or tendon, but the brutal death of Lindow II is not as visible in the remains of Worsley Moss. While

Worsley Moss suffered fractures to the skull and decapitation, these injuries probably occurred post-mortem.

Medieval

The Medieval period includes eight bog bodies from Jubilee Tower, Mownog Ystratgwyn, Springhill, and the bank of the river Bure. All four of these sites reside in coastal areas of the country but not directly in seafront locations. While the river Bure skull is included here its alluvial context means it is not a true bog body and its date may in fact belong in the Post Medieval period. There are no child remains dating to this period and the five sexed individuals are divided into three males and two females. Two of the Medieval bog bodies were found clothed with the Springhill body discovered wearing linen clothing and a pair of shoes (Henshall 1952), the Jubilee tower clothing is a much simpler woollen shroud, found with three white feathers (Ryder 1977). There is no evidence for violent death within this period. In terms of burial objects white hazel rods and wooden coffins were used at the Mownog Ystratgwyn site to contain the bodies or mark the graves while stones were placed on top of the legs of the body at Springhill.

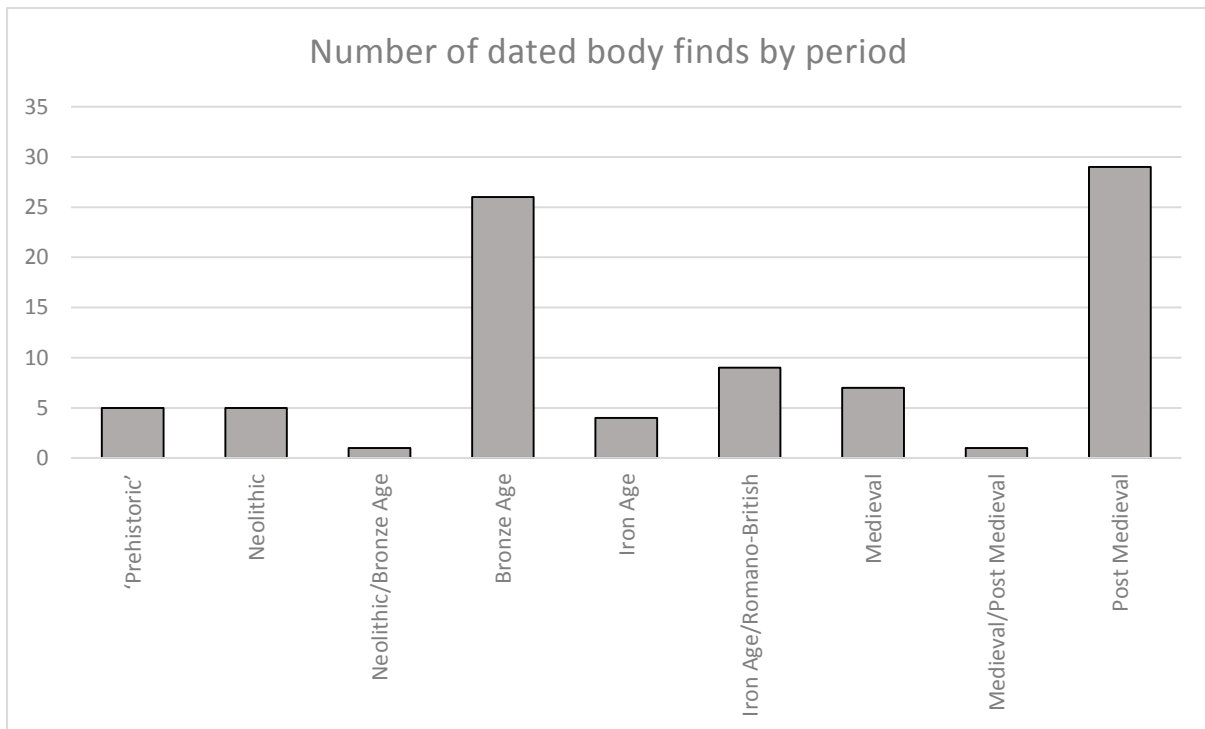
Post Medieval

The Post Medieval group is the largest of the dated period in Britain with thirty individuals. These include remains from the sites of Solway Moss, Hope Moors, Dava Moor, Culrain, Clayton hill, Quintfall hill, Birsay, Huntsgarth, Gunnister, Bressay, Greenhead Moss, Arnish Moor, and the possible Post Medieval remains of the River Bure. The Bressay coffined bodies make up twelve of these thirty bodies and are all included here despite that at least seven of these twelve coffins were discovered empty. Despite the vagueness of the literature regarding these bodies at least one complete and true bog body can be identified in the group. It is due to the poor recording of the Bressay and Culrain groups that, of the thirty remains dating to this period, only eight have been sexed. These eight have been identified as six males and two females all discovered in isolation bar the male and female couple of Hope Moor. This lack of research into these bodies is not because they are poorly preserved, and therefore not worth researching, as ten of these remains were discovered with soft tissue preserved and seventeen skeletal remains were complete or near complete skeletons. The remains of one child were discovered dating to this period but the preservation was so poor that only the child's dress and a few hairs were found, along with an adult male's bonnet placed on top of the burial (Henshall 1969). An unusually high number of the remains in this period were preserved with clothing in place. Seventeen of the thirty bodies were discovered with a range of clothing including a suit of armour, coats, bonnets, doublets, trousers, a dress and a collection of shoes. It is from this abundance of clothing that most of these remains are dated and as such they have been discussed in detail previously. Personal possessions were much less commonly discovered with these bodies as besides the wooden buttons discovered with a Bressay coffin and the Greenhead remains, and only the two remains of Gunnister and Arnish Moor held other objects. These two bodies were found with a wide array of objects including a wooden tub, a horn and plug, a knife handle, a horn spoon, quills, wool, a comb, and a horn spoon. Twelve Post Medieval individuals were buried in coffins, but this high number is only represented by one site. Two sites, Bressay and Clayton Hill, possessed stone slabs on top of the bodies. While Clayton Hill demonstrated multiple undecorated slabs directly on one body, the two Bressay examples were of singular stones found higher up the peat strata and marked with what is presumed to be the name of the deceased. The use of birch sticks in these burials occurs at three sites, Dava Moor, Gunnister, and Greenhead Moss with the first two discovered with a singular stick and Greenhead Moss with five sticks. Evidence of a violent death is present in five of the thirty remains. Blows to the head were the identified cause of death with the Quintfall Hill and Arnish Moor remains. Slashing of the shoes

and bonnet of the Greenhead Moss remains have been suggested to demonstrate a violent death (Mann 1937). Clayton Hill and Gunnister were both found with cords or rope. The Clayton Hill remains were found with a length of twisted cord consistent with hanging but missing small bones mean this cannot be verified as the cause of death (Tarrant 2001). Three shorter lengths of rope consistent with binding were found with the Gunnister remains but as they were not in place binding him on discovery this also cannot be verified (Henshall and Maxell 1952).

Patterns in chronology

The range of bodies discovered from England, Wales and Scotland reveal some challenging information in relation to chronology. Contrary to previously observed patterns across Europe (e.g. van de Plicht *et al.* 2004, Mannering *et al.* 2010), the most numerous finds from England, Wales and Scotland date to the Post Medieval period, with a total of thirty-seven bodies, or 42.5%, dating to the Medieval period or later (Figure 3). With five of these bodies associated with coffins, it is clear that at least some of these individuals reflect normal burial traditions. The high frequency of finds dating to the Bronze Age period reflects the concentration of bodies found in the Fens, with only five found in other regions.



Factors influencing the data – dates of discovery

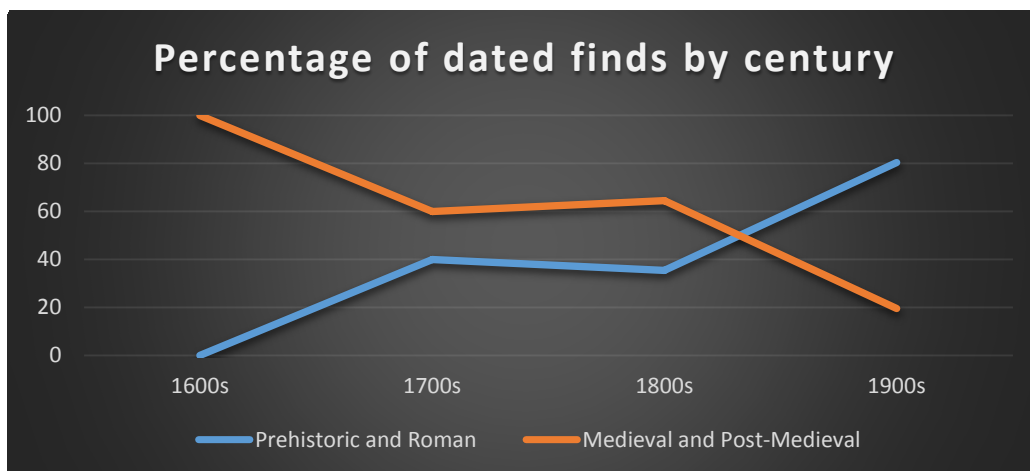
The chronological distribution of the bodies from England, Wales and Scotland presents a strong contrast with previous studies of bog bodies that have focused on radiocarbon dated examples. For the present study are, such a focus would have presented similar results, with all but one dated example dating to the prehistoric or Romano-British periods. In order to explore this difference in chronological distribution, all of the bodies with associated chronological information were assessed in relation to the dates of their discovery. In addition, the dates of finds without chronological information were assessed to establish trends.

Of the total database of 175 bodies, two have no indication of their date of discovery, and thirty-six have only *terminus ante quem* dates for discovery. Of the 173 bodies with some indication of dates of discovery, eighty-six are undated. Of these undated bodies, four were found before the 16th and 17th centuries, eleven were found in the 18th century, forty-four were found in the 19th century, and twenty-seven were found in the 20th century. Of the latter, nine were found since 1950, all of which represent skeletal remains, the majority of which were fragmentary, such as skull fragments. The most recent undated discovery of a complete body with organic preservation was found in 1909 at Torr Na Cabar, Argyll.

Of the dated bodies, patterns emerge by period of discovery. For the earliest finds, made before 1700, all of the dated bodies were from the Medieval period. Of the five dated finds made in the 18th century, three dated to the Post Medieval period, with single finds from each of the Bronze Age (dated by artefact associations) and Romano-British (on the basis of associated footwear) periods. Of the thirty-one dated bodies discovered during the 19th century, two were classified as 'prehistoric', one was Neolithic, one was classified as Neolithic/Bronze Age, five were Bronze Age, two were Romano-British, one was Medieval, and nineteen were Post Medieval.

Of the seventy-three bodies found in the 20th century, forty-six have some indication of date. Of these, three were classified 'prehistoric', four were Neolithic, twenty dated to the Bronze Age, four to the Iron Age, three to the Iron Age/Romano-British Period, three to the Romano-British period, one Medieval, one Medieval/Post-Medieval, and seven Post Medieval. Proportionally, this reflects a significant increase in the numbers of earlier bodies compared with later ones.

Whilst sample numbers are low, the proportions of bodies dating to different periods by century present a clear trend when periods are grouped into firstly prehistoric and Romano-British bodies and, secondly, Medieval and Post Medieval bodies. In this model, all of the bodies found in the 1600s date to the latter grouping. By the 1700s, sixty percent of dated discoveries lay in the Medieval/Post Medieval category, whereas 40% reflected the prehistoric/Roman period. Similar proportions continued in the 18th century (64.5% and 35.5% respectively). Together, this demonstrates that the proportion of bodies found prior to 1900 dated to the Medieval or Post Medieval periods. However, this changed significantly during the 20th century, with 80.4% of finds dated to the prehistoric or Romano-British periods whereas 19.6% dated to the more recent periods (Figure 4).



It is likely that the shift in dates represented by bog body finds through time reflects the processes of discovery. During earlier periods, bog bodies were typically discovered during the cutting of peat by hand, largely conducted stratigraphically due to high water tables. Whilst significant drainage

engineering had commenced by the 17th century, such as the work of Vermuyden (Dinnin 1997), it seems likely that the most recent layers of peat were being cut first. The discovery of earlier bodies prior to the 20th century might be explained by the peat cutting compartments and the nature of turbary rights (see Van de Noort *et al.* 2002). The shift identified in the 20th century, with a sharp increase in the numbers of earlier bog bodies, is likely to reflect increased drainage enabling the cutting of deeper layers of peat, and the increasingly extensive mechanised peat cutting, as demonstrated on Lindow Moss.

The pattern in relative frequency of earlier bodies through time has certain implications, and these are demonstrated by the range in the quality of dating of the bodies from across England and Wales. Radiocarbon dated finds feature only for discoveries made after the late 1950s, other than for the recently re-dated find from Ashton Moss in Greater Manchester (Wells *et al.* 2001), originally discovered probably in the late 19th century. Of finds made since 1950, twenty-two of the thirty-five discoveries have been dated using radiocarbon, resulting in one Neolithic, fourteen Bronze Age, one Iron Age, three Iron Age/Romano-British, two Romano-British, and one Medieval body finds. During the same period, artefact associations and contextual information provided additional two Neolithic, three Iron Age, one Romano-British, and four Post Medieval dates. Estimated dates from finds made during the same period concluded two Bronze Age and one Medieval/Post Medieval dates, all of which were either skulls or partial skulls without organic preservation. Of all of the discoveries made since 1950, the only remains with soft tissue preservation were those from Lindow Moss, Worsley Man (radiocarbon dated; Garland 1995) and a body estimated to date to the 17th century from Clayton Hill, Highland.

Discussion and conclusions

Previous studies of bog bodies have typically focused on the more recent discoveries, not least due to factors including preservation. Examples including Elling Woman (1938), the Borremose bodies (1948, 1949 and 1950), Tollund Man (1950), Grauballe Man (1952), the Lindow bodies (1980s) and the more recent finds in Ireland, including Clonycavan Man and Old Croghan Man, both discovered in 2003 (Kelly 2012a), and Cashel Man, discovered in 2011 (Kelly 2012b). Whilst earlier discoveries have been reassessed and remain relevant, such as the Huldremose Woman originally discovered in 1879 (Frei *et al.* 2009), these are exceptional.

An emphasis on the best-preserved examples naturally limits study largely to those bodies found in more recent periods. In contrast, this study has focused on the analysis of all bodies, regardless of preservation, across an entire region. Through the study of England, Wales and Scotland, it has emphasised the different chronological spread represented by bog body finds. It has shown the relative high numbers of Post Medieval bodies compared with other periods, as well as highlighting regional patterns, such as the concentration of Bronze Age bodies from within the Fens.

The focus on bog bodies as a predominantly prehistoric or Roman period phenomenon appears to reflect the period during which the discoveries were made. Proportionally, the more recent discoveries represent earlier bog bodies and, conversely, earlier discoveries represent body finds that relate to more recent periods. At a general level, this should not be surprising. The burial context that defines bog bodies develops stratigraphically – peat cutting will naturally remove more recent layers first. Hence, the earliest peat cutting is likely to unearth the most recently deposited bodies. Whilst the evidence provides this overall trend, variations exist. Not all sites were actively cut for peat and, where they were, early peat cutting would have been localised rather than expansive.

The implications of this study are clear. The assessment of the best-preserved bog bodies is likely to create a bias in terms of their chronology since these finds will naturally relate to more recent periods of discovery. For the same reasons, understanding the chronology of bog bodies by focusing on radiocarbon dates will produce similar results. However, by taking a regional or national approach, and by including all known bog body finds, it is possible to establish a more representative picture of both their spatial and chronological distributions.

References

- Asingh, P. and N. Lynnerup (ed.) 2007. *Grauballe Man. An Iron Age bog body revisited*. Aarhus: Moesgaard Museum and Jutland Archaeological Society; Aarhus University Press.
- Bauerochse, A., Haßmann, H., Püschel, K. and Schultz, M. (eds.) 2018. "Moora' - Das Mädchen aus dem Uchter Moor: Eine Moorleiche der Eisenzeit aus Niedersachsen II/Naturwissenschaftliche Ergebnisse (*Materialhefte zur Ur- und Frühgeschichte Niedersachsens* 47).
- Bermingham, N. and M. Delaney 2005. *The bog body from Tumbleagh*. Bray: Wordwell.
- Blockley, K. 1989. *Prestatyn 1984-5, an Iron Age farmstead and Romano-British industrial settlement in North Wales*. Oxford.
- Brothwell, D. and Bourke, J.B. 1995. The human remains from Lindow Moss 1987-8, in R.C. Turner and R.G. Scaife (ed.), *Bog bodies: New discoveries and perspectives*, 52-61. London.
- Brothwell, D. and Gill-Robinson, H. 2002. Taphonomic and forensic aspects of bog bodies, in W.D. Haglund and M.H. Sorg (ed.) *Advances in forensic taphonomy. Method, theory and archaeological perspectives*, 119-132. Boca Raton.
- Budworth, G., McCord, M., Priston, A.V. and Stead, I.M. 1986. The artefacts, in I.M. Stead, J.B. Bourke and D. Brothwell (ed.), *Lindow Man: The body in the bog*, 38-40. London.
- Chapman, H. 2015. The landscape archaeology of bog bodies. *Journal of Wetland Archaeology* 15, 109-121.
- Chapman, H., R. van Beek, B. Gearey, B. Jennings, D. Smith, N.H. Nielsen and Z. Zein Elabdin (in press). Bog bodies in context: developing a best practice approach. *European Journal of Archaeology*.
- Cowie, T., Pickin, J. and Wallace, C. 2011. Bog bodies from Scotland: old finds, new records. *Journal of Wetland Archaeology* 10: 1-45.
- Denny, H. 1870. Notice of the discovery of a pair of ancient shoes and a human skeleton in a peat moss on Austwick Common, near Clapham, Yorkshire. *Proceedings of the Geological and Polytechnic Society of the West Riding of Yorkshire* 5, 162-178
- Dieck, A. 1965. *Die europäischen Moorleichenfunde*. Neumünster.
- Eisenbeiß, S. 2003. Bog-bodies in Lower Saxony – rumours and facts: an analysis of Alfred Dieck's sources of information, in A. Bauerochse (ed.) *Peatlands: archaeological sites, archives of nature, nature conservation, wise use*, 143-150. Rahden.
- Dinnin, M. 1997. The drainage history of the Humberhead Levels, in R. Van de Noort and S. Ellis (ed.) *Wetland heritage of the Humberhead Levels, an archaeological survey*, 19-30. Exeter.
- Frei, K.M., Skals, I., Gleba, M. and Lyngstrøm, H. 2009. The Huldremose Iron Age textiles, Denmark: an attempt to define their provenance applying the strontium isotope. *Journal of Archaeological Science* 36(9), 1965-1971.
- Garland, A.N. 1995. Worsley Man, England, in R.C. Turner and R.G. Scaife (ed.), *Bog bodies: New discoveries and perspectives*, 104-107. London.
- Gebühr, M. 2002. *Moorleichen in Schleswig-Holstein*. Neumünster.
- Giles, M. 2009. Iron Age bog bodies of north-western Europe. Representing the dead. *Archaeological Dialogues* 16(1), 75-101.
- Gill-Robinson, H.C. 2005. *The Iron Age bog bodies of the Archaeologisches Landesmuseum, Schloss Gottorf, Schleswig, Germany*. Winnipeg: Unpublished PhD thesis, University of Manitoba.

- Hansen, J., Petersen, H.C., Frei, K.M., Courtaud, P., Tillier, A-M., Fischer, A. and Allentoft, E 2017. The Maglemosian skeleton from Koelbjerg, Denmark revisited: identifying sex and provenance. *Danish Journal of Archaeology* 6(1), 50-66.
- Healy, F. and Housley, R.A. 1992. Nancy was not alone: human skeletons of the early Bronze Age from the Norfolk fen peat. *Antiquity* 66, 948-955.
- Henshall, A.S. 1952. Early textiles found in Scotland: Part 1 (locally made). *Proceedings of the Society of Antiquaries of Scotland* 86, 1-30.
- Henshall, A.S. 1969. Clothing found at Huntsgarth, Harray, Orkney. *Proceedings of the Society of Antiquaries of Scotland* 101. 150-159.
- Henshall, A.S. and S. Maxwell 1952. Clothing and other articles from a late 17th century grave at Gunnister, Shetland. *Proceedings of the Society of Antiquaries of Scotland* 86, 30-42.
- Keith, A. 1925. *The Antiquity of Man*. London.
- Kelly, E.P. 2012a. An archaeological interpretation of Irish Iron Age bog bodies, in S. Ralph (ed.) *Archaeology of violence: interdisciplinary approaches*, 232-240. Albany.
- Kelly, E.P. 2012b. The bog body from Cashel Bog, Co. Laois. *Ossory, Laois and Leinster* 5, 1-18.
- Longley, D and Richards, A. 2000. *Early Medieval burial in Gwynedd*. Cardiff.
- Mann, L.McL. 1937. Notes on the discovery of a body in a peat moss at Cambusnethan. *Transactions of the Glasgow Archaeological Society* 9, 44-45.
- Mannering, U., G. Possnert, J. Heinemeier and M. Gleba 2010. Dating Danish textiles and skins from bog finds by means of ¹⁴C AMS. *Journal of Archaeological Science* 37, 261-268.
- Nielsen, N.H., B. Philippsen, M. Kanstrup and J. Olsen 2018. Diet and radiocarbon dating of Tollund Man: new analyse of an Iron Age bog body from Denmark. *Radiocarbon* 60, 1533-1545.
- Ó Floinn, R. 2006. Appendix 1. Supplementary list of Irish bog bodies noted since 1995, in N. Bermingham and M. Delaney, *The bog body from Tumbleagh*, 217-227. Dublin.
- Pryor, F. 1991. *Flag Fen – prehistoric Fenland centre*. London.
- Ryder, M. 1977. Some miscellaneous ancient fleece remains. *Journal of Archaeological Science* 4, 177-181.
- Stead, I.M., Bourke, J.B., and Brothwell, D. 1986. *Lindow man: The body in the bog*. London.
- Tarrant, N. 2001. The 17th century doublet from Keiss, near Wick, Caithness. *Proceedings of the Society of Antiquaries of Scotland* 131, 319-326.
- Turner, R.C. 1988. A Cumbrian bog body from Scaleby. *Transactions of the Cumberland and Westmorland Antiquarian and Archaeological Society* 88, 1-7.
- Turner, R.C. 1995. 'Gazetteer of Bog Bodies in the British Isles', in R.C. Turner and R.G. Scaife (ed.), *Bog bodies: New discoveries and perspectives*, 205-220. London.
- Turner, R.C. and Briggs, C.S. 1986. A Gazetteer of Bog Burials from Britain and Ireland', in I.M. Stead, J.B. Bourke and D. Brothwell (ed.), *Lindow Man: The body in the bog*, 181-189. London.
- Turner, R.C. and Scaife, R.G. (ed.) 1995. *Bog bodies: New discoveries and perspectives*. London.
- Twigger, S. N. and Haslam, C.J. 1991. 'Environmental change in Shropshire during the last 13000 years', *Field studies* 7, 743-758.
- van Beek, R., J.H.J. Candel, C. Quick, J.A.A. Bos, M.J.I.J. Gouw-Bouman, B. Makaske and G.J. Maas 2019. The landscape setting of bog bodies: interdisciplinary research into the site location of Yde Girl, the Netherlands. *The Holocene* 00, 1-17.

Van de Noort, R., W. Fletcher, G. Thomas, I. Carstairs and D. Patrick 2002. *Monuments at risk in England's wetlands*. Swindon.

van der Plicht, J., W.A.B. van der Sanden, A.T. Aerts and H.J. Streurman 2004. Dating bog bodies by means of ^{14}C -AMS. *Journal of Archaeological Science* 31, 471-491.

van der Sanden, W.A.B. 2013. Bog bodies: underwater burials, sacrifices and executions, in F. Menotti and A. O'Sullivan (ed.) *The Oxford handbook of wetland archaeology*, 401-416. Oxford.

Wells, C.E., D. Hodgkinson, E. Huckerby, S. Mays, I. Panter and G. Cook 2001. A Late Bronze Age human skull and associated worked wood from a Lancashire wetland. *Proceedings of the Prehistoric Society* 67, 163-174.

West, I.E. 1986. Forensic aspects of Lindow Man, in I.M. Stead, J.B. Bourke and D. Brothwell (ed.), *Lindow Man: The body in the bog*, 77-80. London.

Figure captions

Figure 1. Distribution of bog bodies in England, Wales and Scotland, referencing the four groups described in the text

Figure 2. Distribution of dated bodies. Prehistoric and Roman period bodies are represented by crosses, whereas Medieval and Post-Medieval bodies are represented by circles

Figure 3. Number of dated body finds by classified period in England, Wales and Scotland

Figure 4 – Relative proportions of bog body finds dating to earlier and later periods by century of discovery