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Notes for contributors are printed at the end of this volume.

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## Wills of 18th and Early 19th-Century Dorset Brickmakers

J. FORD

By the 18th century brickmaking was commonplace throughout Dorset but very little is known about the individuals who practised the trade before about 1850.<sup>1</sup> The tithe and enclosure awards of the first half of the 19th century are regarded as significant additions to the slim body of documentary evidence for brickmaking in the county.<sup>2</sup> Useful as these sources are, the information they provide is concerned with land ownership, occupation and use, and reveals little about brickmakers' lives. Probate records are a potentially more fruitful source of evidence for this subject (original wills and testaments, will registers and indexes, inventories, administrations and oaths to the executors), which are extant for Dorset from the 15th century.<sup>3</sup> As with all sources of evidence, the interpretation of testamentary material can be problematic. Probate records survive patchily, in various states of legibility, and are not always representative of society.<sup>4</sup> For the study of individual testators a central problem is that the personal element of wills (the last wishes and concerns of a testator) is limited, and sometimes obscured, by the existence of traditional formulae associated with will-making and by the statutory details which ensured the validity of the document.

This paper will examine the wills of three Dorset brickmakers, Andrew Coney of Lytchett Minster (whose will was written in 1787),<sup>5</sup> Daniel Cherrett of Corfe Mullen (1827)<sup>6</sup> and Thomas Cherrett, also of Corfe Mullen (1832).<sup>7</sup> The period in which these wills were written is thought to have been one of decline in the brickmaking trade. During the 18th century brick became widely used in Dorset for town and country houses, but it is believed that after about 1790 a static urban population and a slump in the building of rural cottages ensured that the demand for bricks dropped.<sup>8</sup> Barbara Kerr asserted that in the first half of the 19th century 'the building of small houses for which local material might have been used, was so restricted as to be, in some districts, almost at a standstill'.<sup>9</sup> Since the smaller brickyards in the county were usually concerned with supplying a limited area (Donald Young suggests a village or two or a small town), a declining local market would have had a heavy impact on demand.<sup>10</sup> The reduction in rural building was associated with changes in agriculture, characterised by the decline of small farmers in the county due to the enclosure of common land and a downturn in prices and profits.<sup>11</sup> Some early brickmakers are known to have been small-scale farmers who carried out brickmaking as a sideline in order to bolster their incomes by utilising the raw materials they found to hand.<sup>12</sup> The wills of Andrew Coney and Daniel and Thomas Cherrett provide an opportunity to study aspects of the rural brickmaking trade during this period of decline and change. The characteristics, concerns and circumstances of the

individual brickmaker will be evaluated, as will the utility of wills as sources of evidence for this subject.

In the late 18th and early 19th centuries the disposition of mundane property was still to some extent regarded as inseparable from the moral and spiritual requirement to 'make a good end', and probate continued to be granted by the ecclesiastical courts until 1857.<sup>13</sup> The wills of Andrew Coney, Daniel Cherrett and Thomas Cherrett survive in the records of the court of the Peculiar and Exempt jurisdiction of Sturminster Marshall.<sup>14</sup> Peculiar jurisdictions were answerable directly to the crown and were (in theory) exempt from the jurisdiction of the Diocesan bishop. In practical terms, the vicar of an exempt parish had the right to prove the wills of his parishioners; in the case of Sturminster Marshall this right extended to the wills of those who lived in the chapelries of Hamworthy, Corfe Mullen and Lytchett Minster.<sup>15</sup> In areas covered by exempt jurisdictions, probate would take place within the parish church and, as in all probate courts, this process was concerned primarily with establishing the validity of a will and of ensuring its enactment. These primary concerns dictated the need for certain formalities to be observed in will making, notably a declaration of the testator's identity and of his or her mental fitness for will making, the appointment of an executor and the signing and witnessing of the document. The format of the bequests outside these statutory requirements was also dictated, to some extent, by traditional formulae. At the time the wills of Andrew Coney and Daniel and Thomas Cherrett were written, the form of a last will and testament had changed little since the late medieval period when 'testaments' (consisting of spiritual intentions and bequests of personal goods) and 'wills' (instructions for the disposition of real property) had begun to be integrated.<sup>16</sup> As long as wills remained within the jurisdiction of the ecclesiastical courts the integration of the spiritual and the mundane was not absolute. Spiritual declarations and bequests of personal goods tended to be written (at least in the more formal wills) before bequests of real property. Testamentary bequests could include leasehold land, which was in the medieval period wholly a chattel and by the 18th century had become a 'chattel real' but remained personal property.<sup>17</sup> It was within this traditional and statutory structure that an individual testator recorded his, or her, last wishes.

The three wills to be discussed in this study are original documents (rather than copies recorded in a probate register by a court clerk) and provide an opportunity to evaluate not just the content of the text in each will but also characteristics such as the handwriting of whoever wrote the wills, the signatures or marks of witnesses, and any information recorded on the outside of

the document. All three documents are in fair, legible condition but Thomas Cherrett's will, despite being the youngest document, is in the poorest state with some slight damage around the edges, and fading in places.

No inventory is extant for the estate of any of the three testators, so that it is impossible to be certain of the value of their respective properties.<sup>18</sup> In some courts an inventory had ceased to be an automatic or obligatory part of probate procedure in 1782, although an inventory might still be called for by an interested party.<sup>19</sup> For the Peculiar court of Sturminster Marshall, this was apparently not the case. The printed forms of the Oath to the Executors extant for the court in the year that Daniel and Thomas's wills were proved, include the declaration that the executor(s) were to make 'a true and perfect inventory' of all the goods chattels and credits of the deceased. The oath to the executors (to which the original will was annexed), is extant for Thomas Cherrett's will but not for that of Daniel Cherrett or Andrew Coney. A detailed examination of the three wills shows that, despite differences in both style and content, each has something to reveal about the testator's worldly goods, their concerns for their family and property, and their social and occupational circumstances.

### The Will of Andrew Coney

The presentation of Andrew Coney's will promises much. The document covers nearly two pages, is written in an elegant hand, and is set out with a clearly delineated structure consisting of preamble, disposition of worldly estate (itemised and residual bequests) and concluding remarks. In common with most 18th-century documents the spelling of the will is not entirely standardised and the punctuation is erratic but, over all, the presentation suggests that this is a formal, and perhaps professionally written, last will and testament. A close examination of the contents of the will reveals that the document is of less utility for the subject under study than its presentation might suggest.

Following the traditional opening declaration of 'In the Name of God Amen', the testator began his will by identifying himself as 'Andrew Coney of the Parish of Litchet Minster in the county of Dorset yeoman and Brickmaker.' Thus, the dual occupation of Andrew Coney is established early in the will. With an untroubled granting of probate in mind, testators and their advisors were, generally, very careful about the accuracy of details of identification, and when a will was to be proved locally the level of accuracy was open to close scrutiny by the community.<sup>20</sup> Since the form and structure of a will usually reflected an established scale of priorities the placing of 'yeoman' before 'brickmaker' is probably not without significance. 'Yeoman' reflects status as well as occupation but may also indicate that Andrew Coney was, first and foremost, a farmer. It is known that in some areas of Dorset brickmaking was

combined with other occupations, including farming, but the connection between brickmaking and the yeomanry of the county has been little explored.<sup>21</sup> Kerr suggested that it was the less efficient farmers who were involved in sideline activities such as brickmaking, but Andrew Coney's yeoman status may indicate that this view is simplistic.<sup>22</sup> A yeoman might be very close to a small farmer or farm labourer in terms of acreage but Andrew Coney's will does not in any way suggest inefficiency or lack of prosperity.

The testator declared that he was 'in Health of Body and of Sound mind and Memory'. Soundness of health may have been a central factor in determining the detailed and formal character of the will; those testators who wrote their last will and testament when stricken with illness, understandably, tended to produce a less structured document. Andrew Coney then made a spiritual declaration, commending his 'Soul unto God who gave it hoping for free pardon of all my sins through the Merits of Christs death, And my Body I commit to the Earth as it shall please God to determine to be; buried in a Christian like and decent Mannor as Opportunity shall Offer'. Although much used by historians as indicators of the presence, absence and denomination of religious sensibilities, statements such as these, within preambles, are now regarded as of limited use as clues to a testator's beliefs. The opening declarations of a will were so heavily influenced by custom and tradition that it is difficult to judge how far individual belief is reflected.<sup>23</sup>

Andrew Coney also acknowledged that it had 'pleased God to Bless' him in life with the worldly estate he now came to dispose of. The first bequests were to the testator's grandchildren, identified in the will as the five children of his son Robert. The bequests were of £10 to each grandchild, male and female, to be paid by the executor of the will 'when they [the grandchildren] shall come to the Age of Twenty one years'. The testator declared that if any of Robert's children died before they reached twenty-one then that child's part was to be 'devided Eaqually between the rest of Robert Coney's children'. Further monetary bequests were made to the testator's grandchildren Elizabeth New (who was left £15), and James New (£10), who were the children of 'Morgan New', with the stipulation that if either child died their legacy was to be paid to the survivor. Andrew Coney's daughter, 'Betty or Elizabeth' New, was left £25, to be paid by the executor a year after the testator's death.

Having set out his purely money bequests, the testator moved on to the disposition of landed property, although whether it was real property (freehold land) or a less secure tenure is not specified. Andrew bequeathed to his grandson James Coney, 'ten pound with my House where I now live in with half of the Out Houses and Half the garden and Plot of Ground if he come to the Age of Twenty-One Years'. If James Coney died before the age of 21 years, the property was to pass to his brother Andrew. To this Andrew, the testator bequeathed 'Ten

Pounds with the small part of my Dwelling House and Half of the Out Houses and Garden and Plot of Ground' again, at the age of 21, in default to his brother James. The wording of this bequest is slightly confusing, as the testator seems to leave the same house to both brothers; 'the small part of my Dwelling House', may, however, refer to a separate section or wing of the building. The will then reverts to the disposition of moveable goods, with the bequest of 'all the Household Goods where I now dwell to be divided between my Grand Children at my descease into three Equall parts to Morgan News Children One part to James Coneys One parte and One parte to Robert Coneys as Equal as can be divided'. The association of instructions for the disposition of land with monetary bequests, and the subsequent inclusion of further bequests of personal items may indicate that the testator's house was leasehold property. The careful and traditional structure of the will indicates that bequests of personal goods would have been completed before the disposition of real property, although it is impossible to be certain on this point.

Lastly, Andrew Coney made a residual bequest of all his 'Goods Outdoor Stock with all Implements of Husbandry with all Money Book Debts Bill Bonds with all personals whatsoever and wheresoever' to his son Robert Coney, whom he named as sole executor of the will. The right to include a residual clause was of considerable importance to will-makers, primarily because a will was an ambulatory instrument; it was capable of bestowing property which did not belong to the testator at the time he or she made a will, but which was in their possession at the time of their death.<sup>24</sup> Such property would be disposed of according to the terms of the residual bequest. Since Andrew Coney made his will when in health, there was a reasonable chance that he would acquire other property before he died. In the late 18th century a residual bequest applied only to chattel goods; bequests of land did not become ambulatory until 1837. Within the term 'Goods Outdoor' and 'Stock' there may have been included items necessary for brickmaking but the testator did not see the necessity for being specific, perhaps because of the existence of an inventory that has since been lost.

As a final thought, Andrew declared that if Robert Coney died before his children reached the age of 21 the testator's house and grounds were to 'Remain to my son Roberts Children till the time before mentioned'.<sup>25</sup> The testator concluded his will with the formalities of setting his hand (his mark, not a full signature) and seal, to the document, which was dated the 9 May 1787. The will was witnessed by John Brewer and Thomas Hartnell, who were apparently able to write their signatures.<sup>26</sup> There is an endorsement, written at the bottom of the will, dated January 10 1789, which states 'This will was proved, and Robert Coney within mentioned was sworn Executor to it by me J Harris officia'.<sup>27</sup>

Andrew Coney's will is, perhaps, more informative about the formalities associated with will-making than

it is about brickmaking, the only evidence for which lies in the testator's opening declaration of occupation. There is evidence for the existence of a brickyard in Lytchett Minster from 1825.<sup>28</sup> Andrew's will does not provide specific information to show that brickmaking was already taking place in the district in the 18th century, since it does not make clear where he practised his trade. It is probable that he did carry out the making of bricks locally, close to a clay deposit on his land, but it would be unwise to be dogmatic about this on the basis of the will.<sup>29</sup> The content of Andrew Coney's will was dictated by his concerns at the time it was drawn up and it is clear that the testator's focus was on making provision for his grandchildren. His own offspring were adult and his son Robert Coney who is not, according to the will, to be the beneficiary of any land or buildings, may have taken possession of a proportion of his father's property at some time before the will was written. Andrew Coney (or his advisor) clearly did not think that specific details of acreage or tenure were necessary for the proper fulfilment of his bequests of landed property, and this may have been partly a result of the fact that his executor would have been in full possession of all the necessary details, should any question arise concerning them. Andrew Coney could not, apparently, write (although he may have been able to read details of his 'Book Debts and Bill Bonds') and the necessity of paying for someone to draw up the will may have ensured that details were kept to a workable minimum. Wills are not always reliable indicators of literacy. Testators were frequently elderly or in poor health at the time of making their will and may not have had the skills they enjoyed in health and youth.

On the positive side, Andrew Coney's will does have something to reveal about the life of an 18th-century brickmaker. The testator was able to pay for a formal and fairly lengthy will to be written and proved. He was survived by a son and daughter and by seven grandchildren to whom he left money bequests totalling £120, as well as a residual request of money to his son. Some of these bequests were not for immediate fulfilment and may have been paid out of the future profits of land or business. He apparently lived in a house separately from his children and chose to divide this dwelling between two of his grandsons. The wording of the bequests concerning the house may indicate that it was a not insubstantial building. The testator was content to describe himself as both yeoman and brickmaker, which does provide some indication of this particular brickmaker's social status and shows that brickmaking was not confined to the small farmer.

### The Wills of Daniel and Thomas Cherrett

The wills of Daniel and Thomas Cherrett of Corfe Mullen provide an opportunity to compare the wills of a father and son. Differences between the two documents are immediately obvious. Daniel Cherrett's will, drawn up more than four years before the testator's

death when he was 'in good health of Body', is written in a neat, carefully formed hand and the spelling is sufficiently standardised to indicate that the scribe was well educated.<sup>30</sup> As with that of Andrew Coney, the will is almost a model of legal requirement and standard formulae.<sup>31</sup> Thomas Cherrett's will is less structured, although it does include the requirements of identification, date, soundness of mind and memory and the appointments and signatures necessary for probate to be granted. The short lapse of time between the making and proving of Thomas's will (written in July 1832 and proved in October of the same year) indicates that this testator's health may have been precarious at the time his will was written and his last wishes are recorded in a less detailed manner than those of his father.<sup>32</sup> The spelling used in the will is not entirely standardised and the handwriting of the scribe is fairly neat at the beginning of the will but deteriorates on the second page. Whether or not these characteristics indicate that Thomas Cherrett was *in extremis* when the will was drawn up is unclear.

### Daniel Cherrett's will

Daniel Cherrett did not describe himself as a brickmaker in the body of his will but is listed as such in the index to the register of wills in which his last wishes are recorded, and on the front of the will itself. The preamble of Daniel's will is less religious in tone than that of Andrew Coney made 40 years earlier, and there is no opening 'In the Name of God Amen'. But spiritual sentiments are not completely absent. Following the testator's identification of himself and declaration of physical and mental fitness, the testator committed his soul 'into the hands of Almighty God that gave it...nothing doubting but at the general Resurrection I shall receive the same again by the Almighty power of God'. This initial, traditional, bequest of the soul may indicate that the bequests which follow will also be set out with regard for an established set of priorities. Following the commitment of his soul, Daniel declared simply 'my Body I commit to the earth to be buried in a decent Christian burial, at the discretion of my Executor.'

The testator then moved on to the disposition of his worldly estate, and his first bequest was to his son Benjamin, to whom the testator bequeathed 'all the Leasehold Estate called Hurgate Hill containing of Six fields, and Three Gardens, amounting to about Seventeen Acres, more or less, Together with the Dwelling house, Barn, and every other Building Thereunto belonging unto it during the said Benjamin Cherrett, and Ann Cherret, his wifes life'.<sup>33</sup> Benjamin was directed to 'pay to the Lord of the manor the Yearly Rents claimed thereon, and the whole expenses of [the testator's] burial'. It is not clear from his will whether Daniel would have been categorised as a small farmer or as a yeoman. Kerr suggested that a yeoman was 'a man who owned and occupied himself with a holding of between 30 and 500 acres' but the 17 acres which

comprised Benjamin's bequest may have been only a proportion of the total land held or owned by the testator during his lifetime.<sup>34</sup> The will does indicate that the 17 acres were not Daniel's only landed possessions.

It has been suggested that brickmaking in Corfe Mullen was carried out from 'about 1839 and lasted until 1930'<sup>35</sup> but Daniel Cherrett's second bequest makes clear that brickmaking was established in the area by 1827, when the document was written. The testator bequeathed to his son 'Thomas Cherrett, Brickmaker, the Brickkiln and the Ground thereunto belonging unto it, called Hurgate Hill' and directed that after Thomas's death the land was to pass to James Cherrett (identified as the son of Thomas Cherrett), 'to hold it until it falls into the Lord of the manors hand'. The wording of the will clearly indicates that the property left to Thomas was leasehold (possibly copyhold),<sup>36</sup> and by the 19th century a testator was allowed to leave leasehold property by will to one person for life, with a gift over to another, creating a type of remainder.<sup>37</sup> The exact terms of the lease are not specified in the will but it was apparently of sufficient length for Daniel to expect his grandson to enjoy some years of the brick kiln and ground. The testator declared that Thomas was to possess the property 'as long as he liveth without the least molestation from any of my other sons or daughters', which may have been an attempt to ensure the continued smooth running of the business after his death. This admonition does not suggest a trade in decline or regarded as of little worth.

Benjamin, the son to whom Daniel bequeathed his house (which Benjamin already inhabited) as well as his gardens and fields (and 'all the moveable things which is in the dwelling house of the said estate'), was not only the beneficiary of the first bequest of property in the will but was also named as sole executor, a responsibility often given to an eldest son.<sup>38</sup> The parish registers for Corfe Mullen show, however, that Thomas Cherrett was the older of the two sons mentioned in Daniel's will. Thomas was born in 1769 and Benjamin in 1783.<sup>39</sup> Where the disposition of land is concerned, it is probable that Thomas Cherrett had taken possession of a proportion of his father's land before the will was written. The parish registers record that Daniel was 91 years old when he died and he is likely to have retired, or at least shared his workload, years before he wrote his will at the age of 87. With the elder son already in possession of the bulk of his estate, the settling of a younger son's inheritance could take first place in the will. The appointment of Benjamin as sole executor of the will may be explained by the fact that Thomas Cherrett was himself nearly 60 when his father's will was drawn up and, since he died only a year after Daniel, may not have been in robust health. The duties of an executor could be arduous and bequests might be implemented over a number of years. Daniel may, therefore, have decided that his younger son would be better able to execute his last wishes.

Having dealt with the two subjects of primary importance, the disposition of his soul and the disposition of (leasehold) land, Daniel completed the body of his will with money bequests. He left £10 each to his son Thomas and to three women who are identified as the testator's daughters, Elizabeth Hames, Mary Best and Sarah James. The bequests were to be paid by Benjamin Cherrett 'or his heirs'. Before the Wills Act of 1837,<sup>40</sup> a will only affected land which the testator held at the time of the execution of the will and a landowner had to continually make new wills to avoid dying intestate.<sup>41</sup> Although the land he mentions in the will is leasehold, Daniel was careful to 'utterly disallow [and] revoke all and every other former will and Testament, Legacies, Bequest, and Executors, and Executrix, by me in any way before named, Willed and Bequathed'. After setting his 'hand and seal' to the will the testator added that Thomas Cherrett was to have all his clothes and that Mary Ann Cherrett, the daughter of Benjamin Cherrett, was to be given 'the Bed he used to sleep on (that is Daniel Cherrett's Bed).' There were three witnesses to Daniel's will, Benjamin Biles, John Dobell and Joseph James (who may have been Daniel's son in law, or possibly a grandson).

### Thomas Cherrett's will

Thomas Cherrett did not enjoy his inheritance, or the anticipation of it, for long; his own will was made on the 13 July 1832 and was proved on the 27 October. Thomas made no religious declarations at all in the preamble to his will, observing only that he was 'mindfull of my mortality' and he gave brief instructions for the disposition of his mortal remains. He did include a traditional testamentary direction that his executors were to 'pay all my just debts'. As with Daniel Cherrett, Thomas did not describe himself in terms of occupation, indeed brickmaking is not mentioned within his will at all. Like his father, he is described as a brickmaker in the index of the Peculiar court wills and on the front of the will itself. The oath to the executors also describes James and William Cherrett (who are identified as Thomas's sons both in the will and the oath) as brickmakers.

Thomas's bequests are less detailed than Daniel's. Perhaps reflecting his priorities, the testator's first bequest, following his brief preamble, was to his 'beloved wife', Elizabeth, to whom he left his 'money goods and effects with her Widdow[h]ood', a phrase which could encompass a wide range of property, moveable and otherwise. Elizabeth's 'Widdowood' refers to her rights over customary (that is, non freehold) land while she remained a widow (for her lifetime as long as she did not remarry). A widow's estate could vary from the whole of her husband's customary lands to a third or a half, according to the custom of the manor.<sup>42</sup>

Young has noted the existence of women, in the 19th century, who carried on the business of brickmaking after their husband's death.<sup>43</sup> There is no indication that

this was to be the case in the Cherrett wills, although this may be because of the age and situation of the testators' families. Both Daniel and Thomas Cherrett clearly had adult offspring when they came to make their wills. As was the case with Andrew Coney, Daniel does not mention his wife in his will and both may have been widowers. The instances of widows carrying on a brickmaking business may have been more usual in cases where the testator's children were minors.<sup>44</sup> The tithe apportionments show that Elizabeth Cherrett did own a plot of land, in 1840, on which a kiln was situated. The plot, which was occupied by Elizabeth herself, consisted of 'Allotment, cottage and brick-kiln west of the Wareham and Corfe Road', is described as 'arable' and was just over an acre in area.<sup>45</sup> Whether Elizabeth participated in any way in the brickmaking business, beyond ownership and occupancy of ground on which a kiln was situated is not clear. Thomas Cherrett did not appoint his wife to execute his last wishes and some historians have used the choice, or otherwise, of a widow as executrix as an indicator of the sexual division of labour.<sup>46</sup> Thomas's preference for male executors may have been influenced by many factors, including the possibility that it was Elizabeth's own wish that her sons would undertake the task. The evidence in the will invites speculation, but does not provide answers, regarding the scope of Elizabeth's involvement in her family's concerns.

Thomas was not without landed property to bequeath that did not fall within the customary estate of his widow. He left 'the house in which she lives for her residens but not to let' to 'Martha King' for her life. The tenure of this property is not specified. The testator made money bequests of three pounds each to four women, Charity Groggins, Mary Laws, Unity Samways and Martha King who may have been his married daughters. The possibly hurried drawing up of Thomas's will prevents another monetary bequest from being interpreted fully. He declared that 'Richard James and William Cherrett shall pay five pounds a year each of them to Elizabeth Cherrett' and in the (possible) absence of a comma it is impossible to know whether this refers to three sons of Thomas and Elizabeth or whether a 'Richard James' was an individual who, together with William Cherrett, had an obligation to pay the money. The former seems the more likely and, if so, indicates that Thomas had another son who is not a beneficiary of the will, or mentioned in the will in any other capacity.

Thomas's bequests of landed property to his sons are placed fairly late in the will and the possibly hurried character of the document means that the interpretation of these bequests is not straightforward. The testator stipulated that 'according to a firme agreement James Cherrett shall have the House and land and William to have smoler and the land with the crop on the Ground with the Plowing'. Superscript to this line is written 'Equally divided betwin the too'. It is not clear what is

to be divided between the two beneficiaries (perhaps the crop, rather than the land on which it stood). The 'firme agreement' may be a reference to the wishes expressed in Daniel's will that the ground on which the kiln stood would pass to James Cherrett after his father's death. Or, the wording may reflect an agreement made between Thomas and his two sons. Whatever is meant, it is clear that Thomas was involved in farming as well as brickmaking. Young has observed that work in brickyards was often irregular and that none of the small yards were equipped for brickmaking throughout the year since they had no artificial drying facilities for newly moulded bricks.<sup>47</sup> There was work to be carried out in the winter months; clay had to be dug to expose it to frost and snow as part of the weathering process, but income from the finished product declined until the following spring.<sup>48</sup> The seasonal limitations on brickmaking may have ensured that the Cherretts found it prudent to continue farming. Kerr observed that the 'oscillation between agriculture and trade produced a comfortable way of life provided the plodding methods of farming were not disturbed and the demand for...bricks...remained steady'<sup>49</sup> There is nothing in the Cherrett wills to indicate that the family's farming methods were plodding; indeed the tenor of the documents would seem to suggest that the family was careful and conscientious in its approach to both land and business. The exact nature of the oscillation between agriculture and brickmaking for the Cherretts is not revealed by the wills.

Thomas reverted to a money bequest to conclude his last wishes. He left to his wife £10 which was to be paid by 'Mr Benjamin Cherrett at the time appointed on my fathers will'. Daniel Cherrett's will had stated that the bequest of £10 was to be implemented in two stages, 'Five Pounds...to be paid him at the Expiration of one year after [Daniel's] decease, and the other Five pounds to be paid unto him, at the Expiration of Two Years...and the said Sum of Ten Pounds is to be paid by Benjamin Cherrett or his heirs'. Thomas was apparently aware that he would not live to receive the bequest but the money was his to dispose of, according to his father's wishes. There is thus sufficient detail to link Daniel's will to that of Thomas and to be fairly certain, even without supporting evidence, that they were father and son. The designation 'Mr' in this particular bequest was probably not an idle inclusion and indicates the attention to detail that could be paid by testators in matters of seniority and social distinction (it is unclear whether it was the testator or his scribe, or both, who deemed 'Mr' to be appropriate for Benjamin). Benjamin was Thomas's younger brother but may well have been the most senior member of the Cherrett family after Thomas's death.

The witnesses to Thomas's will, John Gunning senior and John Gunning junior (neither of whom give any indication of status or occupation), were able to sign their names and the will concludes with the specific

declaration that they 'did write our names in Witness'. Like his father before him, Thomas signed his will with his mark. As has been observed in the discussion of Andrew Coney's will, the fact that a testator did not provide a written signature is not conclusive proof of an inability to write. The fact that the executors of the Cherrett wills also signed with their mark does indicate that the family were not skilled in writing (although they may have been able to read). How far the (possible) inability to write hampered the Cherrett's brick-making business, if at all, is impossible to evaluate. The Cherretts were not out of step with their milieu. The will of Andrew Coney attests that other farmers involved in brickmaking also lacked the ability to write. It is not clear who wrote any of the three wills, or whether a lawyer or notary was employed to be either writer or testamentary advisor. In Thomas's case there may have been little planning involved in the writing of the will and a literate parishioner (perhaps a clergyman) may have been the choice of scribe, rather than the possibly legal or notarial hand behind Andrew's and Daniel's orderly testaments.

The Cherrett wills show that in 1832 three generations of the family were involved in brickmaking, although the exact nature and extent of each individual's involvement is unclear. The fact that several members of the Cherrett family were employed in the trade, together with Daniel Cherrett's clear desire that brickmaking would continue unimpeded, do not indicate that there was a slump in demand for bricks, in the district of Corfe Mullen, at the time his will was written. The wills do not tell us when the family began practising the trade but, given that Daniel died in 1831 at the age of 91, it is possible that he had been brickmaking from the late 18th century. Daniel's will demonstrates that (as with Andrew Coney) an inability to write did not prevent him leaving firm instructions regarding the disposition of his property. Over all, the document reveals a clear understanding of Daniel's rights as well as obligations, as a leaseholder. Although Daniel had agricultural land to bequeath he was clearly concerned to ensure the continuation of brickmaking within the family, and this was the occupation by which he himself was known and by which he described his son Thomas. Written shortly before his death, Thomas Cherrett's will may be less indicative of his abilities when in health and vigour and the document is less formal and detailed than that of his father, which prevents the straightforward interpretation of some of his bequests. Despite this, there is in his will an evident concern for the just disposition of his property and the fulfilment of his father's bequests.

The testamentary documents of Andrew Coney and Daniel and Thomas Cherrett show that valuable information on brickmakers and brickmaking is to be found in probate records. The selected wills indicate that brickmaking was being carried out in Corfe Mullen (and probably in Lytchett Minster) at an earlier date

than other sources have suggested. Brickmaking in the county was clearly associated with farming and was practised by those of yeoman status. The view of 'sideline' trades, such as brickmaking, being undertaken by the less efficient farmers in order to bolster a precarious livelihood may at best be a generalisation. There is no indication in the wills that brickmaking was in decline in either Lytchett Minster or Corfe Mullen at the time the documents were written. It may be argued that there is a bias in probate records towards those who could afford to make, register and prove a will and testament. Small brickmakers who suffered a downturn in income from both trade and farming during the period in which these wills were written may have left no record of their lives and occupations. The Coney and Cherrett wills indicate, however, that brickmaking continued to survive, and possibly to flourish, in some districts.

Despite the formalities associated with will-making, the personal circumstances and concerns of an individual testator did have impact on the style and content of their last will and testament. A clearly structured, professionally produced will is not necessarily more informative or detailed than a relatively informal declaration of last wishes. Clear evidence of occupational status and other salient details of a testator's circumstances is not always apparent in, or limited to, a neat opening declaration by the testator, but is to be found at various stages of the will and in other elements of probate records such as indexes of wills, or in the oath to the executor(s). Wills often provide only a partial view of a testator's property but do indicate the testator's concerns at the time the document was written. Over all, wills are a mixture of protocols and personal wishes, but these characteristics can add to, rather than detract from, the utility and interest of wills as sources of evidence.

## Appendix

### Transcriptions of the wills of Andrew Coney, Daniel Cherrett and Thomas Cherrett

#### 1. Andrew Coney

In the Name of God Amen I Andrew Coney of the Parish of Litchet Minster in the county of Dorset yeoman and Brickmaker, being in Health of Body and of Sound mind and Memory, and knowing the uncertainty of Life, do Make and declare this my last Will and Testament in Manner and form following that is to Say First and principally I commend my Soul unto God who gave it hoping for free parden of all my sins through the Merits of Christs death, And my Body I commit to the Earth as it shall please God to determine to be; buried in a Christian like and decent Mannor as Opportunity shall Offer, And as touching such Wordly [sic] Estate wherewith it hath pleased God to Bless me in this Life, I give and dispose thereof in Mannor following that is to say

First I give unto my Grandchildren Sons and Daughters of my Son Robert Coney Elizabeth Coney Daughter of Robert Coney Ten pounds, to James Coney Son of the said Robert Ten pounds and to Andrew Coney Son of the said Robert Coney Ten pounds and to Rebeckah Coney daughter of the said Robert Coney Ten pounds Each to be paid by my Execetour when they shall come to the Age of Twenty one years but if Either of the said Children dye before they come to the Age of Twenty one years that Childs part to be devided Eaqually between the rest of Robert Coneys Children.

Also I give to my Grandchildren Elizabeth New daughter of Morgan New fifteen Pounds and to James New Son of the said Morgan New Ten Pounds to be paid by my Execetour when they shall come to the Age of Twenty One Years but if Either of them dye before they come to Twenty one years that part to be paid to the Other Child of Morgan New by my Execetour

Also I give to my Daughter Betty or Elizabeth New Twenty five pounds to be paid by my Execetour at the end of the year after my Descease

Also I give unto my Grandson, James Coney Son of the said James Coney ten pound with my House where I now live in with half the out Out Houses and Half the garden and plot of Ground if he come to the Age of Twenty One Years If dye [sic] before the Age of Twenty One then to go to Andrew Coney his Brother

Also I give unto my Other Grandson Andrew Coney Son of James Coney Ten Pounds with the small part of my Dwelling House and Half of the Out Houses and Garden and Plot of Ground at the Age of Twenty One years if dye Before that Age to go to his Brother James Coney to be delivered and paid by my Execetour

Also I give all the Household Goods where I now dwell to be divided between my Grand Children at my descease into three Equall parts to Morgan News Chidren One part to James Coneys One parte and One parte to Robert Coneys Children as Equal as can be devided

Lastly I do Appoint and give to my Son Robert Coney all the Rest and Resedue of my Goods Outdoor, Stock with all Implements of Husbandry with all Money Book Debts Bill Bonds with all personals whatsoever and wheresoever with my dwelling House till my Grand Children come to the Age of Twenty One Years and if my son Robert Coney dye before the Grand Children come to Twenty One Years then then [sic] my House and Grounds to Remain to my son Roberts Children till the time before mentioned And I do Appoint my son Robert Coney to be my whole and Sole Execetour of this my last Will and do Revoke all Others whatsoever, Whereof I have hereunto Set my hand with my Seale the Ninth day of ay and in the year of Our

Lord One Thousand Seven Hundred and Eighty  
Seven

Sign'd Sealed published and declared by the Testator  
Andrew Coney as and for his Last Will and Testament  
In the prescence of us, who Sign'd our names in his  
prescence  
And at his Request and in the prescence of Each Other  
John Brewer  
Thomas Hartnell                      Andrew Coney his Mark

1789

January 10th. This will was proved, and Robert Coney  
within mentioned was sworn Executor to it by me J  
Harris official

## 2. Daniel Cherrett

I Daniel Cherrett, Brick maker of Hurgate Hill, in  
the Parish of Corfe Mullen and County of Dorset, being  
in good health of Body, and sound mind, thanks be to  
God, my heavenly Father, calling to remembrance the  
mortality of my Body, and knowing that it is appointed  
for all men to die, do make this my Last Will and  
Testament. That is to say, principally and first of all, I  
give and commit my soul into the hands of Almighty  
God that gave it, and my Body I commit to the earth to  
be buried in a decent Christian burial, at the discretion  
of my Executor, nothing doubting but at the general  
Resurrection I shall receive the same again by the  
Almighty power of God. And as touching my worldly  
affairs wherewith God hath been pleased to bless me, I  
give and devise and dispose of the same in the following  
manner.

First, I give and bequeath unto my son Benjamin  
Cherrett all the Leasehold Estate called Hurgate Hill  
Containing of Six fields, and Three Gardens, amount-  
ing to about Seventeen Acres, more or less, Together  
with the Dwelling house, Barn, and every other  
Building Thereunto belonging unto it during the said  
Benjamin Cherrett, and Ann Cherret, his wifes life. And  
that the said Benjamin Cherrett shall pay to the Lord of  
the manor the Yearly Rents claimed thereon, and the  
whole expenses of my Burial.

Secondly I give and bequeath unto my son, Thomas  
Cherrett, Brickmaker, the Brickkiln and the Ground  
thereunto belonging unto it, called Hurgate Hill, and  
that he shall possess it as long as he liveth without the  
least molestation from any of my sons or daughters, and  
that after his death I give and bequeath it unto James  
Cherrett the son of Thomas Cherrett, and to hold it  
until it falls into the Lord of the manors hand.

Thirdly I give and bequeath unto my Daughter  
Elizabeth Hames, the sum of Ten Pounds of good and  
lawful money. Five pounds is to be paid unto her at the  
Expiration of one year, after my decease, and the other  
Five Pounds, is to be paid to her at the Expiration of  
Two years after my decease: and that the said Sum of  
Ten Pounds is to be paid to her by Benjamin Cherrett  
my Son, or his heirs.

Fourthly, I give and bequeath unto my Son  
Benjamin Cherrett and his Wife, Ann Cherrett, all my  
goods and chattels, and all the moveable things which is  
in the dwelling house of the said Estate, he Inhabits.

Fifthly, I give and bequeath unto my son Thomas  
Cherrett, the Sum of Ten Pounds of good and lawful  
money, Five Pounds, is to be paid him at the Expiration  
of one year after my decease, and the other Five Pounds,  
to be paid unto him, at the Expiration of Two Years after  
my decease, and that the said Sum of Ten Pounds is to  
be paid by Benjamin Cherrett or his heirs.

Sixthly, I give and bequeath unto my Daughter Mary  
Best the Sum of Ten Pounds of good and lawful money,  
Five Pounds to be paid her at the Expiration of one year  
after my decease, and the other Five pounds to be paid  
her at the Expiration of Two Years after my decease, and  
the said Sum of Ten Pounds is to be paid by Benjamin  
Cherrett or his heirs.

Seventhly I also give and bequeath unto my daugh-  
ter Sarah James, the Sum of Ten Pounds of good and  
lawful money, Five Pounds to be paid her at the  
Expiration of one year after my decease, and the other  
Five pounds to be paid her at the Expiration of Two  
Years after my decease, and the said Sum of Ten Pounds  
is to be paid by Benjamin Cherrett or his heirs.

I also Constitute and appoint my Son Benjamin  
Cherrett to be the sole Executor of this my last Will and  
Testament. And I do hereby utterly disallow, revoke all  
and every other former will and Testament, Legacies,  
Bequest, and Executors, and Executrix, by me in any  
way before named, Willed, and Bequathed: and I ratify  
and Confirm this and no other to be my last will and  
Testament. In witness whereof, I have hereunto set my  
hand and seal, this fourth day of July in the year of our  
Lord one thousand Eight hundred and twenty seven

(see over)

It is also added, that Thomas Cherrett should have  
all the said Daniel Cherrett's clothes after his Decease:  
and Mary Ann Cherrett, the daughter of Benjamin  
Cherrett the Bed, he sued to sleep on (that is Daniel  
Cherrett's Bed) this is all added unto this Last will and  
testament, & made & bequeathed, Before the Legacy  
was signed and sealed; as a part of the last will: and be  
given them as soon as he is buried

Signed, Sealed, Published, and declared by the said  
Daniel Cherrett, as his Last will and Testament: in the  
presence of us who in his presence and in the presence  
and in the presence of each other have hereto sub-  
scribed our names

Benjamin Biles  
John Dobell

Daniel Cherrett his mark  
Witness J Dobell. Benjamin Biles,  
X Joseph James

Joseph James

Publish and declare this to  
be my last Will and Testament

### 3. Thomas Cherrett

I Thomas Cherrett of the Parish of Corfe Mullen in the county of Dorset being of sound mind memory understanding but mindfull of my mortality do this 13th day of July in the yeare of our lord 1832 geve devise bequeath to my beloved wife Elizabeth Cherrett my money goods and effects with her widowhood and I do give Martha King the house in which she lives for her residens but not to let and I do appoint James Cherrett and William Cherrett my too sons Executors to bury my remains to pay all my just debts and at the expiration of two years after my Deses pay Charity Groggens three pounds Mary Laws three pounds Unity Samway Three pounds Martha King three pounds Each to be paid in Lawfull money and according to a firme agreement James Cherrett shall have the house and land William Cherrett to have smoler and the land with the crop on the Ground Equally divided between the two with the Plowing and other [—] and Richard James and William Cherrett shall pay five pounds a year each of them to Elizabeth Cherrett and I do give and bequeath to the said Elizabeth Cherrett my dear wife ten pounds to be paid by Mr Benjamin Cherrett at the time appointed on my father's will and I do Declear this to be my last will and Testament in witness whereof I the said Thomas Cherrett set my name and seale the 13th day of July 1832

Thomas Cherrett his mark

Sined Sealed and delivered and Published by the above named Thomas Cherrett as and for his last Will and Testament in the presence of us, who at his request in the presence of each other doe write our Names as Witness

John Gunning Senior  
John Gunning Junior

### NOTES

- 1 D. Young, 'Brickmaking in Dorset', *Proceedings of the Dorset Natural History and Archaeological Society* 93, 1971, 229–30; P. Stanier, *The Industrial Past*, Discover Dorset Series, Dovecote Press, 1998, 28–31.
- 2 Young, 'Brickmaking in Dorset', 216.
- 3 J.S.W. Gibson, *Probate Jurisdictions: Wills and Where to Find Them*, 1974, sets out the location of probate records in England (wills are not listed individually); A.J. Camp, *Wills and their Whereabouts*, 1974, provides useful background information on wills and court jurisdictions.
- 4 Some wills, particularly those of poor testators may never have been registered with the probate court. For a discussion of the will-making population in the Early Modern period, see J. Ford, 'A Study of Wills and Will-making in the Period 1500–1533 with special Reference to the Copy Wills in the Probate Registers of the Archdeacon of Bedford, 1489–1533', Open University unpublished PhD thesis, 1991, 100–135.
- 5 Probate records of the court of the Peculiar and Exempt jurisdiction of Sturminster Marshall, Original Wills, Dorset Record Office, SM/W/1789.
- 6 Dorset Record Office SM/W/1832.
- 7 Dorset Record Office SM/W/1832.
- 8 Young, 'Brickmaking in Dorset', 218.

- 9 B. Kerr, *Bound to the Soil: A Social History of Dorset*, 1968, 134.
- 10 D. Young, 'Brickmaking at Broadmayne', *Proceedings of the Dorset Natural History and Archaeological Society* 89, 1987, 318.
- 11 J.D. Chambers and J.D. Mingay, *The Agricultural Revolution 1750–1880*, 1966, 78, 94, 104; Kerr, *Bound to the Soil*, 16.
- 12 Kerr, *Bound to the Soil*, 124–25; Young, 'Brickmaking in Dorset', 229–30; Stanier, *The Industrial Past*, 7–8.
- 13 A.W.B. Simpson, *A History of the Land Law*, 2nd edn, 1986, 278.
- 14 J. Hutchins, *The History and Antiquities of the County of Dorset*, 3rd edn., eds W. Shipp and J.W. Hodson, 1861–1873, vol. 3, 361; *The Parish Church of St Hubert, Corfe Mullen Illustrated History and Guide*, 1994, 5; History of Sturminster Marshall, <http://www.sturpcc.freeseerve.co.uk/history.htm>.
- 15 History of Sturminster Marshall, <http://www.sturpcc.freeseerve.co.uk/history.htm>.
- 16 Ford, 'Wills and Will-making', 9–13.
- 17 Simpson, *Land Law*, 248–50.
- 18 The potential of inventories for the study of brickmakers and their trade has been recognised by some historians. See, for example, K. Gurcke, *Bricks and Brickmaking: A Handbook for Historical Archaeology*, 1987, 44–47.
- 19 A.J. Camp, *Wills and their Whereabouts*, 1974, 4.
- 20 Ford, 'Wills and will-making', 123.
- 21 Young, 'Brickmaking in Dorset', 230.
- 22 Kerr, *Bound to the Soil*, 125.
- 23 Ford, 'Wills and will-making', 46–54.
- 24 W.S. Holdsworth, *A History of English Law*, 7th edn, 1956, vol. 4, 440; F. Pollock and F.W. Maitland, *The History of English Law*, reprint of 2nd edn of 1898, 1968, vol. 2, 315.
- 25 J. Clist, 'Transcript of Parish Registers: Lytchett Minster Burials 1813–1837', Dorset Record Office, 1996, records that Robert Coney was buried on 16 January 1827, aged 71.
- 26 There is no mark recorded by these names, although it must be said that the handwriting used does not look as individual as might be expected for signatures.
- 27 John Harris had been instituted Vicar of Sturminster Marshall with Corfe Mullen in 1753. *The Parish Church of St Hubert, Corfe Mullen Illustrated History and Guide*, 1994, 19.
- 28 Young, 'Brickmaking in Dorset', 234.
- 29 Young, 'Brickmaking in Dorset', 220.
- 30 Daniel Cherrett was buried on 14 October 1831. H. M. Waddell, 'Transcript of Corfe Mullen Parish Registers, 1651–1840', Dorset Record Office, 1970.
- 31 The ecclesiastical authorities were willing to take a reasonably flexible approach as to what constituted a will, in order to avoid intestacy wherever possible but there were minimum requirements that centred on the need to establish the authenticity of the document. For a discussion of the establishment of these requirements see Ford, 'Wills and will-making', 39–41, 84.
- 32 The exact date of Thomas's death is not given in the will (and would not normally be noted on the document). The formal executors' oath, dated 27 October 1832, states simply that he was 'deceased' but the parish registers for Corfe Mullen show that Thomas was buried on 22 July 1832.
- 33 The name Hurgate Hill no longer exists in Corfe Mullen; the tithe map shows that 'Hurgate' and 'North Hurgate' were located to the south of what is now Rushall Lane.
- 34 Kerr, *Bound to the Soil*, 18.
- 35 Young, 'Brickmaking in Dorset', 232.
- 36 Kerr, *Bound to the Soil*, 13–14.
- 37 Simpson, *Land Law*, 249. A remainder is 'A remnant of an estate in lands or tenements, expectant upon a particular estate created together with the same at one time', R. Bird, *Osborn's Concise Law Dictionary*, 7th edn, 1983, 284; other testators enunciated the terms of a lease in even more detail: Daniel Cherrett, maltster, of Corfe Mullen, whose will was proved in 1720, declared that he had 'A Leasehold Estate

lying and being at Slait in the parish of Corfe mullen aforesaid, part of a freehold Estate of William Phillips Esquire...for the terme of ninty and nine years, but determinable on the Deaths of my loving wife Elizabeth Cherrett, my sonn Roger Cherrett and my sonn John Cherrett ...', Dorset Record Office, SM/W/1720.

38 The task of executing a parent's will was frequently entrusted to the eldest son, see, for example, Ford, 'Wills and will-making', 80–81.

39 Waddell, 'Transcripts of Corfe Mullen Parish Registers'.

40 7 Will. IV and I Vict., c.26.

41 Simpson, *Land Law*, 278.

42 A. Macfarlane, *Marriage and Love in England 1300–1840*, 1987, 283–84; Ralph Houlbrooke notes that 'the most widespread custom in Dorset' dictated that a widow's customary rights lasted only so long as she remained a chaste widow, *The English Family 1450–1700*, London and New York, 1984, 211.

43 Young, 'Brickmaking in Dorset', 229.

44 Daniel Cherrett, maltster of Corfe Mullen (see note 37), stated in his will his desire that his wife Elizabeth and his daughter Elizabeth Sater, 'would continue the malting trade together during the life of my said loving wife'.

45 Corfe Mullen Tithe Apportionment book, Dorset Record Office COM/1.

46 Susan Dwyer-Amusson, *An Ordered Society: Gender and Class in Early Modern England*, Oxford, 1988, 81.

47 Young, 'Brickmaking in Dorset', 229.

48 Gurcke, *Bricks and Brickmaking*, 5; M. Hammond, *Bricks and Brickmaking*, 2001, 5.

49 Kerr, *Bound to the Soil*, 124–25.

## The Press Gang in Dorset

GLANVILLE J. DAVIES

The Royal Navy had no regular seamen before 1830. During peacetime most warships would be decommissioned and the crews discharged; but in wartime, when the nation needed all its fighting ships, the navy found it impossible to man them from the tiny trickle of volunteers they were able to attract. And the navy needed thousands of men because warships — compared to those in the maritime trade — were vastly over-manned. A first-rate ship, to be able to sail and fight at the same time, needed 880 men. Even a small naval sloop, which any merchant would crew with fewer than twelve sailors, needed 80 men to work the ship and to man the guns. Before 1756, when the Seven Years' War began, the navy had been reduced to 10,000 men, and only public opinion and the pressure from merchants prevented further reduction to a mere 8,000. But within weeks of war beginning they needed 168 ships in commission and 13,641 more able seamen. That same cycle of reduction and demand was repeated in 1792 when war broke out against revolutionary France. The navy estimated that it needed 120,000 seamen, and they could only be recruited by raiding the mercantile marine, and gathering additional men from those who had never been to sea.<sup>1</sup>

The Dorset seaports had had a long and bitter experience of the levies and quotas through which the navy compelled seamen to serve on board warships. Weymouth in particular was known to be extremely hostile towards the navy's excessive demands. In 1626 the mayor of Weymouth was instructed by the captain of a visiting warship to serve a notice that all seamen had to assemble before him, and the visiting naval officers. Clearly, the mayor resented being used in this way, but he had no option except to obey. The navy probably hoped to persuade a number of men to volunteer, and even those who did not would then have been easily identified for some future levy. But, when the seamen assembled, no naval officer turned up. Immediately, and without waiting any longer, the mayor dismissed the men. He was satisfied that he had carried out his duty. But the navy thought otherwise. Later that night a drunken mob of naval men burst into his house, began smashing furniture and threatening him, and demanded that he re-assemble the sailors the following day. He did so, but the sailors were now aware of the navy's intentions and probably persuaded a number of unsuitable men to assemble in their place. The surgeon immediately rejected them as unfit to serve, and then, in anger because they had been thwarted, the naval men began to break into nearby houses and drag out protesting men. The subsequent lawsuits and claims for compensation proved to be extremely expensive for the Admiralty. Only a few years later, while making a 'sweep' of Portland they seized two men who were working in a quarry 'to the great hindrance of the work'.

The chance of their release was slender because men had also been seized the previous year, and despite protests they had still not been released. Poole also was moved to protest when, in 1652, there was a vigorous recruitment drive for seamen for the *Diana*. Despite protests from the mayor and traders, the captain carried off sixty-two seamen. That one incident disrupted trade in the port for months. In 1701 the same thing was repeated, and Poole lost two hundred seamen to the navy. That was a number impossible to replace. The arbitrary seizure of experienced seamen made it extremely difficult for merchants to find sufficient numbers to man their ships. The situation worsened and became acute during the Seven Years' War (1756–1763): 'Seamen are so very scarce in this part of the Country that they cannot be got at any Rate ... Vessels ... are obliged to go to Sea half mann'd, there being no Hands to be got but Old Men and Boys'.<sup>2</sup>

Obviously, all naval officers preferred their ships to be manned by willing volunteers, and to make such recruitment possible the Admiralty offered bounties. In 1759 an experienced seaman who volunteered could expect a bounty of £5, two months' wages in advance, and travelling expenses from his home to a naval port. By 1808 bounties of up to £30 were being offered. Some cynics have said that merchant seamen who volunteered to join the navy when war broke out were probably poor sailors who found it difficult to keep a job in the merchant trade. There may have been some measure of truth to that because there was little incentive for seamen to leave their ships to join the navy. Merchant seamen in wartime enjoyed wage rates, which, in their wildest dreams, they could never even have considered in peacetime. Seamen's pay, because there was a scarcity of experienced men, rose dramatically. Wage rates in London rose from 45s to 50s a month in the 1690s, 55s in the 1740s, and as high as 60s to 70s during the Seven Years' War. In the outports the percentage rise was lower, but Bristol rates generally rose some 16% in wartime. By contrast, pay for a seaman in the navy remained the same in war as in peace, and had not altered between 1653 and 1797. An able seaman in Nelson's time could expect 24s per lunar month, before deductions. Men in merchant ships on a short voyage were paid at the end of each voyage. On a long voyage they agreed a monthly rate with the master, and then signed on. Part of their pay was given to them as the voyage began, and the rest paid when they left the ship. But naval pay was always kept in arrears. This was not due to Admiralty incompetence, but to deliberate policy. Men who are owed six months pay would not be expected to desert. While that was an incentive to stay in the navy, it also had the effect of depriving some needy families of maintenance.<sup>3</sup>

in 1697: 'Who Wou'd serve the King and Countrey, and fight, and be knock'd o' the head at 24 shillings per month that can have 50 shillings without the hazard?' So, to avoid the navy, seamen tried every ploy to avoid being pressed. Some volunteered for the militia because that did not take them away from their homes for long periods, nor expose them to enemy action. Men dressed in women's clothing to avoid being stopped in the street, and some, like Joshua Davis feigned illness. Davis, once aboard the tender taking him to a warship, beat his hand repeatedly against his bunk in order to raise his pulse rate. He rubbed alum on his tongue to whiten it. When he was examined by the surgeon's mate he complained of headache, high temperature, and sweating. The mate reported his pulse rate and his complaints to the surgeon, and it was immediately decided that he had a serious fever. But twice during his career Davis had had to deceive the press, otherwise he would have been forced to serve until the end of the war. But if one was not very good at deception, then there was always the possibility that a little money could buy a copy of a protection, or even a forgery. There was a lively black market in genuine protection passes. Customs officers were always being asked to replace documents that had been eaten by rats, or fallen overboard! Lloyd's coffee house even traded in them during the Napoleonic wars. But in Dorset there was one sure way of avoiding the press, and that was to serve for some time in Newfoundland. One looked for a master who needed men to stay on the island during the winter. Life was extremely harsh there during the winter and there was little to do except to prepare the drying area for the curing of the fish, and keep all huts and living quarters in good repair ready for the next season's work. William Hoare of Canford Magna, a poor boy, was apprenticed from the age of nine to a merchant trading to Newfoundland. After seven years of that life he returned to England, probably unaware that war had been declared, and was immediately impressed into the *Chichester*. After serving five years aboard that warship he was discharged, and was able to return to Poole to seek further employment. Edward Stickland, a seaman like Hoare, tried to avoid the press by volunteering to remain at Newfoundland during the winter. Joseph White of Poole, his employer, agreed. Having endured the winter he was doubtless looking forward to returning home. But in 1775, when he again set foot in Poole, he walked straight into the arms of the press gang, and was taken on board a warship. There was nothing that White could do to help him.<sup>7</sup>

The captains of warships desperately needed seamen, otherwise the fighting efficiency of their ships would be reduced. At sea the navy used ships' tenders to intercept any merchantmen. Lieutenants and midshipmen sent out to intercept them were under orders to find experienced seamen. With the voyage almost over, the protections from impressment which they or the ship carried were no longer valid. The approaching merchant ship would be signalled to heave to, and the officer and his men would board and press several mem-

bers of the crew. Escape was impossible, and there were very few places on board where men might hide. The sailors could do nothing except stand on deck and wait for the warship's boat to approach. They must have been filled with dismay as they waited to hear what their fate would be. No doubt, they had for many days looked forward to seeing their homes again.

People may talk of negro slavery and the whip, but let them look nearer home, and see a poor sailor arrived from a long voyage, exulting in the pleasure of soon being among his dearest friends and relations ... when a press gang seizes him like a felon, drags him away and puts him into the tender's hold, and from thence he is sent on board a man-of-war, perhaps ready to sail to some foreign station, without seeing either his wife, friends or relations; if he complains he is likely to be seized up and flogged with a cat, much more severe than the negro driver's whip, and if he deserts he is flogged round the fleet nearly to death. Surely they had better shoot a man at once: it would be greater lenity.<sup>8</sup>

Dorset ports had always suffered from the demands of the navy during wartime. Merchants, and the seamen's families, waiting for the arrival of a ship had no idea whether the full crew would still be on board. Ships sometimes lost the best seamen before even reaching their home port. Crews of the returning ships must have feared meeting a British warship at sea almost as much as meeting an enemy vessel. The *John* of Weymouth had barely approached the mouth of the Thames when she was boarded, and lost almost the entire crew. Over a century later merchants ships were still being stripped of their prime seamen. As the Poole registered *Indian Queen*, bound from Alicante, entered the English Channel she was intercepted and lost two of her most experienced men. Unfortunately, men seized like that from crews that had already been reduced to the bare minimum in order to make the voyage profitable, might well leave the ship short handed to make port. The naval captains were expected to send on board sufficient men as replacements. Those 'ticket men' were supposed to rejoin their ship at the first opportunity. Of course, that rarely happened, for the men would make good their escape once the ship had docked, or would be snapped up by the press. When the *Deptford* sent five men on board a merchant ship, they made no effort to return. Perhaps they were not missed because everyone knew that captains rarely sent good sailors as 'ticket men'; they exchanged the worst of their crew for experienced and seasoned seamen. Everyone felt that impressment when one was completing a voyage was the cruellest blow: 'it is a very bad thing for a poor seaman when he is pressed in this manner, for if he have a wife and children he is not suffered to go to see them, nor to go and look after his wages, nor to take care of his venture [i.e. his private trade], but must leave it to the trust of one whom he knows'. Richardson, chief mate of *The Spy* in 1791, recalled how the frigate *Nemesis* intercepted them when returning from Guinea and took several

members of the crew: 'the poor fellows shed tears on being pressed after so long a voyage, and so near home'.<sup>9</sup> The master, of course, was exempt, but in October 1778, Isaac Lester forgot that only masters of fishing ships below fifteen tons or vessels above fifty tons could claim automatic protection. He sent a small sloop loaded with provisions to transfer stores into the Newfoundland ships fitting out in the bay. To his indignation, 'Frank Wills the master of her was impress'd'. Wills was one of his most experienced seamen, and due to board one of Lester's ships to go to the fishery. Unfortunately, the sloop was less than fifty tons, so legally Wills had no protection. Lester suspected that Spurrier, his sworn rival, had arranged with the naval officer to seize the ship and impress all on board. Probably, Wills had earlier been asked by Spurrier to join one of his ships and had refused in favour of Isaac Lester. The lieutenant in charge of the press would only release Wills 'under promise for his being deliver'd up when Capt Scott comes'. Captain Scott was the regulating captain in Poole, so Frank Wills had to be held until his position was resolved. Scott decided that the matter must be referred to the admiral at Portsmouth. There was a further delay before the admiral made a decision, and to the relief of Lester, and undoubtedly the relief of Wills, 'the Admiral discharged him'. Isaac Lester had gone to a great deal of trouble to secure the release of Frank Wills, and 'this makes some Noise in ye Town'. The townspeople of Poole were clearly impressed, and Isaac Lester's reputation as a defender of his crewmen was enhanced. Spurrier had won what he intended: the delay when Lester could not use Frank Wills, an experienced seaman, but he had lost the greater battle because Lester's good reputation in the town was firmly established. The problem that faced Wills and others when confronted by the press-gang, was that sailors were never certain whether the navy would accept their explanations. Experienced sailors might be foremastmen for one voyage, and chief mates, or even masters, for another. No one was certain whether an encounter with the press might lead to their seizure because they temporarily found themselves with a different, and more vulnerable, status. That was the problem facing seven ex-prisoners of war that had been taken from a British warship and were now being repatriated to England. Fearful of entering a port in which there was a naval ship or an active press, they overpowered the crew of the boat in which they were being returned, and landed on Portland. Generally, returned prisoners of war were protected from the press. They either did not know that, or they did not trust the press gangs. It was not unknown for seamen to pretend to be sailors returning from a French or Spanish prison, and to claim that they were entitled to return home. The ex-prisoners went inland, secreting themselves among the winding tracks and footpaths that led north. Finally, after weeks of hiding and running, they were caught on Clee Hill, Shropshire. Because they were now classed as deserters they were pressed into service. Unfortunately, their fate

was not to serve further in the navy, but to be flogged around the fleet for desertion.<sup>10</sup>

Though they were allowed to press men from returning ships, occasionally, in desperation, a naval officer would seize men from one that was setting sail from its port. If that happened the officer in charge ran the risk of incurring the wrath of the Admiralty. No one wanted merchants to complain, or use the law courts or local MPs to inquire into the legality of impressment or the methods used. Despite that, the seizure of seamen from outward bound ships did occasionally happen. In 1759 there was a severe shortage of seamen, and the captain of the *Dartmouth* (80 guns) seized men from an outward bound ship. The merchant complained, and the captain was promptly ordered to release them and return them to shore. Others who were seized by the press but immediately released were those who could establish that they were 'men of substance', like William Kingston of Lyme Regis in 1726, or John Pennie of West Lulworth who was vouched for 'by a gentleman'. Such men were liable for service in the navy, but their seizure would undoubtedly lead to a prolonged battle with lawyers. Others, like Henry Wills in 1771, managed, while the tender was still close to shore and lightly guarded, to slip away. He 'jumped overboard ... at Brownsea, and swam ashore wearing three coats'. But pressed men who were finally herded on board, were generally kept in handcuffs or leg irons until the ship had sailed. The navy knew that close to the shore many men, in desperation, might fling themselves into the sea, hoping to swim ashore. Of course, not all who were pressed were seamen. There is no doubt that press gangs sometimes picked up those who had no experience at sea. There was no one to speak for 'the children of labourers, farmhands ... and young men who were dissatisfied with, or could obtain no employment in the lowest of shore occupations'. The Admiralty occasionally had to turn a blind eye to the impressment of men who knew nothing of the sea, otherwise they would not have been able to man their ships. So, from the time of William III (1689–1702), increasing numbers of naval ships described some members of crew as 'landmen'. Their wages were low in comparison with those of able seamen, but greater than the wages of labourers — and some skilled workers — on land.<sup>11</sup>

Accurate figures of the number of men pressed into service were never compiled. Many who encountered the press gangs volunteered, but would not have done so without the fear of being pressed. On the crew lists their names are shown as 'volunteer'. We know that from 1755 to 1757 a total of 70,566 seamen enlisted, and the majority were pressed. After that date there are no statistics, but from the increased activity of the press gangs, and from anecdotal evidence, we may safely conclude that the navy was equally reliant on impressment during the French and Napoleonic wars that followed.

Fear of how the press would react to any explanation, and the knowledge that the pressmen were deaf to

all entreaties, persuaded many seamen to leave their ships before entering port. Knowing their fears, masters of vessels returning from a voyage helped their crew members as much as they could, so they often dropped their men in unlikely places. It was in their interests to do so because a considerate master would find little difficulty in recruiting a willing crew for his next voyage. In particular danger were the crews of ships confined on board while the ship was in quarantine. The yellow jack at the masthead showed all approaching vessels that the ship had an infection on board, or had called at a port in which an infectious disease had been reported. Ships in quarantine could be held offshore for up to forty days, but this did not deter the pressmen from calling upon them. In 1778 the *Dolphin* of Poole in quarantine on the Motherbank in Poole lost almost the entire crew within hours of dropping anchor as they all fled ashore to avoid impressment. Such desertions when the press was known to be active were certainly not uncommon, but there were severe penalties for desertion during quarantine. For such an offence the master could be fined £500, and each seaman £200. However, it was common enough for seamen to leave returning ships not due for quarantine, and make their own way back to their homes. Isaac Lester noted in his diary that one master, Lake, had deliberately dropped his men off at Portland, rather than risk their being taken by the press: 'last night Capt Randall came to Town from Portland, where he left Mr Lakes Brigg. He came home from Newfoundland. The People are all got ashore there to Escape the Press'. The seamen suspected that if they entered Poole, they would be taken. Naval pressmen haunted the dockside, and were always alert for the arrival of a ship. As the ship tied up, they would go aboard and seize several men. Four escaped from one ship as it approached the Purbeck hills. They were seen from the shore and pursued. James Penny of West Lulworth was stopped when a mile inland. As they cornered him he stabbed one man in the arm, then raised the knife to his throat and threatened to kill himself: he 'swore he would not go on board unless they carried him dead'. He seemed desperate enough to carry out his threat. The press gang did not dare to seize him because his death could have been difficult to explain, and might have resulted in prosecutions. On that occasion they had to let him go. But there would be others to take Penny's place because the pressmen knew where the ships' masters might drop the crew members: Burton Bradstock, Portland, Osmington, Ringstead, Lulworth, Oarbarrow and Swanage Bay. Those were the best landing places for men to row ashore. Knowing this, the press often kept watch for ships hovering near those places. Sometimes they witnessed smugglers rowing goods ashore, and the knowledge could come in handy when they wished to purchase goods cheaply. In February 1780, Customs officers found a six-gallon cask of gin on board the press-gang's boat. Wines and spirits could not be imported in casks of only six gallons so, clearly, it had been smuggled. Customs men had no love for the navy, and they always

suspected naval officers of being petty smugglers. When they seized the cask they were told that it was for Captain Scott. However, Scott refused to pay the treble fine — which was the normal method of avoiding arrest and trial — and claimed, instead, that he had ordered the boat's crew to purchase — legitimately — two gallons of liquor. The gin was being rowed to his house because he felt that he could not trust the crew with a six-gallon cask on board. John King, one of the pressmen on board, was seized instead, and fined the treble amount. The Customs men well understood that Scott was never going to admit his complicity, but as King had admitted the offence there was nothing further they could do.<sup>12</sup>

The search for suitable men could not, of course, be confined to the main seaports. They knew that seamen often avoided the seaports and parishes along the coast when they suspected that impressment was taking place. To seize sailors who may have fled inland, the press organised surprise raids across country, and organised a 'hot' press or 'sweep'. Occasionally, news of these activities spread quickly. 'Mr Shane went to Wimborne this morning, met the Press gang going there, 70 men all armd, but the saylors there have intelligence of their coming, all made their escape'. But everyone feared a 'hot' press because of the number of naval men used and the care they showed in sealing off roads and trackways. Escape from an area sealed off like that was almost impossible. Such a press could last a week or more, and any man picked up, unless he had a pass giving him written protection from impressment, was, without hesitation, swept up by the navy. There were two types of protection: that granted by an Act of Parliament, and that granted by the Admiralty. Parliament protected the masters and chief mates of all merchantmen over fifty tons, all men over the age of 55 years, foreigners 'for ever', apprentices within their first three years at sea, and landmen in their first two. The Admiralty protected seamen in privateers, government transports, and dockyard workmen. Generally, Admiralty protection was only valid when men were afloat, or aboard a vessel fitting out for a foreign destination. When the *Elizabeth*, bound from Portugal to Hull, entered Studland Bay to make some minor repairs, 'a Sloop came out of Poole harbour and told them there was a very Hot Press'. Several men immediately left the ship and hid in a barn for several days until the ship was ready for sea, and then they slipped on board and set sail. The men were right to fear impressment at that stage because they were in a ship returning from a voyage, and no form of protection would cover that.<sup>13</sup>

Dorset's principal overseas trade was to Newfoundland, and from there to the Mediterranean. Unfortunately, the trade was highly labour intensive, demanding a full crew for the ship and additional men — usually listed as 'passengers' or 'fishermen' — to man the small fishing boats, and to work on shore drying and

curing the fish. Ships, therefore, left Dorset ports carrying both seamen and passengers. In 1698, on only four ships, Poole sent 164 passengers, and the *Adventure* of Weymouth of only 80 tons, carried 57 passengers on board. But the needs of the west country merchants who relied upon the Newfoundland trade conflicted with the needs of the navy to man its fighting ships. The merchants struggled to protect sufficient men to guarantee their trade, but that became increasingly difficult. During the civil war (1642–1649) the Newfoundland ships won a short reprieve from the navy when it became known that ‘there is some danger of Prince Rupert making some attempt to seize the fishery’. But as soon as the threat had passed the mayors of the west country ports were warned to see to it that no ships left for Newfoundland until the levy for the navy had been filled. But the mayors and merchants continued to push their case with vigour, and by 1696 had convinced the government that some measure of protection was essential, otherwise trade might well come to a standstill. As a result of the death of one ship’s master, John Stocker, who was murdered by a press gang, his widow won a legal battle against the Admiralty. The Crown was forced to remind the impress service that they were ‘not to impress men bound for Newfoundland’. That was reinforced in 1705 when the French at Newfoundland managed to seize St Johns, and the seriousness of the situation in the fishery, which might have gone entirely under French control, finally became clear. Parliament showed its concern, and the Admiralty reluctantly agreed that for the duration of the war the Newfoundland trade could enjoy protection.<sup>14</sup> But the mayors and merchants who traded to Newfoundland always hoped to enjoy the same privileged treatment which had been given to the West India merchants. West country traders had only the Crown in support of their plea for protection; the West India interest, London based and altogether more powerful, gained statutory rights to protection. The best that the Newfoundland traders could secure was the usual exemption granted to all foreign traders. The mayors repeatedly asked for protection of both passengers and seamen, but that demand was fiercely resisted until much later in the 18th century because the Admiralty feared that such protection would become ‘too great a resort of Vagabonds and Runaways’. Admiralty protection could not be issued as generously as the merchants would like, largely because the navy continued to regard the fisheries as a valuable source of manpower. In any case, the pleas of mayors and merchants for even greater protection must have rung rather hollow. Since 1615 the Newfoundland traders had constantly asserted that ‘a fishing trade is one great and certain Nursery of Seamen’. Three voyages, it was claimed, turned a ‘green’ man — a landman — into a seaman. Even as late as 1782, Poole claimed that over three thousand ‘green’ men learned ‘the Mariner’s Art every year’, and that ‘it is very evident that the fishing trade is of more consequence to our naval force than any other single trade’.

But, as the navy well knew — but would not admit — the Newfoundland trade never fulfilled its function as a great ‘nursery for seamen’. The merchants, including those who had long ceased to trade in Newfoundland, constantly proclaimed that the trade needed more protection. Some observers, even at the time, recognised that the claim of the west country merchants was false: ‘the Newfoundland fishery which was formerly the great nursery for breeding up stout and able mariners, was now become a mere drain that carried off very many of the best and most useful of all British sailors’. The truth was that the ships plying a coastal trade in coal provided more seamen for the navy than the Newfoundland trade. The navy was reluctant to admit that because there was considerable prejudice against coastal sailors. They were deemed to have no experience of life on the high seas, and to be inferior sailors. But, if it had not been for the coastal sailors, the navy would have never been able to commission so many fighting ships. The Newfoundland traders were able to continue their trade to the fishery because they were quick to apply for protection when war threatened, and were adept at sheltering their seamen from the attention of the navy. It was, of course, in their interests to do so. Any master who could guarantee protection for his crew could recruit crewmen without any difficulty, and could generally offer a wage rate below that which was normally given. Benjamin Lester housed, in secret, some of his most experienced seamen at his home, Post Green in Lytchett Minster. A master or merchant who was prepared to defend his seamen and argue a case with the press gang officer could be guaranteed the continued loyalty of his seamen, for they would certainly volunteer again to join his ships. Isaac Lester stoutly defended his seamen in September 1779, when ‘two Cutters from Spithead came and Imprest our Saylor, got them of again’. He waved his protection pass in front of the lieutenant, and secured their immediate release. But he was scathing in his criticism of another trader who failed to protect his men. On Sunday, 6 April 1777, he noted with some glee that ‘Bishop was Fool enough to bring his Protection up, & the Press Gang came and Took out 3 of her Men’. No Master forgot to produce his protection at the right time, or failed to apply to the Customs House for its renewal when it expired.<sup>15</sup>

To gather men for the Newfoundland trade, merchants employed agents in different places in the county to recruit seamen and labourers. The agents arranged clothing for those in need, and advance wages sufficient for their families to be left with some means of support. In addition the masters of the ships, anxious to show the shipowners a profit on the voyage, ‘rode from one market town to another ... on purpose to get passengers’, for they paid in money or fish for passage out and home. But the merchants did not always find it easy to conduct their business and get their ships ready to sail. There was paper work to do, and men had to be registered at the Customs House before the protection applied to them. A man might agree to sail, but if his name was not

yet listed then the press gang could seize him and demand that he enlist in the navy. This struck the merchants particularly hard because at the time of the agreement they paid the men almost half the wages before the voyage began. Earlier in the 18th century the practice had been to pay the first instalment of wages at Newfoundland when 'the ships are loaden, weigh Anchor, and saile from thence with their cargoes of fish'. But seamen had complained that without a substantial advance of wages their families were left almost destitute until they had returned home. By the 1780s the practice was altered so that almost one half of the agreed wage would be paid while seamen and ship were still in Poole. If impressment followed it meant a loss of wages as well as the loss of a seaman. The mayors and merchants of the west country ports were united in protesting that this was an unbearable burden for any trade to shoulder. Dartmouth, Exeter, Topsham and Teignmouth joined forces with Poole to petition the government not to press men who had already agreed to join a ship and had already received some wages. Poole went one step further, and demanded that men who had agreed should be allowed to 'remain in the Town Unmolested and not be Obliged to Victual or Lodge on board their Respective Ships' because they found it 'almost impossible to keep such Seamen ... on board their Ships while at the Quay'. The Admiralty at first refused: 'We cannot grant Poole an Indulgence that other Towns do not enjoy'. Finally, however, the Poole merchants secured the right to allow men who had contracted to sail, or were working on the ships, to remain ashore without being impressed. This, to the disgust of the Admiralty, turned Poole into a haven for seamen who wished to avoid service in the navy.<sup>16</sup>

The number of ships engaged in foreign trade fell during war time because insurance rates rocketed, naval protection could not be guaranteed on every trade route, and many foreign ports of call were in enemy hands, or were dangerously close to the enemy coast. As the Seven Years War entered its third year, and the navy increased its recruitment, sixty-seven Poole ships gained protection. But as the war continued to rage in north America, and shipping was menaced off the shores of Portugal and Spain, trade fell off, so only ten applied in 1761, and fifteen in 1762. A short period of peace followed, but in 1775 war against the American colonies began. New England privateers roamed the Banks off Newfoundland and for a time it appeared that the fishery was going to be dominated by the colonists and their French allies. The west country merchants had only one thought: what was the navy going to do to help? They saw no conflict of logic, or contradiction, in their vociferous demands for greater naval protection at sea, and increasing exemption from impressment at home. Fortunately, the navy was quickly able to contain the marauding ships off Newfoundland, and to provide convoys to escort the fishing ships both to and from the fishery. As the fishery was the chief overseas trade of the Dorset ports, that went some way towards satisfying the

merchants' demands. But the merchants wanted more. They wanted seamen and passengers safeguarded against impressment. The Admiralty responded generously. Crew members and passengers were given protection. Even in Weymouth there was a renewed interest in the trade. In 1775, and again in 1777, the 80 ton *Bee*, with a full crew of twelve, and forty passengers, sailed for the fishery. That was followed in February 1778 by the *Elizabeth & Sarah*, 150 tons, with a crew of twelve, and forty fishermen. Trade in Poole did not reach peacetime level, but in 1777 the merchants felt confident enough to send 32 ships and almost 800 passengers. Protection was also granted for men to journey to the port from Wimborne, Sturminster, Wareham and Ringwood to join their ships. As the 18th century drew to a close, and war clouds still loomed on the horizon, it appeared that the Admiralty was doing everything possible to protect the interests of the traders. Doubtless they, like the government, realised that trade was the wealth of the nation that they were trying to defend. In 1794, the Newfoundland traders of the west country gained 134 ships' protection passes, covering crews and passengers, and of those 55 went to Poole. Although the figures are incomplete, the existing Admiralty records show that over 630 protection passes were issued to Poole between May 1800 and April 1814, when there was war against France. Weymouth, in the same period of time, received forty protections. The Admiralty even granted protection to the *Trafficker* of Weymouth, which was only a coastal vessel, the *Prosperity*, a packet boat, and to five ships which plied their trade to the Channel Islands.<sup>17</sup>

Though the Admiralty eventually accepted that trade must be protected, and protections, except in times of great emergency, must continue to be issued, the impress system was undoubtedly a grave infringement on the freedom of the citizens. Perhaps that could be forgiven, for our country too, in recent times, conscripted young men into the services. But, what cannot be excused is the dreadful treatment meted out to those men of the earlier period who were press ganged into the navy. Even at the time there were those who voiced their protest:

Our fleets ... are first manned by violence and maintained by cruelty. When our ships are to be fitted, an impress is sent into the streets, to bring those who shall fall in the way, by force into the vessels; from that time they are, in effect, condemned to death; since they are never allowed again to set foot ashore, but turned over from ship to ship, and when they have finished one expedition, hurried into another, without any regard to the hardships they have undergone, or the length of the voyage; so that they must live upon salt provisions, without their pay, till they shall be consumed by the scurvy, or die of some other distemper, which they have contracted by the hardships they have suffered and the provisions which they have been obliged to subsist: a practice so horrid and barbarous, that it is sufficient

to deter anyone from entering into the service at all, and to oblige those who are so unfortunate as to be engaged in it, to desert to the enemy, or fall upon the most desperate means to set themselves free from such dreadful servitude. Nor can it easily be guessed why it has not provoked the sailors to some universal mutiny which might produce the utter ruin of this kingdom; a consequence which every day may be supposed to bring nearer, as the same cruelty grows perpetually more hateful by daily repetition. Here is a grievance which cannot be mentioned without horror, or remain unredressed without the greatest danger and the most flagrant guilt.

Admiral Vernon  
addressing the House of Commons in 1749

## NOTES

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## The 1830 ‘Captain Swing’ riots in Dorset — an eye witness account

JO DRAPER

The ‘Captain Swing’ agricultural riots in 1830 have been called the Last Labourers’ Revolt (Hammond and Hammond 1911),<sup>1</sup> and they have continued to fascinate historians. The riots have ‘come to epitomise the very nature of rural social protest, from undergraduate textbooks to the consciousness of the whole labour movement’ (Hobsbawn and Rudé 1973, 220). A recent study on the earliest outbreaks in East Kent concludes that ‘what we need to uncover are the local truths, the realities of poverty and work and the practices that made up the labourers’ experience of justice and inequality’ (Griffin 2000, 157).

The disturbances started in Kent in August 1830 and swept across the South, reaching Dorset in late November. The obvious causes were low wages and the introduction of threshing machines which took away much of the labourers’ winter work. Distress was certainly one of the causes, but there were others. Threshing machines were destroyed by groups of labourers, and the name Captain Swing was used to sign anonymous letters threatening farmers (Hobsbawn and Rudé 1973).

The riots have been reconstructed from accounts in contemporary newspapers and the trials of the rioters, but descriptions of the events from the labourers themselves have, unsurprisingly, been lacking. W.H. Hudson asked elderly labourers about it in Wiltshire in the late 19th century, and one woman remembered it being called ‘the mob’ and an old man recollected ‘the shouting and noise of smashing machinery, and finally of the mob pouring forth over the down on its way to the next village, he and other little boys following their march’ (Hudson 1910, 147–49).

A short-lived newspaper/journal *The Farmer and Labourer*, which described itself as non-political and unsectarian, was published from Sherborne, Dorset, in the 1870s (copies in the British Library). In their 21 November 1874 issue they mentioned in passing the 1830 riots at Woolland, and this must have set the local *Dorset County Chronicle* reporter off to discover more. 1872–1874 was the period of greatest union activity in Dorset, with the founding of Joseph Arch’s National Union of Agricultural Labourers. Two years of disputes had ended in compromise in the summer of 1874 (Draper forthcoming) and the history of labourers’ unions was then of interest. The article was printed in the *Dorset County Chronicle* for 10 December 1874, and again in the same newspaper for 1 January 1925,<sup>2</sup> then headed ‘How Farm Labourers resisted Agricultural Machinery – Extracted from our old files’. It was also published in *The Farmer and Labourer* 12 December 1874 in the same form as the *Chronicle*.

### The Original Article

#### The Great Mob

This heading is a local term given to a rising which originated in Stoke Wake in 1831 or 1832 [actually November 1830], and which has been referred to by Mr Ward in the *Farmer and Labourer* for November 21<sup>st</sup>. The following is an account of this local disturbance as related by an old rustic: Seven men were transported, five of whom were from this village – viz, Adam Thorne, James Thorne, Charles Sims, John Legg and James House. Work was scarce, the worst labourers having little or none. This they attributed to the use of machinery for farm purposes and the rising was for its destruction. Sitting down with his cider by his side, the old man related it as follows, taking an occasional draught at intervals to clear the webs and brighten his memory: ‘I wer’ a young man in the time of ‘The Great Mob’, and a pretty deal stronger than I be now. I used to live down in ‘Tea Kettle Lane’, at Hazelbury, where Granger d’ live now. As I said, I wer’ a young man then, and had been married about two or dree year. Twer’ on a Vriday marnin’ when I fust heard anything about it; I’d mind it as if twer’ but ‘esterday. I wer’ a cutin’ rushes for Farmer W... when Ad came to I and axed I if I’d jine ‘em. I axed ‘em what they did mean, and they said ‘We be a agooin to beat all them there machines to pieces’. ‘Well,’ sez I, ‘I’ll zee about it’. ‘Well, zes they, ‘We be a goin’ to begin tonight at Woland’. So when I gets home a tells ‘Lizer about it, and she sez ‘You bean’t a gooin’!. No! that you bean’t’. I had a bit of supper, and a’terwards went outside our back door (that’s a’most opposite the blacksmith’s shop, that is now) and I heard such a hammerin’ with sledges and a rattlin’ o’ iron Woland-ward (‘tis as true as I be a sittin’ here), I zea to my good ‘oman, ‘I must be off, now; they be got to work over there, and I shall be too late’. But all she did say wer’ ‘You bean’t a goin’. ‘So’, sez I to myself, ‘S’pose I shant’ Next marnin’ – that wer’ Zaturday – a’ter milkin’, I wer’ a sent to clean out some pigs in the ould barn, when Adam and Jim Thorne comes up to the door, and, sez Jim (I think, but I can’t quite mind which), ‘Come and jine us’. Sez I, ‘I shan’t’. Sez he, ‘You shall’, and in he comes into barn and wer’ a gooin’ to take hold o’ I, so I up vi’ my vist and knock’d ‘en down. Then t’other wer’ a comin’, and I had a pick in my hand which I’d been usin’. Sez I, ‘If anybody do touch o’I I’ll run ‘en drew en’. Zoo they wer’ goin off. I wer’ a young man then, and a deal stronger than I be now. And that’s what they did everywhere – force all on ‘em they could to jine; but lots on ‘em was glad enough to jine without nay fo’cin;. Zoo, a’ter they’d got fifty or sixty on ‘em together, they went to Mr ....., at Mappowder, and axed for his haymakin’ machine. Sez he, ‘I will give you a sovereign to go on’. Zoo they went on to Mrs Guppy’s – that’s where the ould dairy-house d’stand

*At a Meeting of the Gentry, Yeomen, Tradesmen, and others, (in compliance with the call of Government, made known to them by the Magistrates,) desirous of acting under the guidance of GEORGE THOMSON JACOB, Esq. held at STURMINSTER NEWTON, the 7th day of December, 1830,*

**GEORGE THOMSON JACOB, Esq. IN THE CHAIR,**

IT WAS RESOLVED,

THAT we view, with anxiety and alarm, the state of this once tranquil and loyal country, and are anxious to exert ourselves individually and collectively, to the best of our abilities, for the maintenance of social order, and the preservation and protection of the lives and property of ourselves and neighbours.

THAT we are anxious to meet the wishes of the Labourers and Mechanics, and pay them a fair remunerating rate of wages; enabling every man "who lives by the sweat of his brow," to earn a proper subsistence, deeming "the Labourer worthy of his hire;" not grudging or stinting him the fruits thereof.

THAT we will form ourselves into a body for mutual protection and support, to be always ready at an hour's notice to assemble at any point where assistance may be required, for the preservation of property, the maintenance of public peace, and for the defence of that which is, and must be dear to every Englishman, (whether rich or poor,) the quiet enjoyment of his fire-site.

THAT we are thankful for the good we have for many years enjoyed: for periods of tranquillity and comfort: while other nations have been harassed by invading armies and foreign and domestic commotion: and we trust with confidence, (though the times are trying and pregnant with difficulties and distress,) that under the merciful direction of Providence, our gracious King and his Government, may be enabled to conduct us through the present crisis, and that we may once more be a united and contented, as well as loyal people. To add to our best efforts to bring about this most desirable conclusion, we have come to the above resolutions; and again stating our wish to lend a ready hand and willing ear to cases of real and legitimate distress, we declare our determination not to be intimidated by the fear of personal violence, or the destruction of our property, into measures of lavish expenditure, or an extravagant rise of wages.

THAT as we hold ourselves in obedience to the magistrates in general, we therefore further resolve to put ourselves under the command and guidance of our nearest magistrate, G. T. JACOB, Esq. and that on his summons, or that of our Secretary, we will muster at any time or place that shall be fixed, mounted and armed to the best of our ability.

THAT we will use the utmost exertion to discover and give notice to G. T. JACOB, Esq. or our Secretary, of any unlawful rising or meeting likely to take place.

THAT we invite every parish or place in this division immediately on the appearance of any tumult or disorder, to apply to our Secretary.

THAT Mr. THOMAS DASHWOOD be appointed Secretary, for receiving all communications, and giving notices, &c. and for receiving subscriptions for defraying all incidental expences.

THAT the undermentioned persons be appointed Heads of Sections, for the undermentioned Parishes.

|   |  |
|---|--|
| Mr. T. W. Nicholls . . . . <i>Sturminster Newton.</i>   | Mr. William Toogood . . . <i>Fifehead Magdalen.</i>  |
| John Hussey, Esq. . . . . <i>Marnhull &amp; Todber.</i> | Mr. John Warren . . . . . <i>Shillingstone.</i>      |
| Mr. Thomas Furnell . . . <i>Ockford Fitzpaine.</i>      | Mr. Philip Ridout . . . . . <i>Fifehead Neville.</i> |
| Mr. John Godwin . . . . . <i>Hazelbury Bryan.</i>       | Edward Andrews, Esq. . . <i>Shroton.</i>             |
| Mr. William Senior . . . <i>Hinton St. Mary.</i>        | Mr. Esau Mullett . . . . . <i>Lydlinch.</i>          |
| Mr. Henry Miles . . . . . <i>Manstone.</i>              | Rev. H. F. Yeatman . . . <i>Stock Gaylard.</i>       |
| G. C. Loftus, Esq. . . . . <i>Woolland.</i>             | Mr. James Rose . . . . . <i>Belchalwell.</i>         |
| Mr. William Applin . . . <i>Ibberton.</i>               | Mr. John Bugg . . . . . <i>Stourton Canndle.</i>     |
| Mr. Edward Rossiter . . <i>Child Ockford.</i>           | Mr. John Baldwin . . . . <i>Hanmoon.</i>             |
| Mr. Solomon Warren . . <i>Stoke Wake.</i>               |  |

(Signed)

G. THOMSON JACOB, CHAIRMAN.

*J. Rutter, Printer, Shaftesbury.*

Figure 1: Poster printed at Shaftesbury in early December 1830 reporting a meeting at Sturminster Newton, the town much of the Stoke Wake area was under for Poor Law administration. The Solomon Warren who was Head of Section for Stoke Wake was probably John Sims' employer. Dorset Record Office S/SEY/447

now – and axed for her machine. She wer' a widder 'oman, and I s'pose she wer' afeard zoo she gi'd 'em a zuvrin to go on. Then they went to Nag's Head, and all on 'em got drunk together. A'ter that they went to Varmer ....., at Buckland, and zed they'd ha' his machine, but he'd got his'n took apart and put in withy bed; but they made 'en tell wher 'twer', and went off down to smash 'en. Charles Sims smashed the spindle (that transported he, for 'twer' proved agin 'en at the trial), and they soon had 'en all to pieces, they went on to Squire Williams's, o'Castle-hill, where they thought they should get another zuvrin; but the Squire said 'I have no change; if you will come up Monday I will be prepared for you'. So they went off home, and the 'squire had all Sunday to prepare. They did work! They got together all the special constables of Cerne and all the parishes round. Zoo, when Monday marnin came they marched across and stood round in a ring in Common. They were led by Mr Crane, of Cerne, and Squire Goodenough. John Legg wer' the vust they caught. I seed 'en a goin across, and I tauld 'en he'd be caught, for they wer' a waitin' for 'en. Butt, ses he, 'We be a goin' to have a girt meetin' down into Common; more than two hundred o' as 'll be there. Zoo on 'e went, but 'e zoon found they wer' a'ter' en and he did gi' 'en a chase; but they catch'ed 'en down by the carner o' the carn ground that is now, by park gate and took 'en off handcuffed down to the special constables down in Common, and put 'en in the middle of the ring. Then, ses I, 'I'll goo across to the Thorne's as d'live in th' Common and tell they, but they wouldn't believe I. They wer' goin' to have a girt meetin' o' over two hundred – nobody could hurt they. But I doan blame they; 'twer Ould Betty who get 'em on to it. Everybody d'zay she transported her two sons. They went out and wer' soon caught. My measter (Varmer W....) sez to I, 'Goo a'ter my grey meare'. Zoo I went off and wer' soon down into Common (vor she wer' a splendid meare, she wer'). I galloped round the ring o' special constables, and, ses they, 'This is their leader' for I was a hoss-back yoo zee. They special constables wer' little men about vour veet or zoo. I beg your pardon – I means they wasn't so big as we girt country vellers. Then I gets off and my measter gets on, and they ses 'He isn't their leader, now'. Presently down comes Charles Sims into the Common, and he *did* knock down the special constables, vor he wer' a splendid cudgel player, he wer'. He knocked Ould Jonathan Paddock's ribs in zoo that he do veel it now betimes. He wer' left-handed wi' his cudgel, hower', zoo it made it kind o' awkward to t'other players. Poor Ould Jonathan wer' a splendid cudgel player, too, and Charles wer' only a beginner. Well, he knocked the special constables about pretty much until Mr Crane comes up wi' a pistol, and, ses he, 'Stand, or you'r a dead man'; and they wipe the handcuffs on and puts en down wi t'others I the ring in Common. He wer' a taken close to Sydman Grate that is now. If Charles had a know'd what they wer' a goin' to do to 'en he'd a died avore he wer' a took, for he'd got more spirit than most on 'em. But lots o' the rest on 'em got off. They wer' all a took over to Castle hill,

whern there were fifty sojers the house. Next day a hunderd marched down over hill, but they was all a took avore by the special constables. That wer' the end o' 'The Great Mob', and I beg your pardon, – for keepin' you so long'. I believe this narrative to be a faithful picture as far it is it given; but there were little incidents connected with it which showed how benighted were the labouring classes in those days. The old woman, Betty Thorne, was a sharp, shrewed old lady (I have been told) when compared with her neighbours, and would not bear patiently with the hardships which the class to which she belonged had to endure in those days when the supply of labour was far in excess of the demand. When she saw her sons being taken by the constables she rushed out of her house with sticks which were used in "playing cudgels" to arm her sons for resistance, although she saw that the constables were two to one against the rioters. On the day after they were taken, when the two hundred men (gentlemen, with their tenants and servants, all armed) came over Bulbarrow (riding two abreast) with the object of quelling the riot and taken the rioters into custody, an old man rushed forward shouting 'I did'n a think there wer' so many people in the worlde'.

The interview gives a labourer's view of the riots, admittedly as remembered forty-four years on, but seeing the events from an utterly different viewpoint to official records. The reporter (never named) must have been both persistent and sympathetic to get such a long and clear account from the old man (also never named).

The emphasis on local geography ('where Granger d'live now' etc.) and sounding rather proud at being taken for the leader, add to the realism.

The old man lived at Hazelbury Bryan in 1874, and was either there in 1830, or possibly at Stoke Wake. He had been married two or three years to Lizer in 1830. He was a farm labourer working for Farmer W, almost certainly Solomon Warren who is shown on the 1841 Tithe Map as renting much of the land in Stoke Wake including Stoke Common. John Symes or Sims fits all these criteria. He was at Stoke Wake at the 1841 census, with his wife put down as Elizabeth and four children – Walter aged 12, Cordelia aged 7, Charles aged 5 and John aged 1. John Sims married Eliza Elsworth at Hazelbury Bryan in 1826, and in later censuses she does appear as Eliza, rather than Elizabeth. 'John Sims' had been married 4 years in 1830, not two or three, but this underestimate is a common error. Possibly Charles, born about 1836, was named after his transported uncle.

By the 1851 census the family had moved to Hazelbury Bryan, and they have four more children. John I must have died, as the youngest is another John aged 5. Henry aged 10, Hannah aged 9, Christopher aged 8 are all listed along with their father and the other children as having been born at Stoke Wake – their mother's place of birth is given as unknown. This 1851 census is the first to list place of birth. The 1861 census gives Eliza as her proper name and says she was born at

Hazelbury Bryan. Anne, another child, aged 9, was also born at Hazelbury. In 1871 she is the only child left at home with her parents, and Eliza's place of birth is now given as Ireland. Neither John or Eliza appear on the 1881 census for Hazelbury Bryan.

John Sims was born in 1804, so in 1830 he was about 26. His parents and grandparents were of Stoke Wake (House 2000, 65) and the rioter Charles Sims was his younger brother, born in 1809. The interview has much more detail about Charles than any of the other people, with intimate details like his being left-handed. This makes the identification of John Sims all the more secure, but all the Stoke Wake and Buckland Newton men who married Elizabeths in the late 1820s have been checked to see if they also match the man interviewed. None are in Buckland Newton at the 1871 census, which cuts them out. There are no Elizas except the one married to John Sims. He will be referred to as 'John Sims' in the rest of the article because although all the evidence suggests that it is him, certainty is impossible. John Sims is not mentioned in the trials as a witness, or anything else.

### Newspaper Accounts

The report in the *Dorset County Chronicle* 2 December 1830 confirms the interview, although it compresses the events:

On Saturday afternoon, a party of labourers, about 50 or 60 in number, assembled at Pulham, where they destroyed a draining-machine on Mr Bullen's Farm. They at the same time demanded money, and succeeded in obtaining about seven pounds. Thence they proceeded to Castle Hill, the seat of Wm. Williams, Esq., where they renewed their demands: but a gentleman who was in the house refused compliance, and by his firmness, and the assistance of the domestics and others on the premises, he was enabled to deter them from committing any outrage; on their leaving, however, they threatened to return at night, accompanied by a reinforcement. They then went towards Buckland Newton, and repeated their demands upon the Rev. J. Venables, who also refused to give them money. They destroyed many machines at Mappowder, Woland, Buckland, &c. Information being obtained in this town that the party intended re-assembling somewhere in that neighbourhood early on Monday morning, it was resolved to take measures for quelling the rising, and a party of Lancers who marched into the town on Sunday, proceeded, accompanied by eight horsemen of the town, towards Castle Hill, about four o'clock in the morning. They proceeded to Buckland Newton, and there learning that the mob was assembling on Stoke Common, the yeomen left the military at the village, and proceeded towards the place of rendezvous, headed by Mr Williams himself. They there found about 60 fellows assembled, and after some expostulation with them, the party succeeded in capturing 20 of the most active, who were brought to Buckland, and examined by the Rev. J. Venables, by whom they

were committed for re-examination, and the horsemen with some constables then brought their captives in a waggon and cart to this town, where they arrived about six o'clock, and were immediately placed in the gaol. Three more were brought here in custody yesterday, when the whole of them underwent a minute examination before a numerous bench of Magistrates, at the County Hall, which terminated in 13 being fully committed to take their trial on the capital charge; the rest being remanded for further examination on Saturday.

Most of the issues of the *Sherborne Mercury* or *Western Flying Post* for December 1830 and January 1831 have not survived, but the issue for 6 December 1830 does and has a description of the arrests on Stoke Common which confirms the interview's description:

The latest intelligence which we were enabled to give in our publication of last week, relative to the mob that had assembled in this neighbourhood, was up to the period of their leaving Castle Hill, threatening, however, to return with an increased force. Agreeably to this intimation they assembled in considerable numbers on Stoke Common, early on Monday morning, but information having been conveyed to Dorchester of the intended meeting, prompt measures were taken for their dispersion. A party of Lancers, therefore, accompanied by a number of horsemen of that town, proceeded towards Castle Hill, at about four o'clock in the morning. At Buckland Newton they learnt that the mob was then assembling; and receiving the assistance of a large body of constables from Cerne, they hastened, headed by Mr Williams, to the place of meeting. The civil power of horsemen, however, led the way; and the horn of the rioters announced that they were assembling. They were discovered at a considerable distance, but did not appear to be many in number. On the horsemen reading the borders of the common, it was deemed advisable that only a few should in the first instance appear, lest the rioters, seeing their strength, should take flight. As soon as they saw them advancing, a loud shout of defiance was set up, and as they got nearer, they addressed them in rough language, and declared their determination to persist in destroying the machinery. The constabulary horsemen, as they neared, spread and surrounded them, and by enclosing them and drawing the circle constantly closer, soon got them into a very confined space. At this time there appeared some determination in the rioters to make resistance; but the great body of the horse and foot constabulary force at this instant appearing, with the lancers in the distance, they seemed dismayed, and were quietly taken. At a subsequent examination by Admiral Digby, E.B. Portman, Esq., Rev. J. Venables, and other magistrates, seventeen of them were committed to Dorchester Gaol.

The Stoke Wake mob was one of five or six such events in Dorset, most of them around Shaftesbury or Fordingbridge [Hampshire] in the north-east of the county, but with one group at Winfrith, south Dorset. The Stoke Wake men seem from the trial to have

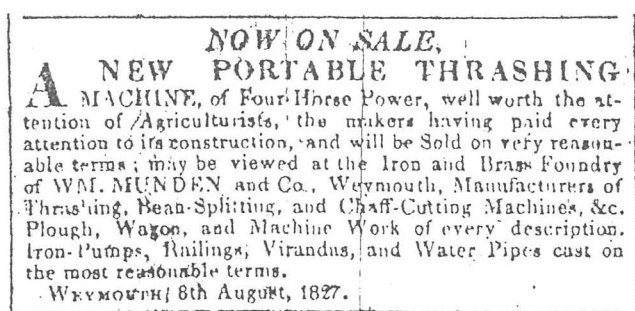


Figure 2: Advertisement for a thrashing machine from The Dorset County Chronicle 23 August 1827, showing that they were made in Weymouth

destroyed more thrashing machines than any other, and were also a larger group. Of the 53 labourers charged, 20 were from the Stoke Wake mob, and of the twelve subsequently transported, nine were from the Stoke Wake area (Kerr 1968, 265–67). However, the Stoke Wake area had none of the rick-burning which happened elsewhere in Dorset, particularly around Winfrith.

Only four specific attacks on machines are described in the interview, and one of them does not seem to have come to trial. John Sims' 'heard such a hammerin' with sledges and a rattlin' o' iron Woland-ward' on the Friday night. This was the first machine breaking, and seems to have been specifically targeted as Adam Thorne told him 'We be a goin' to begin tonight at Wooland'.

The thrashing machine belonged to William Coward, farmer at Woland. At the trial 'one of the prisoners said they would not have touched the machine, if they had not been told by Joseph Blandford the brother-in-law [of the farmer] that it was brought out into the field for the purpose of being broken' (*The Times* 13 January 1831). This is rather contradicted by the evidence of the interview.

The second farmer might have been Robert Bullen, who offered no evidence at the trial, so the case was dropped, or Mathew Galpin. At the trial 'it appeared that one of the mob said to [Galpin] "If you will not use your thrashing machine any more we will not break it." Upon which [Galpin] replied, "If you will not break the thrashing machine I will give you a sovereign", which he did' (*Western Flying Post* 17 January 1831). The Judge decided this was not robbery. The sum is the same as the interview, but he says a hay-making machine.

Mrs Guppy perhaps did not prosecute as she is not mentioned at the trial. The last event described – the destruction of a machine hidden in a withy bed is easily identified at the trial. The farmer was John Pount, but the old man misremembered who was sentenced to transportation – six people were sentenced for that offence, including Charles Symes (or Sims).

'John Sims' remembered all the people involved, but he had forgotten many of the events in the area. The trial has many more, but probably not the complete number as many farmers did not prosecute.

The mob was certainly frightening but, as was true all over the country, not violent. They did not attack people, and were very specific in their objectives – destroying machinery and unfortunately collecting money from farmers. Many believed that the Government (or even King George IV) wanted the machines broken up.

## Dealing with the Mob

'John Sims' graphically describes the arrest of the rioters on Stoke Common by special constables, led by Mr Crane of Cerne armed with a pistol.

In 1830 there was no real police force, simply parish constables who were usually ineffective. The Queen's Own Dorset Yeomanry had been disbanded in 1814, and there were no army units in the county.<sup>3</sup> Special Constables were the only legal means of supplying a police force and Sir J.W. Smith of The Down House, Blandford St Mary (since demolished) in a letter of 30 November 1830 reported how as a JP 'my time has been fully occupied from morning to night in swearing in special constables' (Okeden 1931, 82). The Blandford area had 2,000 'pedestrian special constables' and 200 mounted ones (*Ibid*, 81–82).

The special constables at Stoke Wake came from Cerne and Dorchester, and were assisted by a small party of Lancers who had been sent to Castle Hill, the big house (since demolished) at Duntish. The interview records that the Mob visited Castle Hill and asked for money 'but the Squire said "I have no change: if you will come up Monday I will be prepared for you" ... The squire had all Sunday to prepare', which included sending to Dorchester for soldiers, and enrolling special constables. The squire (Williams) was certainly ready for them by Monday, when all the arrests were made.

James Frampton of Moreton, who was to ensure the prosecution of the Tolpuddle Martyrs four years after the 1830 riots, wrote in old age what he called a history of the Queen's Own Dorset Yeomanry (DRO D/FRA/X4). It was never published, and includes description from the land-owners' side of the 1830 riots:

late in the Autumn of 1830 great uneasiness appeared to exist amongst the lower orders of people in many Counties. In Kent and Sussex Farm Houses, Barns, Ricks &c were set on Fire and Mobs of tumultuous people went about those counties, demanding an increase of wages & that Rents and Tithes should be lowered; and anonymous threatening letters were sent to many Clergymen and Farmers. These proceedings soon extended into Surrey and from thence into Hampshire. Altho from the very orderly and quiet manner in which the Labourers in Dorsetshire had always conducted themselves, I did not expect such violence would extend to this County; but it was easy to see that the people were getting restless and discontented; & it became necessary therefore to take precautions to put a stop to any attempts which might be made to excite them to mischief.

He therefore tried to re-establish the Yeomanry. He and Lord Ilchester swore in 200 special constables in Dorchester on 22 November, and more later at Moreton. Interestingly, Frampton failed at Bere Regis – Mr Drax the largest local land-owner ‘objected to any constables being appointed and discouraged such persons as we called on from being sworn; saying they would only get their heads broke if they were sworn [in as special constables] [Drax] was also determined to raise the wages of his men. On this we told him that we would not suffer such language to be used in our presence; that he was encouraging the Mob’.

Frampton set off for Bloxworth, meeting many of Drax’s tenants on the way and telling them they should be sworn in. ‘They said they should go to Mr Drax & do as he desired them’. Frampton heard that Drax ‘had promised to raise the Labourers wages to Ten Shillings per week; had then given the Mob some Beer at the Public House’.

The next day he heard about another land-owner breaking ranks ‘Mr Portman had been about the Villages near Blandford promising ten shillings a week’. Frampton continued to swear special constables, and with 160 mounted constables he dispersed the mob at Winfrith. ‘After this time the great numbers and activity of the special constables & the number of Prisoners taken put an end to the Riots, but the Fires continued the whole winter, and the people were all uneasy, discontented and sullen and appeared as if their intire character had suddenly been altered’.

### Reasons for the Great Mob

‘John Sims’ gives no reason for the machine breaking in the interview – it simply happened. The reporter states that ‘work was scarce, the worst labourers having little or none. This they attributed to the use of machinery for farm purposes and the rising was for its destruction’. The Judge at the special court held in Dorchester in January 1831 speculated on the causes:

It is very difficult to determine from what causes these disorders have originated, which have of late disturbed and disgraced this kingdom. I apprehend that those are much in error who assign any one cause as sufficient to account for what we have witnessed. Distress is said to have produced it; yet it would be difficult to show that the distress of this year has exceeded that of the last, that the wages of the labourer have lately diminished, or that the price of the principal articles of his subsistence and clothing has of late increased. But yet I do not doubt that distress is one of the causes of the evil; distress sufficiently heavy, but yet, I fear, greatly exaggerated by interested and wicked men, for their own bad purposes. Even in this kingdom, in which alone of all others there is a legal provision for the poor, poverty prevails; perhaps increased by the maladministration of those laws which are intended to relieve it. The encouragement which has been given

to early and improvident marriages, and the consequent forced increase of the population, coupled with the payment of part of his wages in many parishes from the poor’s rate, have lowered the labourer in the scale of society; and at the same time, the general spread of education which has extended even to him, and which has enabled a much greater number to read and write than in former times, has placed him in a situation to feel more acutely his relative inferiority, without at the same time proceeding far enough to enable him to understand fully the real causes out of which his change of condition has originated. It is on a population thus distressed and half-instructed that evil men have been too successfully practising their dangerous arts. They have endeavoured to persuade the poor that they are to be made rich by a change of law produced by force, rather than by labour; and have asserted that a general determination prevails amongst the higher classes to oppress them as tyrants, rather than to assist them as friends. They have endeavoured to dis sever the bonds which hold society together, and to array in hostility against each other those whose mutual interests would require the most cordial co-operation and union. One of the means which they have employed for this purpose has been the dissemination of words as a dangerous description amongst the people; and another has been to procure large bodies of the lower classes to assemble together, for the alleged purpose of discussing their grievances and the best means of relieving them.

On these occasions those grievances have been exaggerated, their cause misrepresented, and the people, who feel the pressure of distress, but who are not able correctly to estimate its causes, have been thus led to suppose that their distresses have their origin in the mode in which the farmer conducts his business, and have thereupon proceeded to destroy the property of the existence of which they complain.

However, he thought it was also the fault of the labourers themselves:

Poverty is, indeed, I fear, inseparable from the state of the human race; but poverty itself, and the misery attendant upon it, would, no doubt, be greatly mitigated, if a spirit of prudence were more generally diffused among the people, and if they understood more fully, and practised better, their civil, moral, and religious duties.

Mr Justice Alderson at Dorchester 11  
January 1831

The ‘encouragement to early and improvident marriages’ was the current Poor Law, whereby labourers received supplements to their wages based on the number of children in the family and the price of bread (Body 1967).<sup>4</sup> In the Wooland area there had been a particular problem with labourers who owned their cottages and were refused this supplement (see below).

The vicar of Hazelbury Bryan was asked the reasons for the 1830 riots in 1833. Walters replied:

The riots here followed those in Hampshire; of which the country people heard rumours, as if the Hampshire rioters had been able to overpower the gentry, and as if large masses of men were moving onwards from London, to aid them in forcing their masters to give higher wages. They were also told that the government had said, the machines were to be broken. The population of this district had not been previously in a particularly dissatisfied state; but it was natural that they should wish well to persons of their own class, supposed to be fighting for increase of wages; and they presently heard with truth, that in their own neighbourhood, several gentlemen had begun to promise higher wages, under the dread of seeing the population armed against them.

George Legg of Mappowder was the clearest of the local men. He told John Young, farmer at Pulham 'they did not wish to hurt the farmers but they were determined the land [rent] and tithes should come down, and they would have higher wages'. (*The Times* 14 January 1831). Legg was clear not only what was needed but how it was going to be paid for.

### Enclosure

Land enclosure and the subsequent loss of common land rights has been suggested as a contributory cause for the 1830 riots. For two of the parishes – Stoke Wake and Pulham – there is no evidence about enclosure at all. For the other two there is surviving evidence, but it shows that many labourers still had rights in 1831. Buckland Newton had one enclosure in 1734, far too early to have lingering resentment in 1830, and another proposed in 1840 and actually carried out in the 1850s. A list of those with common rights gives names (DRO/FFO/12/168).<sup>5</sup> Similarly, at Hazelbury Bryan twenty-five people with common rights were awarded a share in the enclosed land in 1858 (Campbell-Kease 1983, 407). Enclosure was proposed there from 1847.

Mappowder is the only recent enclosure in 1830 – it was proposed in 1798 and completed in 1807.

### Before the Great Mob

One of the very few middle or upper class people in Dorset to interest themselves in the state of the labouring classes came from the parishes which were involved in this great mob. This could be coincidence, or it could be because conditions in these parishes were even worse than others in Dorset.

The Revd Henry Walter became rector of Hazelbury Bryan in 1821, aged 36. He had been second Wrangler at Cambridge, and remained a scholar (DNB; Campbell-Kease 1983, 339). In 1824 he gave evidence to the Enquiry into Labourers' Wages about the strange, and he thought illegal, way the Poor Law was being administered in his parish. In December 1822.

I found that some of the best workmen in the parish, who happened to be cottagers possessing



THE HOME OF THE RICK-BURNER.

Figure 3: Contemporary cartoon from *Punch*, sympathetically showing the empty cupboard and poor housing

land property in gardens, and so on, had not been employed since September yearly; they were not employed in consequence of the arrangement made by the overseers for paying wages of persons employed on farms out of the poor rates; they told me they had had no quarrel with their employers, their employers were ready to give them good characters, but said, we cannot take you since we can get others for nothing; I said, do they hold out any hope to you of being employed soon? They said no, they cannot employ us, for we cannot be put upon the poor's books, persons having property cannot, we must therefore wait till we are ruined; it appeared, that the practice in that district of paying labourers wages on farms entirely out of the rates, was so common, that they had a name for it; they called them Stem men. I should first mentioned that the parish has a population of about 500 people entirely employed in agriculture, or the trades immediately connected with agriculture; that being healthy, there was not at that time a bed-ridden person in the parish; in November 1822, when this method began, the regular monthly pay disbursed by the overseers to infirm and aged, amounted to £8.1s. whilst they paid for extras £7 6s. 8d; on enquiring what the extras meant, I found the sum was almost entirely composed of money paid to make up pay to workmen employed on farms; in December, the following month, the regular monthly pay was the same; but as this system became more organised, the extra pay amounted to £13. 10s. 7d. nearly double the former sum; so that in the month of December the money disbursed by the overseers amounted to £21. 11s. 7d. in a parish having, as I stated, scarcely an

brothers, and their sister married John House, brother of the two House brothers arrested – James and Abraham. All these people (and the rest of their extensive families) were born at Stoke Wake, and their parents were married there. George Legg was related to the House family, and the Marsh and Legg and Horlock families (House 2000) were also inter-related. Given that Stoke Wake only had 156 people at the 1841 census, this is perhaps not surprising, but the relationships spread to Mappowder, and Woolland.

### **Agitators from outside?**

The local newspapers tried to blame agitators from London and the north for the riots (Fig. 4). James House claimed in defence of his actions that 'there was a gentleman rode through a few days before who said his name was Mr Hunt, and who told us that Government wished the people to break the machines, and that they should be paid for their trouble' (*The Times* 13 January 1831). Henry Hunt, the Radical Leader, was in Dorset at this very time, but it is likely that other people were using his name as he seems to appear in several places at once. (Hobsbawn and Rudé 1973, 89, 186). It seems very unlikely that it really was Hunt, or that he would have told the labourers such a stupid lie. The Mr Hunt here may have been James Cooper who led the riots at Fordingbridge. He called himself Captain Hunt. He was one of the three labourers hanged after the trials.

### **The Vestry**

Many labourers believed that the vicar and vestry could set wages, probably because the poor relief was given through the vestries, and scales of wages versus the price of bread and number of children were used to calculate how much money a family received. The Revd James Venables (Vicar of Buckland Newton 1805–1850) met the mob at four in the afternoon of the worst day. A witness testified: 'I heard Mr Venables tell them he would call a vestry, and make everything agreeable to them'. The mob agreed to disperse, Mr Venables left, and they did not disperse. Venables testified later in the trial that 'some of the rioters had voluntarily come forward before him the day after the outrage' and that Mappowder 'men had behaved better than the inhabitants of most disturbed villages' (*The Times* 14 January 1831).

### **Coercion**

Several of the machine breakers claimed at the trial that they had been coerced into joining. William Durrant said 'I was accidently in the road' when the mob swept him up. 'John Sims' resisted pressure to join from the two Thorne brothers, but he is even-handed about the pressures. 'And that's what they did everywhere – force all on 'em they could to jine' but lots on em was glad enough to jine without any fo'cin'.

## **NOTICE.**

**IT** is strongly suspected, that most of the **FIRES** have been caused by **TWO MEN**, who have been seen near the Spot either a short time before, or immediately after their breaking out. They have been making enquiries of Shepherds and Labourers respecting the Situations of Farms, and different Circumstances relating to them.

One is about 40 Years of Age, rides a long-legged, light-carcassed, sorrel-coloured Horse; what is vulgarly called a Blood Horse, with a Switch Tail; wears Knee-caps or Over-alls, sometimes; has a Drab Great Coat; generally is seen riding fast through Villages or Towns, with something different from a common riding Stick, with which he is constantly striking the Horse's Off-Shoulder.

The other rides a Black Horse, of the same long-legged Description: they are dressed and look like Farmers. It is supposed that the thing which is carried in the Hand is an Air Gun, from which a small Shell is thrown, which ignites after a certain time.

**It is supposed that in Dorset, the Incendiaries are travelling on foot in different disguises, making the same enquiries as above.**

SHIPP, PRINTER, BLANDFORD.

Figure 4: Men from outside – strangers – were usually held responsible as on this Blandford notice of late 1830

### Thomas Samways, shoe-maker

In most of the Dorset riots all the machine breakers were agricultural labourers. Elsewhere, for example in Hampshire, there were more tradesmen etc. The Stoke Wake group included Thomas Samways, a tradesman, a shoemaker. He was present, according to the details of his arrest, at two of the events. He was 24, the same sort of age as most of the rioters. At the trial he said 'I have witnesses to prove that I was pressed to go by the mob. I heard a noise. I looked out of the door, and saw a mob coming. I ran in and barred myself into a buttery [store-room]. James Thorne came in, and said that if he could find me, I should go with them. He then went away, but he afterwards came back, and said he would put a stick across my head if I refused. I did refuse to go, but they made me go'. Mary Mullet, in whose house Samways (and his wife and child) lived was called to corroborate: 'a young woman came running into our house, and said that a mob was coming. Samways heard what she said, and ran into the house and shut himself up. James Thorne came into our house and said "Is anybody here?". Mrs Samways said that nobody was there. He then went away. Shortly afterwards he came back and said "The shoemaker is here, and if he does not come with us, he shall have this" producing a heavy stick "across his head". On this being said, Samways came out and went away with them'. (*The Times* 14 January 1831).

Samways was acquitted at the trial, the judge believing his story. Shoemakers were often radical, but this one was a reluctant radical.

### Women and riots

Nationally it is clear that women did not take part in the machine breaking or other violent parts of the protest, and none were arrested. Two appear as witnesses for the Woolland riot — Mary Mullett, landlady to Thomas Samways, the shoemaker, and Mary Morey, farmer's wife of Buckland Newton. She said 'on the bell being rung I went to the door'. The mob demanded money and her husband refused them. 'I said give them some to get them away, as I was frightened'.

The 1874 account, however, shows two women taking very active roles but in opposite directions. Lizer, the interviewee 'John Sims' wife, prevents him from taking part in the riot 'But all she did say wer' "You bean't a going". "So", sez I to myself, "S'pose I shant".

Elizabeth Thorne, mother of the ringleaders Adam and James was on the other side. 'Twer Ould Betty who got 'em on to it. Everybody d'zay she transported her two sons'. The reporter was told that she was a 'sharp, shrewd old lady when compared to her neighbours, and would not bear patiently with the hardships which the class she belonged to had to endure [then] ... [and] she rushed out of her house with [cudgels] to arm her sons for resistance' when the special constables arrived.

Elizabeth Fish married William Thorne at Stoke Wake on 28 September 1801: both were described as 'of

this parish' and both marked rather than signed the register. They had five children between 1802 and 1813, and William died in May 1827 aged 42. Elizabeth did not die until 1861, and on the 1851 census she is described as having been born in Sturminster Newton. She was twenty-nine when she married, two years older than her husband.

Mrs Guppy, a widow farmer, was one of the victims of the mob — she was, according to the interview, the first farmer visited and she bribed them to go away with a sovereign. This offence was not mentioned at the trial.

### Fear of revolution

*The Dorset County Chronicle* and many of its land-owning readers feared that the Great Mob was the start of a revolution. 'The present moment is a perilous one for Europe. The tornado of revolution which spring up in France [not the original 1789 revolution, but the third of 1830] is rapidly spreading over almost every other nation. Belgium, Brunswick, Switzerland, and Poland have already felt its influence'. (*Dorset County Chronicle* 23 December 1830). Earlier the newspaper had feared 'that the elements of anarchy have merely subsided for a time, and that another explosion of a still more devastating character will break forth, and terminate but in a revolution' (*Ibid*, 9 December 1830).

If revolution is defined as working to overthrow government, the riots of 1830 fall far short. The labourers were trying to improve their living conditions, and were not attacking even local government, never mind parliament or the King. In Dorset there was no attempt to take over the land, or even to try to get vicars to reduce their tithes. They simply wanted a living wage.

*The Times* (12 January 1831) simply reported that 'the judges arrived in this town [Dorchester] yesterday evening', but in fact the arrival of the Special Commission to try the rioters was made into a display of power and force by the local land-owners. Mary Frampton's journal records:

The Special Commission, in consequence of the late riots, fires, &c., came to Dorchester. In addition to the usual cavalcade which with the Sheriff and his train, javelin-men, &c., meets the Judges at Yellowham Hill, three miles from Dorchester, and from whence they are conveyed in the Sheriff's carriage, nearly 200 special constables with my brother, Mr. Frampton, at their head, and some carriages, went out to accompany and do honour to the Judges on this particular occasion. The procession, I think, extended a full mile, and the crowd was very great to witness their arrival, but the Judges had been delayed on the road, and it was dark before we entered the town. The Judges, Baron Vaughan and Alderson, dined with us afterwards, and we had a large party besides, amounting to sixteen. Amongst others, Lord Shaftesbury, Mr and Mrs Damer, of Milton Abbey, Mr Bankes, Mr Sturt, &c. (Frampton 1886, 367)

# *To the Inhabitants of* **BLANDFORD** *And its Vicinity.*

---

You have this day by your conduct when called on to come forward for the protection of the Public Peace, proved yourselves worthy not only of your native County, but more especially of the Town and neighbourhood wherein you reside. You have this day evinced a promptitude, and a determination, and a courage, (which if persevered in nothing can overcome) to quell a lawless rabble who have of late been infesting the Country, whose only object is to create Disturbances and cause greater Want and greater Misery to many who are now enduring much, by the wilful Destruction of Property and even of the *Actual Necessaries of Life*. You have this day shewn an example which it is to be hoped will speedily spread throughout the County, and will operate not only as a warning to surrounding Districts, but will convince the Incendiary and Insubordinate that they are not at least to cross the Dorsetian Boundary with impunity--- that you are moreover fully prepared at all points to give them a **WARM RECEPTION** should they have the temerity to appear in this your neighbourhood, and resolved as far as in you lies to preserve both the Peace and the Property of your native Land.

Go on then in the Good Cause you have all this day undertaken, be firm, be active, be vigilant, and above all **BE UNITED**. Fear not and you will attain the desired end.

Nothing believe me but indisposition prevented my being where my heart was, and where my hand (otherwise) would have been, amongst you at your head.

**DOUGLAS W. STUART,**

*A Special Constable.*

FRIDAY EVENING, NOVEMBER 26th, 1830

**SHIPP, PRINTER,**

Figure 5: A rather incoherent notice from a Special Constable issued at Blandford the day the Stoke Wake riots started

The establishment was making a show of numbers and force to impress any labourers who might still feel like rioting. The Frampton's dinner guests (apart from Lord Shaftesbury) were some of the 23 JPs who formed the Grand Jury sitting with the judge. All were land-owners, and two were MPs. The JPs were usually land-owners at this time (Hearing 1999, 42-43).

The same overwhelming affect had been produced by the huge numbers of special constables who came to arrest the Stoke Wake rioters – the interview says 200 which is perhaps high, but the old man at Bulbarrow 'didn't think there were so many people in the worlde'.

### Afterwards

The interview ignores the results of the Great Mob (apart from the transportations), just as it ignores the causes. After the trials were over *The Times* (17 January 1831) commented that 'it is rather much to expect that an extraordinary exercise of judicial power should protect the farmers and landlords, and that then, under the shelter of that exercise, should continue to aggrieve and distress their poor labourers'.

Even the conservative *Dorset County Chronicle* (2 December 1830) had to admit that 'great distress has

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**AGRICULTURE AND TRADE**

DECEMBER, 1830.

**I**N Consequence of the late RIOTS and DIS-TURBANCES in the Metropolis, as well as in the Country, a complete Stagnation in Trade has been caused in the London Market, owing to which S. JONES and CO., have purchased on the most favourable Terms, the Largest Stock of general LINEN DRAPERY ever brought into DORCHESTER for the Winter Trade, which they are enabled to offer at such unparalleled prices that shall not be surpassed in the Town; determined to take advantage of this fortuitous circumstance, they are not to be undersold; and that No. 20, HIGH EAST STREET, opposite the Post-Office, shall be the CHEAPEST SHOP in the Town of Dorchester. To convey some idea to the Public, they beg to enumerate a few of their present Prices.

- Twilled Stuffs, 4½d. per yard.
- Merinoes, full width, 7½d.
- Lancashire Flann. ls. 3d.
- Bath Coating, 2 yds. wide, 18½d.
- Blankets, 2s. per pair.
- 10-4 White Counterpanes, 3s. 6d.
- Cloth Cloaks, from 6s. to the richest quality made.
- Full-width Pelisse Cloths, 2s. 6d. per yard.
- Prime Woollen Cords, 2s. 6d.
- Prints, 3½d.
- Beautiful Chintz Ditto, warranted fast, 6½d. and 8d.
- Ell-wide Ditto, 9½d.
- Ginghams, 3½d.
- Cambric Ditto, 6½d.
- Stout Checks, yard wide, 4½d.
- Bed Ticks, 3½d.
- Linen Sheeting, yard wide, 5½d.
- Ditto, Ditto, 2½ yards wide, 1s. per yard.
- Beaverteens and Moleskins, from 9½d. to 1s. 6d.
- Dowls, 5½d. and 7½d.
- Linen Diaper, only 4s. 7d. per piece.
- Cambric Handkerchiefs, worked corners, 2s. each.
- Book Handkerchiefs, 2s. each.
- French Cambric Do., 16d. each.
- 6-4ths Book Muslin, 4½d. to 22d per yard.
- 6-4ths Jaconot Ditto, 4½d. to 2s. Do.
- 6-4ths Cambric Ditto, 4½d. to 2s. Do.
- 6-4ths Curtain Ditto, 1½d. to 8d.
- Men's Socks, 2d. per pair.
- Cotton Nightcaps, 2d. each.
- Kid Gloves, 6½d. per pair.
- Beaver Ditto, 1½d.
- Women's Cotton-Hose, 3d. per pair.
- Men's Worsted Do., 8d. to 10d.

- Women's Black Silk Hose, cotton tops and feet, 13d. per pair.
- Plaiting Nets, all widths, 1½d. per yard.
- Wide Bobbin Nets, 4½d. to 18d.
- Beautiful Grecian and Gyp Lace, 4½d. to 11d.
- Plain Striped and Watered Ribbons, for the Waist, 5d. per yard.
- The Newest Style in Bonnet Ribbons, 5½d. per yard.
- Men's Silk Pocket Handkerchiefs, 6½d. to 1s. each.
- An immense Quantity of Silk Shawls, from 3s. 7d. to 8s. 6d.
- Persians from 6½d. per yard.
- Sarsnets 16d. per yard.
- Prime Gros de Naples in every shade of colour, 23d. per yard.
- Silk Gauze and Grape Lisse, 3½d. per yard.
- Double Norwich Crapes and Princettas, 8½d. to 13d. per yard.
- Beautiful Black Bombazeen, 6½d. to 17d.
- Black Sable and Squirrel Pelerines, from 4s. 6d. to 9s.
- Squirrel Boas, 3s. 6d. each.
- Children's Leather Shoes and Boots, 1s. to 2s. 4d. per pair.
- Women's Shoes, 2½d. per pair.
- Men's Waterproof Beaver Hats, 3s. 6d. to 8s. each.
- Worsted Braids, ½. per piece.
- Sprigged Thread Net Caps, 8d. each.
- Artificial Cap and Bonnet Flowers, 1½d. each.
- Muslin Collars, 5d. each.
- Bobbin Net Caps, 6½d. each.
- Men's Checked Muslin Neck Handkerchiefs, 2½d. each.

**GALICO GIVEN AWAY:**

N.B.—An extensive Assortment of FURS, consisting of MUFFS, PELERINES, and BOAS, equally cheap.

CHARITIES SUPPLIED AT WHOLESALE PRICES.  
 Any Article not approved of will be Exchanged, or the Money returned.

*For Cash only, and no Abatement.*

Five fires having taken place at Harrow and Hounslow.

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Figure 6: Advertisement from The Dorset County Chronicle 9 December 1830, extraordinarily printed upside-down. The 1830 Pigot & Co's Directory for Dorchester has no S. Jones & Co: it was perhaps a temporary shop. It is the only advertisement to mention the riots

been, and is, prevalent among the agricultural population, but no distress, however great, can palliate that destruction of property which has taken place'.

The Revd Harry Farr Yeatman published a pamphlet about the Poor Law in 1832 or 1833 recalling that

under the excitement which prevailed from one end of the west of England to the other, "during the riots of 1830", and when the labouring population was in arms, I have reason to know that several gentlemen in this county made promises to the lower orders of future advantages and greater comforts, and of an increase of wages; assuring them that the same should be raised from 5s. and 6s. to the height of 10s. and 12s. per week, and which promise I grieve to say it, now that the alarm and terror of the moment have subsided, have been broken in a manner the most treacherous and dishonourable, – it was deemed advisable by myself, my brother justices, and others, that the "poor and impotent" and also the able-bodied who were unable to procure employment sufficient for themselves, and their helpless families should also be admitted to a participation of the blessings of that soothing system, which, though late, and extorted from the higher orders of society by fear and terror, it was deemed expedient to adopt at that alarming and distressing period.

Yeatman, a JP, had increased the amount of relief given under the Poor Law in the Sturminster area (Yeatman [1832], 10)

Wages for labourers were not increased for long after the riots, and indeed they were reduced in many areas. The Tolpuddle Martyrs, four years later, were trying to stop their wages being reduced for a third time, not trying for an increase.

People in this area may have had particular reasons for joining the riots, besides low wages and resentment of the new machinery. Certainly the Poor Law was causing problems for those who owned their cottages. They could not receive poor relief. The scales used to calculate payments were also probably resented as too low. When Revd Walter calculated family income for Hasilbury Brian in 1832 he included 'bean planting and birdkeeping' as work for women and children, but also making thread shirt buttons, the Dorset button industry. He estimated 2s6d a week to a woman buttoning, but not full-time because of having several children. A boy of fourteen could earn 2s a week, ranging down to 6d a week for an eight year old (Walter 1833, 13–14). With an average labourer's wage of only 10s a week even allowing for piecework, this was quite a contribution to the household economy, and may have been resented by the men. (Griffin 2000, 154)

It may be that at the centre of each mob in Dorset are men who had extra impetus towards protest because of particular problems.

'John Sims' eye-witness description of the Stoke Wake incidents adds a great deal to our knowledge of the riots, and in a very immediate human way. The 'hammering with sledges and a rattling of iron

Wooland-ward' and the sensible squire calmly asking the mob to return on Monday when he will have change, are unforgettable, as is the old man at Bulbarrow who didn't think there were so many people in the world.

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## NOTES

- 1 Thomas Hardy was sent a copy of the Hammonds' book in 1912, and told the giver 'With details of the last peasant revolt I have, of course, been familiar from childhood, though it occurred earlier than my actual recollection carries me. My father knew a man who was hanged for saying to a farmer "It will be a light night" – (his ricks being set fire before morning)' (Purdy and Millgate 1984, 206).
- 2 Which is where the author discovered it.
- 3 The Scots Greys who had been in Dorchester Barracks left in early November 'They march to Windsor with all possible expedition to supply the place of the 5th Dragoon Guards which regiment has left that place for the county of Kent, the disturbances taking place there having called for the interference of the military' (*Dorset County Chronicle* 4 November 1830).
- 4 Unfortunately no overseers' accounts survive from the parishes concerned for the period.
- 5 The list gives 37 people with rights of common on four separate areas. Five are landowners and the other 32 includes one man with rights on two commons. This leaves 31 local people. It is possible that the Thomas Coombs listed twice (for Duntish and Brockhampton Green, both on the east side of Buckland Newton), was the cousin of the rioter Charles Coombs (House 2000, 37). The only other surname common to both rioters and those with rights is Isaac Simmonds but there is no proof of relationship.
- 6 The tithe map of Hazelbury Bryan (1838) shows a James House, the same as one of the arrested rioters (one year hard labour) as the owner and occupier of a cottage and garden in Hazelbury Bryan. However, the name is a common one, and the James House arrested is consistently described as 'of Stoke Wake'.

## The Draining of the Fleet

GORDON LE PARD

In the spring of 1630 a group of gentlemen came together, probably at Abbotsbury, to plan the draining of the Fleet Lagoon. This was, perhaps, the most audacious civil engineering project to be carried out in Dorset in the 17th century and, indeed, was hardly to be surpassed until the coming of the railways. Earlier commentators have expressed amazement at what was planned; indeed Christopher Taylor (1970) went so far as to describe it as a 'far-fetched and ill-considered scheme to drain the Fleet'. However, closer reading of the evidence suggests that the scheme was far from being 'far-fetched and ill-considered', and though it was eventually unsuccessful, this was as much due to machinations at the Court in Whitehall, as to a failure to understand details of the local geology.

The Fleet is a 13km long lagoon, separated from the open sea by the shingle ridge of Chesil Beach (Fig. 1). Several streams flow into the Fleet, and eventually reach the sea at Smallmouth in Portland harbour. At the north-west end lay the Abbotsbury swannery, which, in the early 17th century, was probably the most important economic asset of the Fleet. Elsewhere the Fleet was fished, though the principal fishery lay in the open sea off Chesil Beach. In the mind of some people, the Fleet was an under-used resource, ripe for improvement.

The agreement for the draining of the Fleet was signed on 1 July 1630:

Between Sir John Strangways ... and Sir George Horsee of Clifton in the said Countie of Dorset, Knight, William Freke of North Cadburye in the County of Somerset, Esquire, George Peny of Toller Welme in the said Countie of Dorset, Esquire, Simon Hill of London, Gentleman, Robert Freke of Hilton in the said Countie of Dorset, Gentleman, Arthur Freke of North Cadburye aforesaid in the said Countie of Somerset, Gentleman, Robert Peny of Eastcoaker in the said Countie of Somerset, Gentleman, and Anthonie Wright of London, Gentleman. (Raishley Papers 38a)

The adventurers, to give them their 17th century title, agreed;

To use their best skill and endeavours to and at ... their own proper costs to drayne a certayne Meere Fleete or parcel of Saltmarsh being the inheritaunce of the said Sir John Strangways which, time whereof the memorie of man is not to the contrarie hath layn under water and over and upon which Meere or Fleetes the sea doth and hath used to ebb or flowe, commonly called or known by the name or names of East and West Fleetes lying and being in the parishes villages limitts or precincts of Abbotsburie Wyke Chickerell Fleete and Langton ... containing in the whole by estimation three thousand and one hundred acres. (Raishley Papers 38a)



Figure 1: Chesil beach and the Fleet, showing sites mentioned in the text

The actual area of the open water of the Fleet is, in fact, under half that estimated, about 1200 acres, and even allowing for changes over the intervening four centuries, there can be no doubt that the size of the area to be drained was massively overestimated. Why this should be, when surveying methods available at the time were perfectly capable of measuring the Fleet with reasonable accuracy, is unknown.

Sir John Strangways was not investing any of his money in the scheme. He was supplying the land to be drained, and would receive;

that part of the said Meere Fleete which is called or known by the name of the West Fleete heretofore severed or parted from the rest of the said Meere Fleete or Saltmarsh called the East Fleete by an ancient banke, ridge or causeway called Bridgehill on the east side thereof ... containeth by estimation One hundred acres or thereabouts. (Raishley Papers 38a)

This time the area is about right. The draining of this part of the Fleet, now known as the Abbotsbury embayment, would have effectively destroyed the swanery, but this was apparently accepted by Sir John.

Work seems to have started at the beginning of 1631 and, whilst there were problems, the adventurers were certain they would be overcome. There was, however, a difficulty that they had not foreseen. The lease had been drawn up on the understanding that Sir John Strangways owned the bed of the Fleet, but did he? When news of the activity in Dorset reached London, someone realised that Sir John's ownership of the Fleet bed was far from clear. If it had been a freshwater lake there would have been no problem, but the Fleet was salt (or at least brackish) so was it an arm of the sea? If this was the case then it would belong to the crown. A courtier, George Kirke, one of the Grooms of the King's Bedchamber, saw an opportunity. He collected evidence that the Fleet was an arm of the sea (and hence crown land).

The Affidavit of Allan Manisley of London, Gent. Who made oath that there lieth of the South Side of Weymouth a Creeke called the Fleete which hath always been accounted as sea lying always under salt water and the Tide there always flowing, the Beach lying South from this Fleet, between it and the South Sea, this Ground being by estimation worth Fourpence an acre or thereabouts and containeth Three thousand acres as he verily believeth. (Raishley Papers 39a)

With this evidence he sought and obtained;

A graunt of these premisses ... unto George Kercke one of his Majesty's Bed Chamber and Thomas Allen Gentleman for the consideration of [blank in original] pounds. (Raishley Papers 39a)

He seems to have been led to believe that the Fleet had already been drained and that he would receive either several thousand acres of newly reclaimed land or a payment from those who had actually done the work, so that they

could keep the land they had drained. He was to be disappointed. Storms during the winter of 1631/2 had damaged the works and the Fleet was again underwater.

George Kirke was furious and, convinced that the works had been deliberately sabotaged by the adventurers so that he would receive nothing for his grant, brought an action against them. They were questioned, and it soon became clear that they had not deliberately flooded the Fleet, so George Kirke was left with the options of either abandoning the project or draining the Fleet himself. He decided on the latter.

On 26 November 1633 he signed an agreement with Sir John Strangways, to drain the Fleet anew. Sir John was still being very sensible, in not putting up any money, but now would receive a much larger part of the reclaimed land;

The said Sir John Strangways and his heires shall have in part of his or their three parts, all that part or parcel of the said Fleete lying adjoining being or abutting upon the Manor of Abbotsbury so far as the Brook which divideth the Manor of Abbotsbury and Langton containing by estimation Two hundred acres or Thereabouts (be it more or less) (Raishley Papers 41a)

The various drainage attempts were clearly of interest to visitors. In July 1635 Peter Mundy visited the Fleet, and wrote in his diary;

This indraught which cometh about by the Easter[n] end of Portland was in hand to be dreyned to make Pasture Land, whereon was spent great sommes of money in makeinge of sluces, trenches, etts. Inventions to keepe the Tide from comeing in, as also to lett out what is within. But as yet to litle purpose, the maine sea soakeing through the beach all alonge. It is sayd they will proceed afresh. (quoted in Richardson 1921)

Work seems to have progressed slowly so that in 1636 it could be stated:

That the same John (Sir John Strangways) and his undertenants have cut off and enclosed from the sea the aforesaid land and soil of le Fleete ... or a greater part thereof at their own charges (Raishley papers 43a)

Unfortunately, this isn't conclusive evidence that the Fleet had been drained at this time. George Kirke seems to have decided to pull out of the scheme and had agreed to support Sir John Strangways in obtaining a grant of the Fleet for himself. A few paragraphs after the one just quoted the document says;

We deign to graunt to the said John Strangwaies and his heirs le Fleete and the land and soil thereof, together with a certain bank of stones called le Beech ... at the yearly Rent of £10 to be paid after the work of cutting off and enclosing ... shall have been finished. (Raishley papers 43a)

For his help in obtaining the grant of the Fleet, George Kirke received a lease of one quarter of it,

presumably with a view to reclaiming at least a part. However, within four years he had returned his portion to Sir John and ended his connection with the project. (Raishley papers 44a and 45a)

There was still the rent to the crown of £10 per annum, payable for the reclaimed land. Apparently the crown was of the opinion that the land had been drained and was demanding its money. In 1646 Sir John Strangways applied for the payment to be stopped. The evidence for the failure of the drainage scheme was clear.

Affidavit made by one Joseph Master of Abbotsburye aforesaid ... that although much cost and charges had been bestowed and much money spent in endeavouring to drayne the said water called the Fleete and to inne the soyle from the sea and lay it drye yett all the expense hath beene to no purpose but the said Fleete continues still undreynd and not yet inned from the sea (Raishley papers 46a)

The document granting this exception for payment was summed up succinctly in the note made on the outside.

The rent of 10£ per annum for the Fleet upon the new Patent, which is not to be payd until the major pte. thereof be drayned which is not nor will ever be done (Raishley Papers 46a)

### The Methods Employed

The original lease drawn up in 1630, together with the answers given in response to the charges of deliberate sabotage in 1633, draw a picture of how the Fleet was drained. However it must be remembered that the lease was designed to cover all eventualities, and some of the methods mentioned may not have been used.

The adventurers clearly considered that Chesil Beach would provide a natural sea defence to the south-west, a mistake that was to cost them dear, and so;

They did bestowe a very greate deale of labour and charge in and towards the making of a great Dam or Bay of greate bredth and length crossing betweene the land and the Sea Banke or Beach therein soemuch that to their very great charge and with much payne or labour the flowings of the broade Sea were restrayned or stopt out by the said Dam or Barr from flowing into the said Fleet. (Raishley Papers 40b)

The dam was built of earth and rubble, and in the original lease it was agree that the adventurers would be allowed to;

take up and carry away any quarry or quarries of stones or any earth sand or soil whatsoever within the said Meere Fleetes or parcel of Saltmarsh as any of them shall think needful to use or employ about the said works (Raishley Papers 38a)

The dam was possibly faced with stone on the seaward side, as was the later Herbury wall (see below) and

it contained several sluice gates which seemed to have caused problems from the very beginning;

about Mich'mas last one of the Sluces which stood in the great Bay was worne through by the violence of the Water wich would have endangered the whole Worke yf it had not been speedily prevented. And allsoe the walls of the great stone Sluce suncke and fell down insoemuch as yf it had not been remedied with speed it would as this Defend't beleeves have endangered the whole Worke. (Raishley Papers 40b)

After the dam had closed the end of the Fleet pumps, powered by wind or water mills, were to be erected to pump the water away. Though the adventurers were faced with certain restrictions, they could;

erect any mill or mills within both the said Fleetes called the East and West Fleetes as they or any of them shall think meet for the more commodious and better draining of both the said Fleetes or any part thereof. And also to erect any mill or mills in or within the aforesaid Meere or Fleete called the East Fleete to any such use or purpose as they shall think fit so as the said mills or any of them be not made within four miles of the town of Abbotsbury aforesaid. (Raishley Papers 38a)

Sir John Strangways owned the mill in Abbotsbury, and did not want his monopoly in grinding corn threatened.

As the water level dropped, drains were dug so that water from the streams that entered the Fleet at Abbotsbury, Langton Herring and elsewhere, could be led away safely. The adventurers had agreed;

to cut and dig all and every such rivers channels sewers draynes or ditches (Raishley Papers 38a)

and apparently they had succeeded, as George Peny reported they had;

to their great like charge made divers sluices of Stone and Tymber and other meanes and helpes to drayne and convey away the Water out of the said Fleet into the Sea with an intent and hope to have recovered some good quantity of dry ground ... and to have made use thereof for corne or meadow grownds: (Raishley Papers 40b)

Where these drains were concerned it was Sir John Strangways who was restricted in his actions by the terms of the lease, as he had agreed that;

It shall not be lawful for the said Sir John Strangways and Dame Grace his heirs or assigns or any of them at any special and fit times of draining to lay any nets weels pottes or other engines to take fish in or so nere any of the trunks sluices or fludgates ..... as thereby to dull or hinder the free passage of the water through the said trunks sluices or fludgates or any of them. (Raishley Papers 38a)

However;

In case any of the rivers channels or drains intended to be made in the said Meere Fleetes or Marsh ..... shall happen to be servicable for the

carriage of boats barks and other vessels wherby commodities maie be transported to or from the town Abbotsburie aforesaid free liberty for the said Sir John Strangways and Dame Grace his heirs or assigns his her to their or any of their servants.... freely to passe and return with boats or any other vessels through any of the locksluices or channels made or to be made in the said Meere Fleet or Marsh. (Raishley Papers 38a)

For all these works to be carried out, access to the works was needed;

also convenient and fittte waies paths and passages into over and upon the lands tenements of the said Sir John Strangways and in his possession lyeing and beinge in the said parish of Abbotsburie aforesaid at convenient and apt places there to be allotted ... for ... every of their servants laborers and workman cattle and carriages to goe come passe carie recarie and travaile into out of and from the said Meere or Fleete ... for the draining thereof and keeping the same from overflowing again so often as need shall require. (Raishley Papers 38a)

The new land was to be farmed and settled and the adventurers were to be allowed;

to erect within or upon the said parte of the said Fleete called the East Fleete hereby graunted or anie parte or partes thereof anie dwelling howse or howses so as to everie suche dwellinge howse there be layd twentie acres of the same Fleete or more to be used and occupied with everie such howse. (Raishley Papers 38a)

The works seemed to be progressing successfully, the land was slowly drying out, it was reported that, 'some part of the saide Fleete was put in soe good a way of Drayneinge as that a man with boards fastened to his feet have gone therupon', but then something went very wrong.

### Failure of the Scheme

George Kirke was convinced that the drainage scheme had been sabotaged; he had some reason, as Sir George Horsey admitted:

that hee ... being informed that George Kirke Esquire one of the Groomes of his Ma'te Bedchamber had procured from his Majestie a Graunte of the said Fleet and intended to outt and dispossess this Defend't and his partners thereof and to take the benefit of their Industry labour and Charge [he] did say rather that it should ... turn again to a Fish Poole. (Raishley Papers 40a)

However;

Nevertheless this Defend't and his Partners have been soe farr from doeing any hurt or Damage to the said worke as they have spent and layd out about repaying the mayne Bay wch is made over th'warth the said Fleete and certain Sluces therein a very good Some of mony to preserve the same Baye and Sluces. (Raishley Papers 40a)

The problems the adventurers faced were massive, as George Peny reported;

the Sea at tymes of stormy windes and Tempests hath soken & flowen through the said gravelly or sandy banke into the said Fleet againe and cannot without great labour and continuall charge bee kept out allso about Mich'mas last one of the Sluces which stood in the great Bay was worne through by the vyolence of the Water wich would have endangered the whole Worke yf it had not been speedily prevented. And allsoe the walls of the great stone Sluce suncke and fell down insoemuch as yf it had not been remedied with speed it would as this Defend't beleeves have endangered the whole Worke. And theruppon hee this Defend't did to his great charge of allmost Fortie pounds cause the same great breach to bee amended and stopt upp agayne and so it now continues. (Raishley Papers 40b)

But these works required constant repair. Sir George knew what would happen if the works weren't maintained, and he prophesised that the Fleet;

will of itself ... soone return to his ancyent Forme if this Defend't and his Partners doe but hold their hande off it. (Raishley Papers 40a)

With storm damage to the dam and water coming through Chesil Beach he was swiftly proved correct and the Fleet flooded again.

One minor, probably short-lived, result of the drainage scheme may been the place name 'New Works' (the drainage scheme at Herbury was formerly known as 'Fry's Works' and is shown on the current Ordnance Survey map as the 'works'). On 11 December 1641 the *Golden Grape* was wrecked on Chesil Beach, by the 'New Works'. This was clearly close to Wyke Regis as one of the injured seamen was carried to the home of Andrew Gray, an ale house keeper of Wyke Regis (Pope 1918–1919).

Later writers (for example Bird 1971a and Taylor 1970) have generally been critical of the adventurers, considering that their plans were 'far-fetched and ill-considered'. In particular they accuse the adventurers of naivety, bordering on stupidity, in their apparent assumption that Chesil Beach would form an impermeable barrier to the sea. That an intelligent man looking at Chesil Beach might be misled into thinking it would provide a suitable barrier to the sea is shown by the comments made by E.H.T Atkinson (1927) when writing about the drainage attempt. He suggested 'that the Chesil beach in Charles I's reign was not so high or solid as it is now', implying that he thought that the sea, in 1927, would not come over or through Chesil Beach. The Earl of Ilchester, with his considerable local knowledge, immediately corrected this statement, but it does show that it was not unreasonable for someone to consider that Chesil Beach was impermeable. It is also possible that the adventurers had seen water percolating through the beach, but hadn't realised the volume, and thought that their scheme, in particular the large drain (it was considered that it might have been big enough to

act as a canal) could deal with it. In view of the amazing drainage schemes successfully undertaken by their contemporaries in East Anglia, their plans may well have shown overconfidence, but were not 'far-fetched and ill-considered'.

### Danger to the Realm

A curious aside to the attempts to drain the Fleet can be found in the state papers for 1636. It consists of a series of questions and answers, trying to prove that by draining the Fleet the natural defences of Weymouth and Sandsfoot castle would be destroyed and the area left wide open to attack by an enemy.

Reasons to prove the drayneing of the Flete neere Weymouth in the County of Dorset to be of dangerous consequences to this State.

By means thereof an invading enemy will there have a landing place of more easy descent and lesse danger not only in that County but in the whole Kingdom. The sandy Beache or Chesill (as they terme it) is by it severed from the land, 5 or 6 miles in length as a greate mote or ditch for the countryes Safeguard, the land within rising gently from it without any cliffes as in other places, and the sea on the outsyde of the Beache shoare — deepe all alongst the coast & free from rocks and Shelves &c. so as shippes of good burthen may come close aboard it.

An enemy there landed though but with meane forces may (by this meanes likewise) in a short tyme intrenche himselfe with such advantage, that all the strength and forces of that part of the Kingdom will hardly be able to remove him. The Isle of Portland and the Peninsula of Wyke, both neere adjoyning to it, are places, already by Nature so fortified, that a good trench of a mile in length, makes that of Wyke a place of great strength and the like of halfe a mile, that of Portland impregnable, where the enemy shall not only finde houses sufficient to lodge most of his troops: but of corne cattle &c great plentye.

Being so landed and intrench't he will have the command of a good harbour and of one of the best Roades and the opportunist of all that coast. Portland Roade is commanded by the Isle of Portland on the one syde, and that of Wyke on the other, having good anchorage and space and shelter enough for a greate Fleete of Shippes to ride in safety most wynds and weathers. And Weymouth harbour adjoyning to it is a place capable of as greate shippes as most that Dunkerk or St. Malo's can afforde.

But because some objections may be made against the reasons alleadged the most material of them are (together with their answers) sett downe as followeth —

Ob. 1. That Coast from Portland westward (especially about Beckington [Bexington] for two miles space) was as dangerous before, and an enemy there landing might soone be att Weymouth, it being but 6 or 7 miles distant. So as this will not much alter the case.

Ans. This arme of the sea being taken away it will be ten tymes as dangerous as before: for the Flete now lyes as a moate or ditch full of oaze and mudde of a greate dredth & depth for 6 miles space betwixt the beache and the firme lande suppyeing that waye the want of that naturall defence of cliffes and high land which the rest of the coast on both sydes hath: besides if this goe forward an enemy may land on the backside of the towne where it hath no defence att all and that within a mile or a little more, and so have a shorter marche and come more suddaynly on; and (if occasion require) make a more safe and easy retreat to his shipping, and likewise be neerer to Portland Roade to give on att the same tyme.

Ob. 2. The Ditches and Draynes that will be made in this improved ground, will give an enemy some stopp and impediment in his landing, and the two castles of Portland and Sandsfoote will hinder any Suddain attempt howsoever.

Ans. Those Draynes And Ditches will be no hinderance att all considering that in five miles space the enemy may come on where he list and will perhaps make his advantage of those Ditches to favour his retreat, and as for those 2 castles, they cannot stand us in any steede, being that toward the land they are [not?] defensible, they being made to command Portland Roade, and this landing place being made to command Portland Roade, and this landing place being on the other side of Portland and out of the 2 Castles Viewe.

Ob. 3. No Fleete of Shippes will adventure into the West Baye of Portland, both from feare of Stormes, and in regard of the disadvantages if they should be sett upon.

Ans. Experience shewes the contrary for lesser Fleetes especially. Witnessse the 12 Sayle of Dunkerers that have a good whiles now lately hovered up & downe in that Baye, betwixt Portland and Dartmouth, some of them chasing our Shippes into the very bottom of the Bay into Lyme Roade and within shot of that Towne, as att other tymes hath been donne heretofore; and witnessse those Shippes that nowe dayly ride att anchor close aboard the Shore or att least within Shott thereof, and neere to this place of danger spoken of. (Quoted in Anon 1915)

This was clearly written with no local knowledge at all, since no one who knew anything about Chesil Beach would suggest that landing an army there would be;

of more easy descent and lesse danger not only in that County but in the whole Kingdom.

or describe it as a 'sandy Beache'!

This whole account was probably based on a map and a few local reports (the reference to the Dunkirk Privateers) and was, I suspect, an attempt by someone else at Court to spoil any chance of George Kirke making any profit from his grant of the Fleet.



*Figure 2: The remains of the Herbury wall*

## Other Attempts to Drain the Fleet

### **Herbury**

The attempts of the 1630s clearly showed that it was virtually impossible to drain the whole of the Fleet, but the idea of land reclamation refused to go away. Whilst it was clearly impossible to drain all the Fleet, it seemed as if it might prove possible to drain part. In a lease dated 6 June 1665;

the said William Fry his executors administrators and assigns shall ... endeavour to drain and make dry the said plott or peece of ground called Yerberry Hope. (Raishley Papers 57a)

William Fry was steward of the Abbotsbury estate, a practical man who had chosen his ground well. The bay at Herbury (SY 610812) is large and shallow with a comparatively narrow entrance, Hope or Ope is a local word for bay, still used on Portland (e.g. Church Ope Cove). His plan was simple — a sea wall was to be built across the entrance to keep the waters of the Fleet out (Figs 2–3). A small stream flowed into the bay from the north, but this would not have posed a problem to contemporary technology. There seems to have been no reason why this scheme should have failed, but it did so (Bird 1971b). Within a hundred and fifty years hardly anything was remembered of William Fry's attempt. In 1808 Robert Pittman, the decoyman at Abbotsbury, then aged 60, was asked about past aspects of the Fleet. Amongst other things he;

Says that at a point called Yerbury in the Parish of Langton there is an embankment thrown up called Fry's works that it appears to be the rems of



*Figure 3: Detail of the Herbury wall*



Figure 4: The earthworks in the Fleet below Fleet Manor

an Old wall & has heard old people say that a man by the name of Fry tried to drain that part of the Fleete. Don't know who Fry was. (Dorset Records Office D/FSI 312)

### Fleet Manor

Evidence of a much smaller land reclamation scheme can be found at Fleet, just below Moonfleet Manor Hotel, formerly Fleet Manor House (SY 61998042) (Fig. 4). Here a small bay is closed off by the remains of a sea wall and other walls link this to the coast. The area that would have been drained is very small, about 6000m<sup>2</sup>. Other structures in the area include the remains of a 19th century pier and a small artificial island, probably also 19th century. These structures are probably garden features; the sea wall and land reclamation scheme being linked to formal late 17th or early 18th century gardens around Fleet Manor (Le Pard 2000). This formal garden is unlikely to have survived the storm of 1824 which caused extensive damage along this section of the Dorset Coast (Le Pard 1999).

### Gold!

Finally on September 14 1904 the Dorset Natural History and Antiquarian Field Club held a meeting on Chesil Beach. Here Mr C.E.A. George gave them a short talk on the waters of the Fleet, in which he mentioned that;

He was approached not very long ago with a proposal for enclosing certain portions of the Fleet with a view to obtaining gold. He had not known or imag-

ined before that the Fleet water was a gold mine (laughter) but it seemed that there were works near Hayling Island, worked on the principle of enclosure and deposit. So far nothing had come of the proposal (Anon 1905).

The amusement of the Field Club members was understandable, as can be imagined, and nothing came of the proposal.

### Surviving evidence

It is curious that the drainage attempts of the 1630s are so well attested in the documentary record, but have left no clear physical traces surviving to the present, whilst the attempted draining of Herbury, of which there is only slight documentary evidence, has left very clear physical remains. It is, perhaps, easier to consider the remains at Herbury before examining what might survive from the earlier drainage attempt.

Across the entrance to Herbury 'works' lies a bank, submerged at high water. This has an overall length of 340m, and consists of a spread of pebbles and broken limestone fragments, about 30m wide. At a point about 100m from the southern end is a shallow area, usually completely covered by water. At several points on the south-western side of the bank are the footings of a wall about one metre wide, made of slabs of local limestone. Fragments of this limestone are to be found scattered all over the higher parts of the bank. At both the northern and southern end of the embankment are clear traces of old quarries, probable sources of material. This would suggest that the Herbury Works consisted of a substantial stone wall, backed by an earth and rubble bank.

Similar sea walls, of 17th and 18th century date, can be found to the west of Lymington in Hampshire. Though requiring regular maintenance, the design is an effective one, which only deepens the mystery of how the works could have failed and been forgotten so quickly.

Unlike the Herbury land reclamation scheme, the drainage attempt of the 1630s have left no traces that have yet been discovered. Two sites within the Fleet have been suggested as being associated with the drainage (Whittaker 1978), namely the Herbury bank and the submerged causeway or wadeway below Chesters hill to the south-west of the Abbotsbury embayment. This causeway is shown on 18th and 19th century estate maps, where it is called Brudgell or Bridgehill, and it is mentioned in the 1630 lease as, ‘an ancient banke, ridge or causeway called Bridgehill’. It clearly has nothing to do with the 1630 drainage scheme, and is currently the subject of a separate study. It is suspected to be of late medieval date.

So if remains relating to the drainage scheme have not yet been located, where might they be? Some clues lie in the 1630 lease, the answers to the questions posed in the legal action of 1633 and other contemporary sources, but all these must be treated with caution. Furthermore the lease of 1630 was highly detailed in order, one suspects, to cover every eventuality and for this reason cannot be taken as an accurate guide to what was actually carried out. What the documents do make clear is that a substantial dam was built between Chesil Beach and the mainland, which resulted in the draining of, at least part of, the Fleet. In addition drains or sluices were almost certainly dug in the Fleet bed to assist in the draining, and the possibility that some pumps were erected must also be considered. From the sources it is possible to make some tentative conclusions.

It was intended to drain most of the Fleet; the areas to be drained are situated in all the parishes from Abbotsbury to Wyke Regis. This would suggest that the dam lay to the south-eastern end of the Fleet, where there was a place called ‘New Works’ in 1645. The fact that the dam could be seriously damaged by storms also suggests a location close to the south-eastern end of the Fleet. Any structure here would be sheltered from south-westerly gales by Chesil Beach, but exposed to easterly gales. These often caused damage to ships moored off Smallmouth before the building of the Portland breakwater in the 1840s.

However, it is unlikely that the dam was built as far east as Smallmouth, simply because there is no mention in the 1630 lease of a possible land link with Portland, and the tolls that could have been charged on the use of such a link, and it seems unlikely that as detailed a document as the lease wouldn’t have mentioned it. The most likely location for the dam would therefore be at the south-eastern end of the Narrows, in Wyke parish. This is, as the name implies, the narrowest part of the Fleet, and therefore the obvious place to build a dam, in

a position exposed to easterly gales and yet far enough away from Smallmouth not to be of any use as a land bridge to Portland.

Further evidence as to how the adventurers tried to drain the Fleet might come from three possible sources; documentary, archaeological and environmental.

*Documentary* — whilst it is unlikely that any more documents will be discovered relating directly to the drainage scheme, it is possible that apparently unconnected items may provide important clues to the location of the works. For example, the place name ‘New Works’ is only recorded in the account of a shipwreck on Chesil Beach.

*Archaeological* — the great dam, and other works should have left physical traces, that may be discovered.

- i. The remains of the dam: Whilst the construction of the dam is unclear, it may either have been entirely of earth and rubble or, as the slightly later Herbury Works Wall was, faced with a stone wall. It is clear that the dam had substantial stone and timber sluices. After the failure of the project the site would probably have been robbed for building material, but some traces should survive. Perhaps blocks of worked stone on the Fleet bottom?
- ii. Ancillary structures, drains, sluices and pumps. ‘Divers sluices of Stone and Tymber’ were built and remains of these could still survive buried under the sediment at various places in the Fleet. It is less certain if pumps were ever erected, and in any case such structures would probably have been prefabricated and semi portable, and could have been removed after the venture failed. If any water mills were built to power the pumps, then lower portions of any structures might remain in the sediment. However, as no buildings are mentioned in any account of the scheme then the existence of water-driven pumps must be considered as very unlikely. It is perfectly possible, however, that wind mills were erected and they would have been as easily removed as the pump itself. In this case the only traces that might survive would be the base of the post on which the mill was mounted, or the post-hole where it had been situated.

*Environmental* — the effects of the drainage might be found in the sediment record. The partial draining of the Fleet would have caused local changes in the environment, which would have left their record in the sediments. The drainage could have had three different effects.

- i. Drying completely, causing the death of the normal Fleet organisms, and possibly the short-term colonisation by terrestrial plants.
- ii. Water, becoming more saline. Where salt water remained, or entered the lagoon, and wasn’t either diluted with fresh water, or flushed by a direct link to the sea, evaporation would have created hyper-saline conditions.

- iii. Water, becoming fresher. Where freshwater streams or springs enter the lagoon, and the access of salt water was restricted, there could have been a local build up of fresh water conditions.

[In the summer of 2002 Dr. Patrick O'Sullivan of the University of Plymouth reported that he had found evidence of reduced saline conditions in a core of Fleet sediments taken off Langton Hive. Unfortunately, it is impossible to date this layer but it is possible that it may relate to the drainage attempts of the 1630s (O'Sullivan, pers. comm.)]

- iv. Whilst the construction works could have caused
- a. Layers of 'made ground', a bank, perhaps alongside one of the sluices or drains, will appear in the sediment record as a mixed layer, apparently interpolated between the 'normal' layers of deposition within the Fleet.
  - b. Truncation of the sediment record. Where channels were dug in the mud to facilitate draining the record would be truncated, and an unconformity (to use a geological term) would be created.

It is only by means of discoveries in the future that we will ever be able to solve the mysteries that still surround the draining of the Fleet.

### Acknowledgements

I would like to acknowledge the interest and assistance shown by several members of the Fleet Study Group, in particular Dennis Seaward, John Whittaker and Patrick O'Sullivan.

### Sources

The primary source for the story of the attempted draining of the Fleet are the 'Raishley papers'. This is a collection of documents made in 1888 as evidence in a court case. Transcripts of these documents were privately published in a substantial volume, a copy of which is in the library of the Dorset Natural History and Archaeological Society.

The documents quoted are;

- 38a Sir John Strangways to Sir George Horsey and others ... of the East Fleet in consideration of their draining the whole Fleet.

- 39a A particular of the Fleet 25 June 1631  
 40 Bill and answers 1633  
 40a Answers of Sir George Horsey  
 40b Answers of George Peny esq.  
 41a Agreement between George Kirke and Sir John Strangways 26 November 1633  
 43a Patent Roll 12 Charles I 13 July 1636  
 44a Lease from Sir John Strangways to George Kirke of a fourth part of the Fleet June 1637  
 45a Regrant by George Kirke to Sir John Strangways of a fourth part of the Fleet 2 November 1641  
 46a Order in exchequer acquitting Sir John Strangways from the payment of £10 for the rent of the Fleet, till it should be drained 1646  
 47a Lease by Sir John Strangways to John Herne ... of the Decoy at Abbotsbury .. in consideration of the expenses of the making htre said decoy 2 February 1655/6  
 57a Lease by Sir John Strangways to William frye of a parcell of the Fleete called Yerberry Hope 7 June 1665

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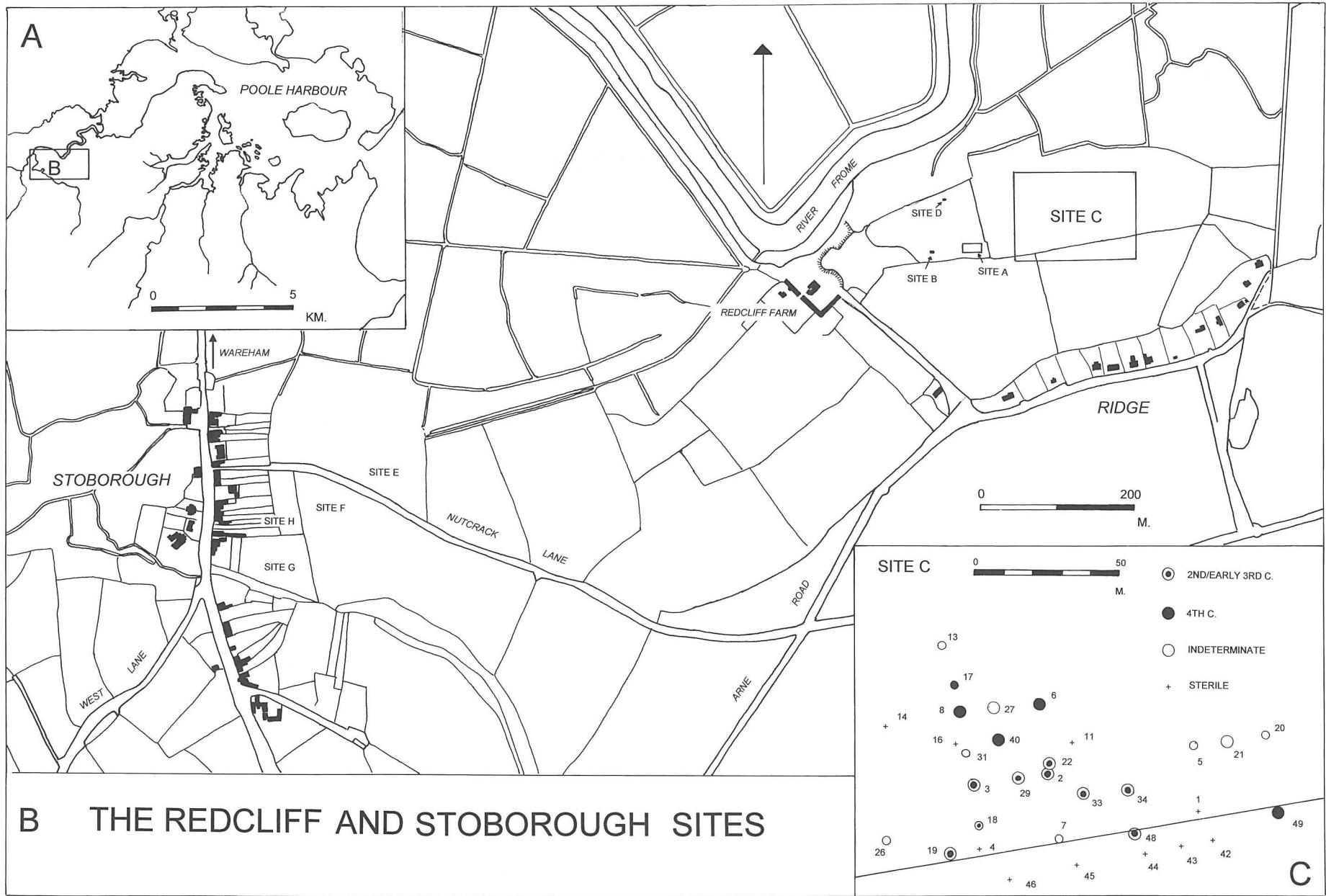


Figure 1: A. Poole Harbour showing area covered by Fig. 1B; B. The Redcliff and Stoborough sites; C. Plan of Redcliff Site C showing distribution of test pits and dating of pottery from them

## Introduction

The Roman sites east of Redcliff Farm (Plate 1), lie on a north-facing slope overlooking the lower reaches of the River Frome and were first discovered by P.A. Brown in 1953. He observed an intense pottery scatter in mole-hills and put down a number of test pits in an area centred on SY935867 (Fig. 1, Site C). These investigations were poorly recorded but revealed a large area of Roman industrial activity with large quantities of pottery wasters of 2nd to 4th century date: these include a number of complete and nearly complete vessels.

Brown's discoveries attracted the attention of Ray Farrar, who arranged in 1975 for A.J. Clark of the Inspectorate of Ancient Monuments to carry out a fluxgate gradiometer survey of the two fields in which the excavations had taken place. Several interesting magnetic anomalies were detected but Farrar was unable to carry out further excavation on the site.

P.A. Brown had meanwhile observed sherds and burnt earth in the back-filling of a sewer put down in 1974 across a smaller field immediately to the west of Site C and where he had previously dug a single, small sondage in the north-east corner at SY93368677 (Fig. 1B, Site D). This field was also included in the fluxgate gradiometer survey and revealed a further series of magnetic anomalies on the steep north-facing slope overlooking the River Frome.

An area with a strong magnetic anomaly immediately west of the line of the 1974 sewer at SY9336086713 (Fig. 1, Site A) was selected for excavation by Farrar, and a trench was opened in the late spring of 1975. Excavation of further trenches at Site A continued for nine years and the greater part of a 1st–2nd century BB1 pottery production site was uncovered.

During the last season of excavation in 1983, a small trench was excavated 50m to the west of Site A (Site B), in order to explore another of Clark's magnetic anomalies, and sectioned a substantial 1st-century ditch running east–west.

Interim accounts of the progress of Farrar's excavations were published regularly in the Proceedings of the society (Farrar 1976; 1978; 1980; 1981; 1982a; 1982b; 1983; 1984).

Fields and gardens in and around the village of Stoborough, about 1500m south-west of the Redcliff sites, were also subjected to trial-trenching by P.A. Brown and H. Burr during 1952 and 1953 (Plate 1; Fig. 1, Sites E–G). They showed that the village overlay and was surrounded by another cluster of Roman pottery production and occupation sites, but with evidence here for Middle Iron Age occupation and the manufacture of Late Iron Age Durotrigian wares, as well as Roman pottery.



*Plate 1: The landscape of Poole Harbour and the context of the Late Iron Age Romano-British pottery production sites; view of Redcliff Farm and floodplain of the Frome River, looking north-west from the excavation of the Stoborough Vat beside Nutcrack Lane, Harry Burr 1952*

## The Excavations

### R.A.H. Farrar's excavations 1975–83

#### Methodology

Farrar's excavations were conducted according to the Wheeler system of small square to rectangular trenches separated by narrow baulks in order to provide numerous sections. Each trench was identified by a Roman numeral with a prefix of A or B depending on the site. Stratification was recorded by a simple system of context numbers, some of which covered a number of subdivisions within such a perceived context. Some of the information which might have been lost using such a simplified system can in fact be recovered because of Farrar's practice of stating on the finds' bag labels where in the context the material was found.

All finds, including relatively modern items from the topsoil and land-drains, seem to have been kept; there are no indications that anything has been discarded since the excavation or passed to specialists without records being kept. Feature surveys and other observations were initially entered in rough field books and then transferred in a more coherent manner to five site notebooks spanning the period 1975–1983.

#### Site A

Twenty trenches covering an area measuring 27m from east to west and 17m from north to south were dug between 1975 and 1983 at a point where the 1974 sewer cut through a boggy patch in the south-east corner of the field, just below the crest of a low east–west ridge (Fig. 2). Another small trench (XII) was excavated down the hill slope, 5m to the north of the main area of excavation, but yielded little pottery or other artefacts.

The main excavation revealed that the boggy area occupied a slight natural hollow in the Bagshot sands and clays of the steep north-facing hill slope. This hollow had been created by a spring or springs at its south-east corner, the continuing activity of which caused considerable problems for the excavator by repeatedly flooding many of his trenches. It is probable that the hollow had been somewhat enlarged by clay digging but there was no certain evidence for this.

The feature was found to be filled with the debris from successive BB1 pottery firings; the eastern limits of such activities and the edge of the hollow were exposed in Trenches IX and XIII, the northern edge in Trench XI and the south-western edge in Trenches X, IV,

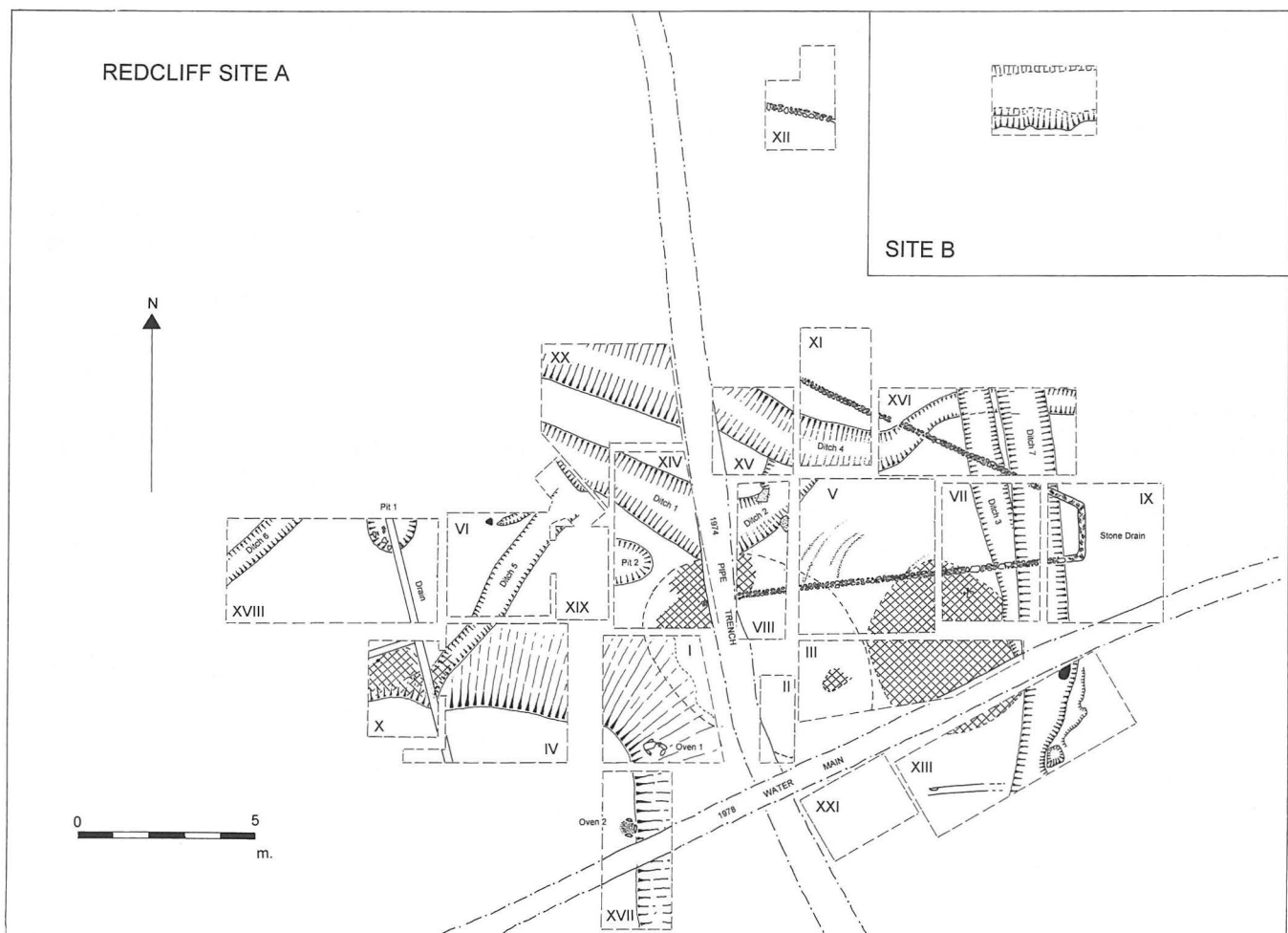


Figure 2: Plan of Redcliff Sites A and B

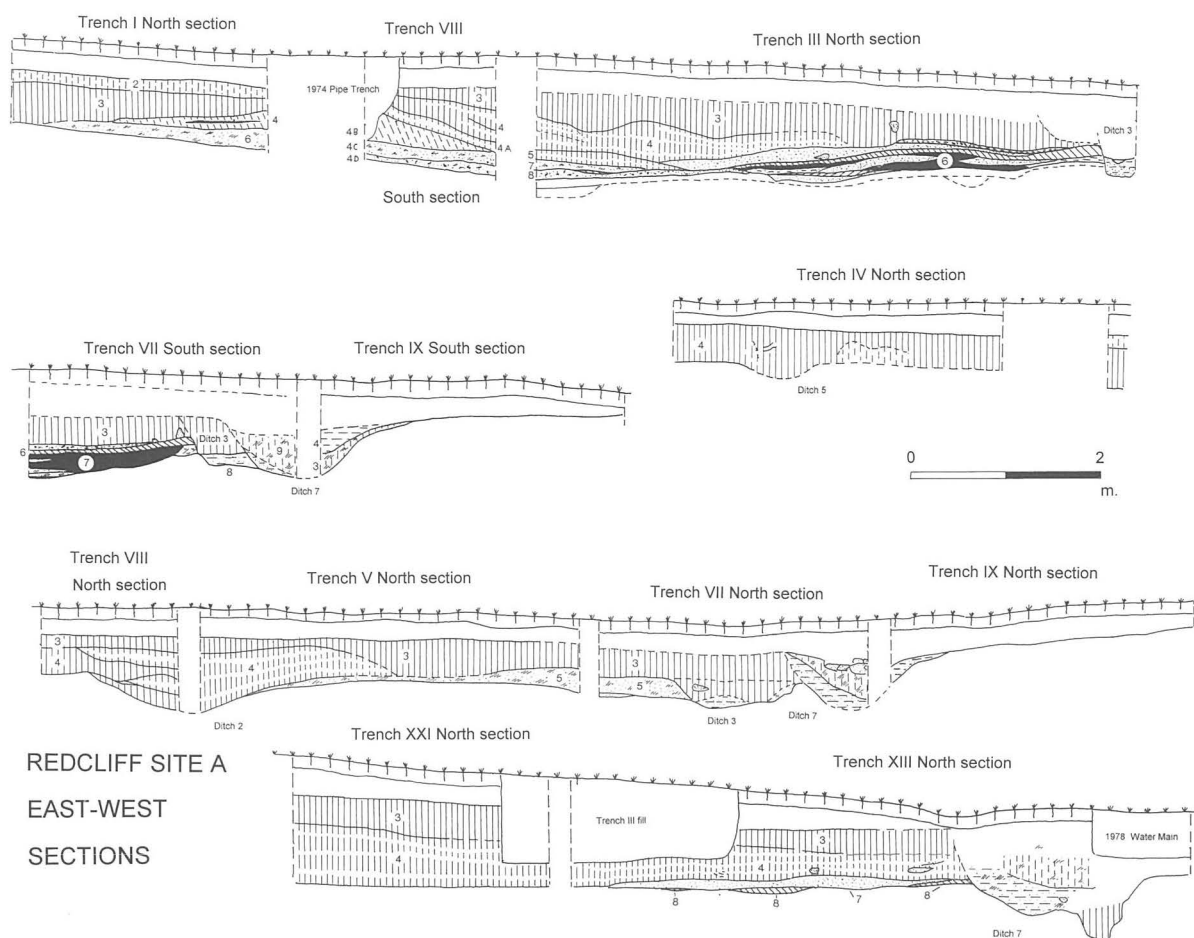


Figure 3: Redcliff Site A: east-west sections

I and XVII. The western and south-eastern limits of potting activity lay outside the excavated area. Three main phases of pottery production could be distinguished.

#### Phase 1 (c. AD 43–120)

A large oval patch of blackened sandy loam 7.00 by 5.00m with burnt orange patches on its surface was exposed in and sectioned by Trenches I, II, III, V, VIII and XIV in the centre of the hollow. The loam (AI.6, AII.5B, AIII.8B, AV.7 and AVIII.4D) was a sealed soil horizon above the natural clay and owed its colour to the carbonisation of its organic content by heat. It averaged 0.10m in thickness and contained the earliest sealed pottery assemblage from the site. The few sherds (p.61) are mainly of Durotrigian character but include fragments from a post-Conquest handled pitcher, indicating that pottery production on the site is unlikely to have commenced much before the middle of the 1st century.

A further and much larger pottery assemblage of similar date (Assemblage 1) came from that part of this layer within Trench XIV (Context A.XIV.5B), and formed a scatter extending beyond the limits of the firing area.

The surface of the blackened loam had been patchily fired reddish-brown mottled with reddish-yellow inclusions, particularly in Trenches A.II (Context 3B),

III (8A), V (8B) and XIV (5A) around the periphery of what appears to have been the site of a series of large pot-firing clamps. Examination of samples of this burnt soil indicate that it was fired to moderate temperatures, higher than those normally reached in bonfires, and included a little carbonised chaff and peaty material (p.90).

An east-west section through the clamp base made by the north section of Trench I, the south section of Trench VIII and the north section of Trench III (Fig. 3) shows its centre to have been covered by a mound of burnt brown soil with orange flecks (A.I.4 and A.VIII.4B). The east side of the same burnt soil mound was also sectioned in Trench II (5A) and was up to 0.50m thick at its centre: the feature was probably a residue of clamp smothering soil and turf left over from the last firing.

Further dumps of black soil streaked with orange were encountered on the south side of the clamp floor in Trench I (Context I.5) and on its west and north sides in Trenches XIV (4) and XX (4). The material appears to consist largely of turf debris. Examination of similar material associated with the Phase 2 clamp showed that the orange, despite its superficial resemblance to the burnt clamp base, was mainly iron-panned soil, proba-

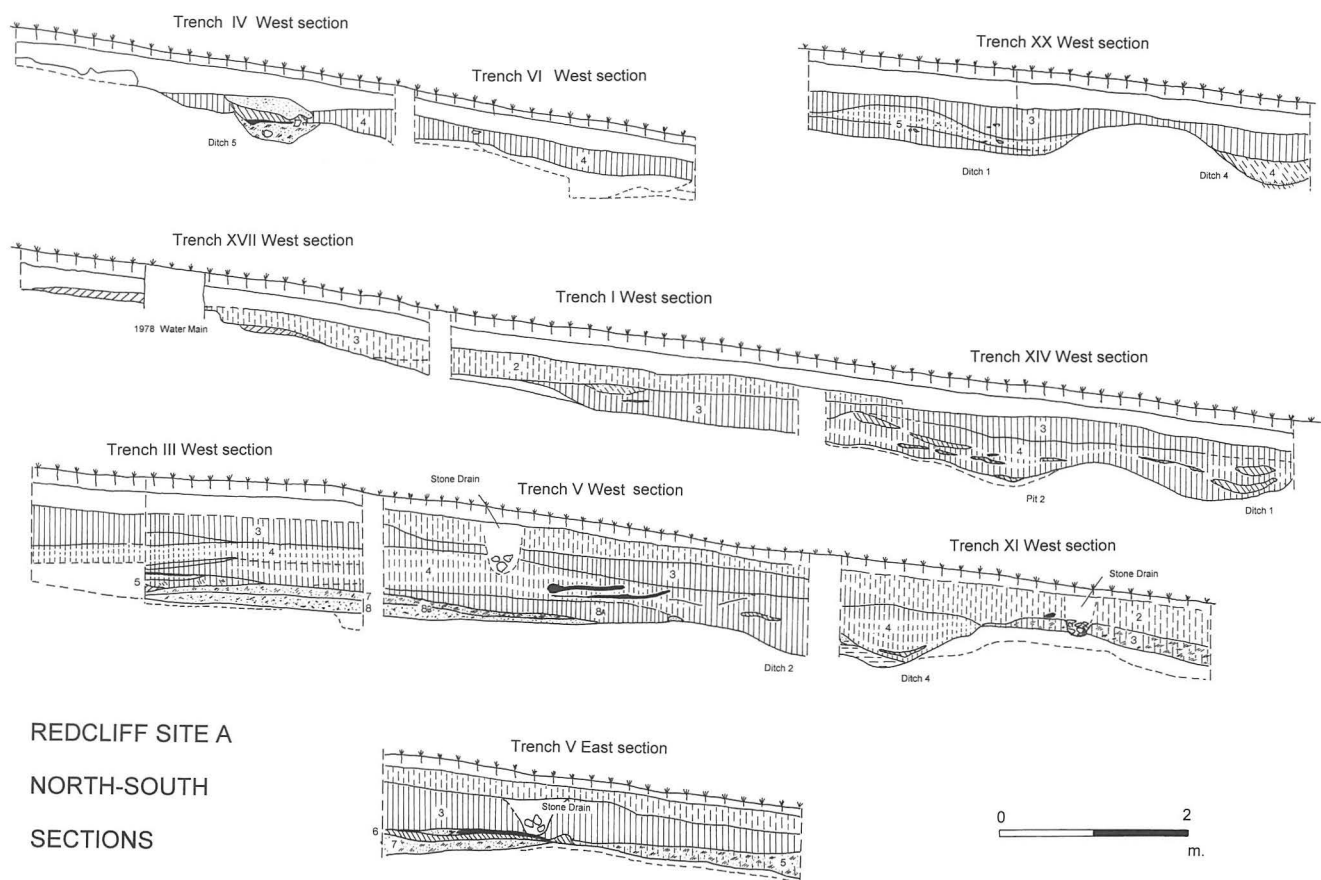


Figure 4: Redcliff Site A: north-south sections

bly from the undersides of turves (p.86). Calcined flint pebbles and lumps of burnt and unburnt ferruginous sandstone associated with this layer and the Phase 2 firing structure were probably derived from such heathland turves.

A shallow gully (Ditch 1), 0.40m deep and up to 2.00m wide, running north-west down the slope from the north side of the clamp may have been intended to drain off any water from the base of the structure; it contained dense black primary silting overlain by the firing debris layers A.XIV.4 and XX.4.

Another gully (Ditch 2), running north-east from the clamp and sectioned by Trenches VIII and V, appears at first glance to be a continuation of Ditch 1 but the section in the west face of Trench VIII indicates that it was cut through the debris from the clamp, rather than filled by it, and may therefore have been a secondary feature. Ditch 2 was also about 0.40m deep but only 1.00m wide, and its fill consisted almost entirely of dense black waterborne silt similar to that in Ditch 1.

Few other areas within the limits of the excavation produced evidence for Phase 1 activity. One of these was a layer of blackened grey sandy loam (A.V.7 and A.VII.7), similar to that beneath the Phase 1 firing structure but sealed by the burnt surface of the Phase 2 example to its east. This patch of blackened soil produced very few artefacts but these include two

Durotrigian-type pedestal bases and a piece of limestone that had clearly been used for area burnishing in the making of pots.

The pottery present within the clamp debris (p.61) is very largely of Durotrigian character and difficult to date closely. Wares of this type continued to be produced until the early years of the 2nd century with very few changes. The presence of pre-Flavian and Flavian samian as well as a few more closely datable Durotrigian/BB1 vessels attempting to copy wheel-turned fineware forms of early 2nd-century date does, however, suggest that the clamp site continued in use throughout the late 1st century until at least AD 120.

#### Phase 2 (c. AD 120–180)

The most distinctive feature of this phase was the base of another firing structure to the east of the Phase 1 example, exposed in and sectioned by Trenches A.III Extension, A.V, A.VII and A.XIII (Plate 2). The base of this firing structure or clamp was much better defined than that of the Phase 1 example and consisted of a slightly convex, roughly circular, area of reddish-brown burning 4.50m in diameter on the surface of the blackened Phase 1 soil horizon (A.III.6, A.V.6, A.VII.6 and A.XIII.8). The overall reddening contrasts with the patchy burning on the base of the Phase 1 firing structure and suggests that uniformly higher temperatures were reached more often within the Phase 2 example.



Plate 2: View of the Phase 2 firing floor, looking south-west into Trench A.VII, showing south and west sections through the structure, Ray Farrar's excavations 1979

It may be that the fired area was more than just the base of a simple clamp. The north-east floor quadrant had a number of sandstone lumps resting on its surface and in some cases actually embedded in it; a large lump of fired clay with lath impressions was also present. All this led the excavator to suggest that there may have originally been some kind of structure within the clamp. The late 2nd to early 3rd-century 'Kiln' 174 at Worgret consisted of a spread of burnt clay 1.75 by 0.80m with vestiges of a stone- and clay-built structure set in its surface (Hearne and Smith 1991, fig. 8A). The excavator considered that this was something less than a true kiln, as the area of intense burning extended well beyond its limits.

It may be that the Worgret structure and the slightly earlier and less substantial Phase 2 example at Redcliff were designed to protect pot loads within clamps in the manner of semi-kiln structures used by the potters of Garki near Kano in Nigeria (Riegger 1972, 94–7). Here a large, cylindrical, open-topped vat of clay with small openings around its base was constructed on the natural ground surface and filled with pots. Bundles of grass and brushwood were then stacked over and around the structure to make a large bonfire.

Upon the surface of the Phase 2 firing floor was a thin seam of soft, very dark grey, sandy loam and humic soil with very few potsherds or stones (A.XIII.7). This layer did, however, include large quantities of carbonised wheat chaff and significant amounts of carbonised grain and weed seeds. What we appear to have here is material burnt out of covering turves and soil and finer fuel elements, which sifted down between the pots during firings and settled on the floor of the structure.

Around the firing structure to the west and south and overlapping its edge was a dump of reddish-yellow sandy loam, medium to coarse sand and charcoal up to 0.50m in thickness (A.III.4, A.V.4, A.XIII.4 and A.XXI.4). A series of black and reddish-yellow bands within this layer, concentric with and to the north-west

of the Phase 2 fired floor and now identified as iron-rich podzolic soil alternating with carbon-rich material, were noted during the excavation of Trench V and suggest that the dump consisted of turves removed during the unloading of the last pottery load. This dump also contained a number of sandstone lumps from such turves, some compressed and carbonised peaty material and much carbonised chaff.

The centre and north-east side of the firing floor were free of this material and overlain by a layer of dark-grey to black sandy loam with a high humic content and some charcoal (A.III.3, A.VII.3 and A.XIII.3). This layer also extended west and south over the turf dump and nearly all of the rest of the site and consisted of fine soil debris with fragments of charcoal left over after the (probably commercial) extraction of such material after firings. Examination of samples of this layer also show it, like the turf dump, to contain large quantities of carbonised chaff and weed seeds (pp.86–7).

The eastern side of the reddened firing-structure floor abutted the western side of a slight north-south gully (Ditch 3), which was cut away on its east by a later ditch (Ditch 7) on a similar alignment. Ditch 3 diverged gradually from the line of Ditch 7 as it descended the hill slope and a full cross-section of the former was obtained in the northern baulk of Trench XVI. This shows the feature to have had a flattened U-section, 0.90m wide and 0.24m deep, with grey-brown sandy-silt in the bottom and the upper half filled by the same black humic loam that overlay the rest of the site.

In view of the broken, ragged nature of the reddened floor where it abutted the gully, Farrar thought that Ditch 3 was later than the firing structure. Nevertheless, the line of Ditch 3 marks a clear eastern boundary to potting activities. Trench A.IX on its east side was totally lacking in Roman pottery and black waste, and the natural clay rose very close to the present ground surface. The breaking away of the eastern edge of the firing floor is more likely to have been due to frost or erosion and the gully is best regarded as carrying out the same drainage function as Ditches 1 and 2 did for the Phase 1 clamp. There is no clear evidence for Ditch 3 extending further up the hill slope than the fired area; where the ditch was absent further up the slope in Trench A.XIII, black waste extended right across to the eastern edge of the trench.

Extending east to west across the site and marking the northern boundary of the main potting area was a sinuous ditch (Ditch 4). This feature was widest (2.50m) and best developed at the western edge of the excavated area but became steadily more attenuated in an easterly direction until it was a mere 0.90m wide in the east section of Trench XVI. The depth of the ditch varied between 0.65 and 0.40m along its length and it contained very little pottery.

The extreme western end of the excavated ditch length in Trench XX had evidence for intense *in situ* burning in the form of an orange-fired base, suggesting

that there may have been some sort of firing structure or hearth within it just beyond the section. The earliest firing structure at Worgret (Pit 140) is dated to the late 1st to early 2nd century and was also set in a ditch (Hearne and Smith 1991, 62). The practice of setting Roman kilns in ditches has also been encountered at Highgate Wood (Brown and Sheldon 1971) and elsewhere, and was probably intended to shield them from the damaging effects of wind on their loads during firing.

Ditch 4 was shown to truncate the northern end of the Phase 1 Ditch 2 in Trench A.XI but its relationship with Ditch 3 where it crossed it in Trench A.XVI remains unclear. The pottery from Ditch 4 includes residual late 1st-century as well as 2nd to early third-century pottery and it is clear that the feature remained open until at least the end of Phase 3.

The pottery report (pp.60–9) shows that nearly all of the pottery waster assemblages from the site have a marked predominance of oxidised or patchily fired sherds; soot-soaked fragments tend to make up between 20% and just over one-third of the pottery calculated by EVES. The assemblage from the Phase 2 patchy black and grey soil horizon in Trenches A.VI (Context 4) and A.XVIII (Context 3) at the western end of the site does, however, differ markedly in that 59% of the pottery is soot-soaked. This factor and the presence of a stone ?tournette pivot at the base of Context A.XVIII.3 suggests the possibility that this was a living/working area at this time.

#### Phase 3 (c. AD 200–220)

The most significant feature belonging to this phase consisted of the mutilated remains of a firing structure in Trenches A.IV and X. This was constructed in the natural hill slope on the south side of the hollow and in the south-west end of a gully (Ditch 5) running north-east down the slope through the north-west corner of Trench A.IV, across Trench A.VI and the north-west corner of Trench A.XIX before fading out.

The firing structure was not recognised for what it was at the time of excavation and no survey was carried out. Much information was lost as a result of wet digging conditions, but coloured slides taken at the time indicate a roughly oval area of reddish burnt soil in the eastern half of Trench A.X, measuring approximately 2.00m from east to west and 1.50m from north to south. This burnt area was cut by two 19th-century ceramic land-drains, and laid on it and in it were several complete and nearly complete vessels — presumably discarded from the last pot load.

The reddened floor extended into the upper end of Ditch 5, where the east section of Trench A.X and the west one of Trench A.IV across the upper end of the gully showed the reddening to be much brighter than elsewhere. This suggests that higher temperatures were reached at this point and may indicate the former presence of a kiln flue.

The sections show that the thin seam of reddening rested on an equally thin layer of jet-black carbonised soil at this point. This rested in turn on a thin layer of dumped yellow clay over the dirty-grey primary silting of the gully.

The gully itself was 0.90m wide and 0.30m deep at its upper end but became steadily shallower and less well defined as it descended the hill slope and cut into earlier waste dumps rather than the natural clay. Away from the firing structure the fill consisted of stiff black soil with large numbers of complete and semi-complete pot wasters. The presence of large amounts of charred grain and chaff in the black fill suggests that the firing structure may have been used for malting or corn-drying as well as potting. Some of the waster pots in the primary ditch fill were sealed beneath the putative flue of the firing structure and suggest that it was only the latest in a series of such constructions.

The pottery from the firing structure and Ditch 5 is dealt with in detail below (pp.66–9) and is particularly interesting in that it spans the transition from acute to obtuse-latticed cooking-pots and can be fairly precisely dated to c. AD 200–210.

Set into black waste from the Phase 2 firing structure in Trenches I and XVII were two pot-drying ovens constructed from slabs of Purbeck burr stone. Oven 1 in Trench I consisted of a circular setting of five vertical slabs, 0.50m in diameter, with two cover stones. This stone oven was set in a hollow 0.45m deep and had an opening for the insertion of fuel in its south side. The pattern of burning on the surfaces of some of the slabs indicates that the oven had been rebuilt at least once.

Oven 2 lay in Trench XVII, only 1.50m south of Oven 1, and was of similar type and size. It was, however, constructed from only three, more widely spaced, vertical slabs and had its opening on the west side. In the bottom of this oven was a large, distorted fragment of grossly underfired black BB1 pottery. It was soft enough to be panned away with the fingernail and appears to have been part of an unfired pot which was discarded during the drying stage and then used to floor the oven. The heat from the oven had then hardened up the sherd sufficiently for it to survive.

Attribution to Phase 3 is inferred by the fact that both ovens were dug into the surface of black waste containing early to mid 2nd-century Phase 2 potsherds, and Oven 1 contained a fragment from a straight-sided dish of 3rd-century character with scrolling on its underside.

No other features can be attributed to Phase 3 with any certainty. Another gully (Ditch 6) running across the north-west corner of Trench XVIII is on the same alignment as Ditch 5 and could be of similar date. However, the fill only included one potsherd of indeterminate character. Small amounts of early-3rd-century pottery are present in the black earth all over the site but are never common outside Ditch 5. The impression

given is that the main focus of Phase 3 activity lay beyond the excavated area.

The end date of *c.* AD 200–210 for the Trench X firing structure, arrived at from examination of the pottery in Ditch 5 and the large amounts of charred grain and chaff from the same feature (p.88), raise the possibility that Phase 3 Redcliff may have been a victualling point for Severus's Caledonian campaigns, supplying grain, pottery and possibly other commodities from the *civitas* of the Durotriges for transport by sea to the army in the north.

Later activities on the site

The south-west corner of Trench XIII produced indistinct evidence for an east–west aligned trench cut into the surface of the Phase 2 waste (A.XIII.3). A concentration of large sandstone lumps and an abraded fragment from a 4th-century developed beaded-and-flanged bowl were found when excavating this waste and suggest the possibility of a robbed wall foundation belonging to a late Roman building, most of which would have lain to the south of the excavated area.

Ditch 7 running north along the east side of the site was considerably more substantial than the gully Ditch 3 which it replaced and partially cut away, and was probably intended to drain off the spring in the south-east corner of the site. The fill consisted of dumped clay lumps (A.VII.9, IX.3, XIII.5, XVI.4) over fine grey primary silting (A.VII.9A, XVI.4A) and produced just a few Roman sherds. A fragment of Saxo-Norman pottery from A.XVI.4 dates either the usage or back-filling of this otherwise poorly dated feature.

The field containing Sites A and B was turned over to arable farming at some time during the 17th century. The ploughsoil horizon produced a number of post-medieval potsherds from marling and at least two successive land-drain systems were encountered on Site A.

The first such system consists of a meandering stone drain exposed in Trenches A.V.(3A), A.VII.(3A), A.VIII.(3A), A.IX.(3A), A.XI.(3A), A.XII.(2A) and A.XVI.(3A). This feature caused Farrar major problems in that its wall-foundation-like appearance and lack of contemporary dating evidence initially led him to think that he was dealing with the foundations of a very large Roman building of unusual plan. The drain is probably of 17th or 18th century date.

The second system of land-drains consists of ceramic piping laid in trenches capped with clay. Two such drains, intersecting at right-angles, were encountered in Trenches A.IV.(3) and A.X.(3 and 3A) at the south-west corner of the site and were probably installed during the 19th century.

The north–south pipe trench which led to the discovery of the site was inserted across the middle of the site in 1974 and an east–west water main to serve camp-site lavatories in the field to the east was put across the south of the site in 1978 between excavation seasons.

Site B (Fig. 2)

This site consisted of one exploratory trench 3.00 by 2.00m situated 50m west of Site A. The only significant feature encountered, and the earliest, was a shallow east–west ditch (Ditch B.I.20) 1.80m wide and 0.40m deep. The primary grey-sand silting of this feature (Contexts B.I.24 and 25) and the sandy loam fill above (B.I.21) were sterile but the brown sandy loam (B.I.11) sealing the feature and extending across much of the trench produced a small amount of Durotrigian to early 2nd-century pottery.

Layers B.I.6 and 8 above B.I.11 consisted of black, sooty soil with burnt red clay from pot-firings and contained a mixture of late 2nd and early 3rd-century pottery. Layer B.I.4 above these layers had more pottery with a similar date range and was made up of brown sandy loam with charcoal and clay lumps. Its upper surface graded up into the ploughsoil and humus layers B.I.3, 2 and 1.

#### PA. Brown's excavations in 1953 (Sites C and D)

Site C (Fig. 1B)

Site C lies to the east of the field containing Sites A and B and the caravan camp and was first noted as an area particularly rich in surface sherd-scatter, brought up by mole activity.

The field is divided by a fence running east–west. A line of five small test pits (42, 43, 44, 45 and 46) was dug 10.80m to the south of the fence, at intervals of 10.80m, 10.80m, 21.60m and 21.60m westward from a point 90m from the south-east corner of the field. Nothing of note was discovered, with hardly any sherds coming from the *c.* 0.6m of topsoil covering the natural gravel to the east and sand or clay to the west.

Forty-two test pits and extensions of varying dimensions were dug to the north of the fence and to a grid pattern on the same alignment (Fig. 1C). It was found that there was a 'mere trace of red ash (*sic*) upon the surface of the natural sand around the periphery of the excavated area' in test pits 1, 4, 13, 14, 20 and 26, whereas the central area revealed thicker deposits of such ash. These deposits were occasionally interspersed with thin layers of charcoal or coarse grey ashy soil, up to 0.85m in thickness, with a corresponding increase in dark soil merging with the natural white sand below the red ash.

Examination of the surviving pottery assemblages from the various test pits indicates three main foci of potting activity within the area covered by the site. These are of different dates within the 2nd to 4th centuries and are phased according to the system used for Sites A and B:

Phases 1, 2, 3 and 4 (*c.* AD 100–250)

Test pits 2, 3, 18, 19, 22, 29, 33, 38, 48 and their various extensions in the south and centre of the site (Fig. 1C) produced small amounts of 2nd-century pottery, indicating some activity during Phases 1 and 2. The

bulk of the sherds are, however, of early 3rd-century date and are dealt with below (pp.69–71). Some of the test pits produced evidence for structures.

Test Pit 22, with its extensions 23, 24 and 25, resulted in a trench 0.30m wide and 5.40m long running north–south and sectioned 2.40m of the clay and sandstone rubble floor of a building set in a hollow in the surface of a 0.45m thick layer of black firing waste overlying natural sand (Fig. 20D). Laid on the surface of and embedded in this floor were the shattered remains of a well-worn narrow-necked storage jar similar to Fig. 9.38 and a sandstone hone.

Test Pit 34 and its extensions 35, 36, 37 and 38 covered an irregular area measuring 3.45m east–west and 1.20m north–south. Test Pit 34 itself came down on the surface of a layer of large stone slabs, including the complete lower stone of a rotary quern and a block of shale, set in 0.05m of earth on the surface of a 0.12m thick layer of white clay over natural grey sand. Test Pit extension 38 on the south side of 34 produced a slab of worked shale measuring 0.27 by 0.20m, surrounded by and overlying masses of pottery, including two almost complete cooking-pots leaning against each other. Test Pit 34 extensions 36 and 37 to the east and north also produced a great deal of early 3rd-century pottery. This suggests that we are dealing with a living or working area of some description at this point.

Test Pit 33 did not produce any structural evidence but sectioned a 0.45m thickness of ‘red and coarse ash’ with very large amounts of pottery of similar date, including a complete everted-rim cooking-pot and flanged bowl. Test Pit 3 at the western edge of the area of early 3rd-century activity sectioned 0.15m of red ash over 0.22m of black firing waste resting on natural silvery sand and also produced a complete cooking-pot.

A *dupondius* of Septimus Severus (AD 196–211) picked up in a mole-hill at Site 1 (not a test pit), may relate to this phase of activity on the site. The coin is not in the surviving P.A. Brown archive and no details of its condition or type are known.

#### Phase 5 (c. AD 300–350)

Test Pit 49 immediately south of the fence and 67.50m from the south-east corner of the field to the north revealed an oval platform 0.90m by 1.05m and 0.15m thick, constructed from ‘sandstone lumps covered by a rough layer of baked clay’ in the northern half of the trench and resting on the surface of a layer of black sand and earth with potsherds 0.45m below the present ground surface (Fig. 20E). This platform was supported to the south by a block of sandstone resting on natural gravel and vertically pierced by a number of irregular holes roughly 0.05m in diameter.

The description of the platform is reminiscent of Heywood Sumner’s excavation of kilns at Linwood in the New Forest (1927, 93–7), where later re-excavation showed his interpretation of their structure to be

erroneous. Apparently, he was unable to distinguish between dumped and compacted kiln fabric within the ruined ovens and still surviving *in situ* structural elements (Swan 1971).

It is suspected, therefore, that the platform is the lower part of such a kiln packed with debris and with the apparent irregular post-holes being but gaps in the compacted rubble. Excavations at Worgret have shown that BB1 pottery was being fired in substantial clay and sandstone block-built single-flued updraught kilns by the beginning of the 4th century (Hearne and Smith 1991, fig. 9A).

A word of caution must, however, be sounded as a later description of the platform in Brown’s papers refers to it being constructed of ‘a clayey or chalk substance but not discoloured by fire on (at least) the top surface’. This account was, however, written more than 20 years after the discovery and may merely indicate that the ‘kiln’ was constructed of white-firing ball clay.

The layer of black sandy soil on which the ‘platform’ was constructed filled a 0.45m deep hollow in the surface of the natural sand and contained quantities of early 4th-century pottery, including three reconstructable oval dishes with handles (Fig. 13.95–6), from a point south-west of the platform.

#### Phase 6 (c. AD 350–400+)

The pottery from Test Pits 6, 8, 17 and 40 indicates a mid–late 4th century focus of production on the north-west side of Site C. None of these pits showed any signs of structures but produced considerable quantities of pottery, some of which could be later than AD 400 in date (Fig. 13.97–8). Test Pit 8 and its extensions 9, 10, 12 and 15 sectioned a considerable thickness of kiln waste. Extension 9 cut through 0.90m of ‘red ash’ over 0.45m of mixed soil and ash with pockets of clay. This in turn overlay 0.07m of ash and 0.30m of mixed black waste and ash over the natural sand. All of this was overlain by 0.45m of topsoil overburden.

Test Pit 8 and the rest of its extensions were not fully dug because of the great depth of firing debris but Extension 15 on the east side of 8 was taken down through 0.15m of topsoil, then 0.45m of ‘red ash’, 0.30m mixed black ash and waste and 0.08m of red clay. Masses of pottery occurred at all levels within this sequence but were not bagged separately.

#### Site D (Fig. 1B)

Site D consisted of a single small trench of unknown dimensions put down in the northern end of the field containing Farrar’s Sites A and B in the low-lying ground at the foot of the hill slope. The trench was sited 57m from the eastern and 4.80m inside the northern hedge of the field and sectioned 0.32m of brown earth over a thin layer of sandstone rubble. This rubble rested on 0.97m of black earth with a few Roman sherds above natural sand.

### Excavations at Stoborough in 1952–53

Four sites were excavated here by P.A. Brown and H. Burr (Sites E–H).

#### Site E

This site lies in a field north of the village and Nutcrack Lane, just east of the junction of the latter with the Wareham road (Fig. 1B) and was subjected to trial trenching by both P.A. Brown and H.G. Burr.

A series of six small sondages or trial pits (E, F, G, M, N and Q) were put down along the north side of Nutcrack Lane. Sondage E was sited 5.40m from the south-east corner of the field and 1.80m in from the side of the lane, with sondages F, G and N to the east set a similar distance in and spaced 30m apart. Sondage M was further east still, 3.60m in from the lane and 45m west of the east side of the field. Pit Q was placed roughly equidistant between G and N but 10.80m in from the lane.

Pit F sectioned earth over ashy, sandy soil above the natural sand. The combined thickness of topsoil and ashy sandy soil was 1.05m but the thickness of each layer was not recorded separately. Many sherds of 2nd to late 3rd-century date came from the ashy layer.

Pit N sectioned 0.75m of soil over 0.60m of red ‘ash’ over natural sand and it is recorded that many sherds came from the ‘ash’ layer. This material can no longer be identified and its date is unknown.

Pit M cut through 0.75m of earth over 0.90m of red ‘ash’ with potsherds. Once again the pottery seems to have been lost, as has a sestertius of Hadrian from the topsoil.

Pits E, G and Q appear on a contemporary plan of trial pits in the field but there is no record of stratification or finds. It is possible that these pits lacked evidence for potting activity.

A further group of trial pits (H, J, K, L, O and P) were dug by P.A. Brown and H.G. Burr in the north-east corner of the field.

Pit H is recorded as being 1.80m in from the eastern boundary of the field but its exact whereabouts is uncertain. No stratification or finds are recorded and it may have been sterile.

Pit J was 18m in from the northern edge of the field, 64.80m from the eastern edge and 10.50m north of Pit K. The latter is described as being 109m from the south-east corner of the field and 73.80m from the eastern edge. There are no stratigraphical records for pit J, but pit K is described as sectioning 0.90m of earth over 0.30m of brown soil mixed with natural sand. A concentrated mass of sherds is described as coming from the lower part of the earth layer: there were no indications of red ‘ash’.

There is some confusion relating to a surviving collection of sherds marked ‘J’. Later annotations in

Brown’s 1950s notebook and on his contemporary plan of the trial trenches indicate that sherds marked J did in fact come from K, but his habit of repeatedly redesignating his Stoborough trenches may have led to confusion. The pottery marked J comes from three horizons, J.1, J.2 and J.3. The material from what is presumably the uppermost level (J.1) ranges in date between the 2nd and 4th centuries. Only one, 1st or 2nd century, sherd survives from J.2; the few sherds marked J.3 are of Late Iron Age to early 2nd century date.

L was the site of the vat-like structure excavated by H.G. Burr and took the form of an east–west trench 5.25m long by 1.80m wide. This is stated to have been 52.20m from Nutcrack Lane and 45m from the east side of the field.

An outline of Burr’s findings, together with a plan and partial section, has already been published elsewhere (RCHM 1971, 592–3). The plan is re-published here and a full trench section and a photograph of the vat *in situ* is reproduced for the first time (Fig. 5A–B; Plate 3).

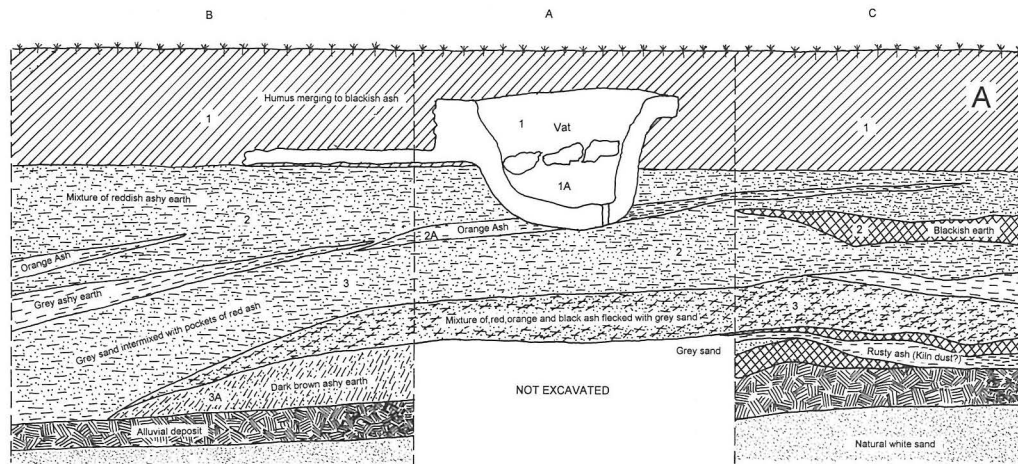
The lower part of the 1.30m thick series of waste dumps of reddened ash, turf debris and soot into which the vat was set (Context B3) produced pottery wasters of Durotrigian to late 1st-century character: the upper part (Contexts A2, B2 and C2), into which the vat was set, yielded a mixture of similar wares and 2nd-century pottery.

No pottery survives from the thin ‘orange ash’ layer A2A pre-dating the vat, but the feature may be the sectioned fired base of a clamp of similar character to those found on Redcliff Site A. A series of stake-holes shown on the plan are described in Burr’s notes as being punched down from the level of the orange ash horizon and may be from some kind of windbreak or retaining structure associated with this putative clamp base.

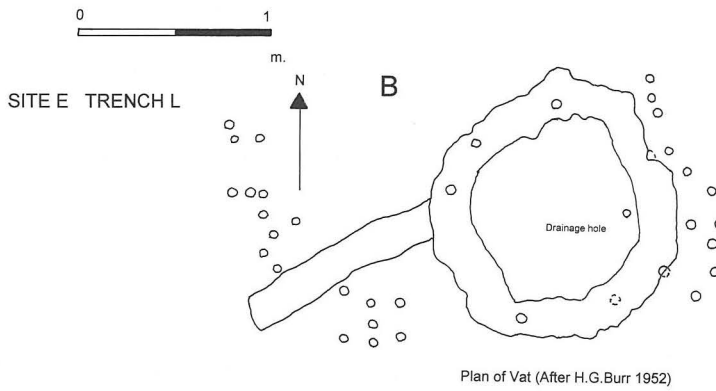
The long tongue of puddled chalk projecting west from the vat was thought by Burr to be ‘a bit of clean flooring for the operator to step on when getting in or out of the vat’. This may have been the case but the sec-



Plate 3: View of the Stoborough Vat, looking north, Harry Burr’s excavations 1952



North Section (After H.G. Burr 1952)



STICKLAND'S GARDEN SITE

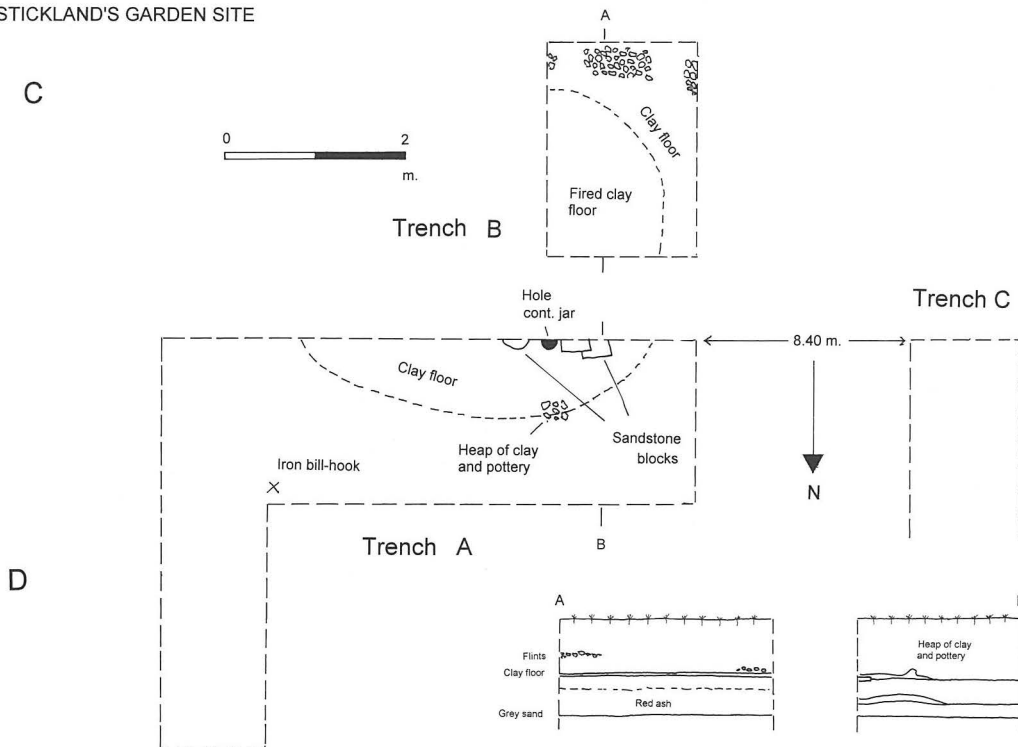


Figure 5: A. North section of Stoborough vat trench; B. Plan of Stoborough vat and other structures in trench; C. Plan of Stickland's Garden site (Trenches A and B) in Stoborough; D. Section through Trenches A and B in Stickland's Garden site

tion indicates that the feature is 0.30m lower than the top of the vat and thus may be part of an earlier cut-away feature.

The vat itself was bell-shaped and constructed from puddled chalk lined with fired streaky red and white clay. It measured approximately 0.90m in internal diameter by 0.60m deep and had a drainage hole in its base. Pottery from the vat indicates a 2nd-century date for its period of use (pp.75–6).

What was the nature of this usage? Farrar suggested that the vat may have been for clay-puddling, with the hole in the bottom for draining off excess water (RCHM 1971, 593). A pit kiln is also a possibility: this would also require drainage to keep it dry and would explain why the lining of the vat was fired. It is difficult to explain away stake-holes in the rim of a puddling-pit but they could have been for a wothy superstructure to cover a pottery load within the feature at the centre of a clamp.

A pit kiln with similar tapering cross-section is known from Worgret (Hearne and Smith 1991, Feature 36). This measured 0.70m in internal diameter at the top, was 0.50m deep and was linked to the side of a ditch by a very constricted channel or flue 0.15m wide. This flue could have been used both to fire the kiln and drain off water in the manner of the Stoborough vat sump-hole.

Burr put down two other trenches in the same field, but Brown appears to have been unaware of them and their exact whereabouts are unknown.

Pit O was put down by Brown 18m from both the eastern and northern edges of the field and Pit P was dug another 9m to its west. There is no record of what was found in P but O is recorded as sectioning 0.75m of earth above natural sand with no trace of any artefacts. It may be that Pit P was equally sterile.

#### *Site F (Field O.S.513)*

This site (Fig. 1B) lies in the field south of Nutcrack Lane and immediately east of the village. One test pit was put down in this field in 1952, 45m from its western edge and 3.60m in from the lane. The pit sectioned roughly 0.60m of soil containing numerous sherds of 2nd to 4th-century pottery resting on the natural sub-soil. Brown was of the opinion that this was an occupation site rather than a pottery production site: the five surviving sherds are fully blackened and show no sign of being wasters.

#### *Site G (Field O.S.519)*

This site lies to the south-east of Stoborough village and was test-pitted by Brown in 1953. Three such pits (A, B and C) were put down in the field itself and a fourth in a garden immediately west of the field (Fig. 1B).

Pit A was dug 22.50m from the southern edge of the field and 3.60m from its eastern boundary. The pit is

described as being 1.20m square and sectioning 0.90m of soil over 0.90 to 1.50m of alternating layers of charcoal and red 'ash' with potsherds over gravelly natural sand. None of the pottery appears to survive (but see below).

Pit B was put down in the north-west corner of the field and cut 0.90m of soil resting directly on natural sand. There were no Iron Age or Roman sherds but green-glazed 13th to 14th century fragments came from the soil. There is one surviving sherd from a slashed pitcher strap-handle.

Pit C was dug 1.80m south of the road and 51.00m from the western edge of the field. It cut 0.90m of earth over a thin 0.07m seam of red 'ash' with 2nd and 3rd-century pottery, which in turn rested on the surface of a cobbled floor of flints the size of 'tennis balls' 0.10m thick with Late Iron Age and later 1st-century sherds. Beneath this floor and above the natural white sand was a seam of grey, ashy soil mixed in with white sand and containing Late Iron Age Durotrigian pottery.

Pottery survives from another possible test pit in this field (Pit D). There is no written record of the excavation of this pit but it is described on a bag label as being in the north-east corner of the field. Of the two surviving bags of pottery, one is labelled as coming from 6ft (1.80m) down in this trench and contains three sherds of Durotrigian Iron Age character. The second bag contains 18 sherds from 3ft (0.90m) down, ranging in date from the Late Iron Age to the 2nd century. This material includes bloated and discoloured wasters. It is possible that Pit D is one and the same as Pit A, as drawings of the sherds in one of Brown's notebooks have their heading altered from Pit A to D.

#### *Site H. The site in Stickland's Garden (Fig. 5C–D)*

The excavation on this site was of a considerably more substantial nature than elsewhere in Stoborough. Three trenches (A, B and C) were put down at the southern end of the garden.

Trench A (also known as AB) was L-shaped with the longer, 4.50m by 1.20m, arm running east–west. A shorter extension to the north measuring 2.40m by 1.20m was then added to the eastern end.

Trench B (also known as D), measuring 1.65m by 2.40m with its long axis north–south, was then put down inside a chicken run 0.90m to the south and Trench C, measuring 4.50m by 1.20m and also with its long axis north–south, was dug 8.40m west of Trench A.

The earliest occupation encountered was in Trench C at the western end of the site, where a handful of Middle Iron Age sherds, a heathstone spindle whorl, a worked flint point and a fragment from a shale armlet came from the surface of the natural sand at a depth of 1.80m

Above this and the natural sand in all of the trenches was a thick layer of red 'ash', averaging 0.75m in

depth in Trenches A and B but only 0.30m in C. This layer produced quantities of Late Iron Age Durotrigian pottery mixed with 2nd-century sherds towards the top of the deposit. The surface of this red 'ash' in Trench B was covered by a thin clay floor 0.05m thick, which extended into Trench A. One contemporary plan of this floor shows an oval area enclosed by a broken line, measuring roughly 3.30m from north to south by about 3.50m from east to west. This is labelled 'fired clay floor?' on the plan and if correctly designated may indicate that the clay floor was the base of another clamp similar to those found at Farrar's Redcliff site: the apparent dimensions are close to those for the two clamp bases on that site.

The clay floor overlay three large sandstone blocks along the southern edge of Trench A and set into its surface was a near complete everted rim cooking-pot of late 1st/ 2nd century type, no longer identifiable in the surviving ceramic archive: the presence of this pot is perhaps more indicative of the floor of a building.

A loose pile of flints and potsherds rested on the surface of the floor at the northern end of Trench B and a heap of clay and potsherds was sectioned on its northern edge in Trench A. The floor itself (or its surface) produced sherds of 2nd century date and the soil above had a mixture of 2nd to 4th-century fragments.

This soil averaged 1.05m thick in all three trenches and was generally featureless. At a depth of 0.75m in the south-west corner of Trench B, however, were traces of a compact flint gravel floor 0.10m thick: this could date to any time between the 3rd–4th centuries and the medieval period. Some yellow-glazed medieval or post-medieval sherds are recorded as coming from the top-soil but have not survived in the archive.

## The Locally Produced Pottery

### Introduction

All of the sites at Stoborough and Redcliff (with the exception of Sites D and F) produced evidence for the manufacture of Dorset Black-Burnished ware (BB1). All of the other BB1 production centres so far located are situated either around the shores of Poole Harbour, along the lower reaches of the River Frome or in the interior of the Isle of Purbeck (Fig. 1A). They are known at Hamworthy (SZ0003905: Smith 1931; 1935; Lyne 1994) on the northern side and Fitzworth (Farrar 1949; 1973), Cleavel Point, Ower (SZ00058617: Farrar 1952; 1977; Woodward 1987a), Cuckoo Pound Lane, Worgret (SY91258695: Farrar 1953b; Hearne and Smith 1991), Shipstal Point, Arne (SY98188806: Smith 1935, 16–17; Farrar 1953c), and Big Wood near Shipstal (SY97608843: Farrar 1956) on the southern side of Poole Harbour. The interior of the Isle of Purbeck has a further production site at Norden (SY95648271: Farrar 1952; Sunter 1987; Cox and Hearne 1991).

Nearly all of these sites are deficient in Hadrianic and Antonine BB1 forms despite the large quantities known to have been supplied to the military garrisons in the north during the period. The only sites with evidence for significant production of BB1 during this period are Worgret, Stoborough and Redcliff, all in the valley of the River Frome at the western end of Poole Harbour. Of these sites, Redcliff Phase 2 has the largest 2nd-century assemblage and the best-preserved contemporary firing structure.

### Methodology

Sites A and B between them produced more than 127kg of sherds, nearly all of which belong to the period between the Roman Conquest and the early years of the 3rd century. Farrar seems to have retained all the sherds from both of his sites. All of his assemblages were quantified by sherd count and weight per fabric and, where large enough, were additionally quantified by Estimated Vessel Equivalents (EVES) based on rim sherds (Orton 1975). Fabrics were identified using a ×8 lens with built-in scale.

The surviving pottery from Sites C, E, F, G and H is clearly a selection of what was found and does not lend itself to any form of quantification. No pottery survives from Site D.

### Fabrics

Four Durotrigian and BB1 fabric variants can be distinguished in the pottery from the various sites.

C.1. Coarse fabric with profuse up to 1.50mm colourless, white and grey sub-angular quartz filler with sparse up to 1.00mm. soft buff argillaceous inclusions; the occasional alluvial flint, shale and ironstone inclusion can also be present. This minority fabric was present throughout the Roman period but was most common in Phase 1 at Redcliff. It tended to be used for storage jars and other large vessels.

C.2. Coarse fabric with profuse ill-sorted up to 1.00mm sub-angular white, rose and colourless quartz filler (most less than 0.40mm). This was the most common Phase 1 fabric at Redcliff but was largely supplanted by C.3 during Phases 2 and 3.

C.3. Fine fabric with profuse up to 0.50mm sub-angular, white and colourless quartz filler with some shale. This was the most common fabric from Phase 2 onwards.

C.4. Coarse fabric with profuse irregular iron-stained and grey quartz filler and occasional soft cream argillaceous inclusions. Only one vessel is recorded in this fabric and that from the earliest Site A, Phase 1 Context A.XIV.5B. The bulk of the filler was probably obtained by crushing ferruginous sandstone, such as that exposed in the north-facing rock face to the west of the sites and from which Redcliff gets its name.

**The 1952–53 excavations, Stoborough**

These excavations at Site H, Stickland’s Garden, produced Middle and Late Iron Age assemblages which are described below.

*Phase 1*

Assemblage 1 came from the natural sand below the red-ash layer c. 1.5m (5ft) below the surface (Trench C, Level 3). The surviving assemblage comprises eight sherds (140g) of pottery of Middle Iron Age character, including the pieces illustrated in Figure 6 and catalogued below.

1. Handmade hole-mouthed jar in brown-black sandy fabric with profuse up to 0.50mm. angular quartz filler, fired pol-

- ished black externally with dimpled decoration. Ext. rim diameter 100mm. Another vessel of this type came from Test Pit C in Miller’s Field (Site G) and was an oxidised waster. A similarly decorated sherd but in rougher fabric is published from Hengistbury (Brown 1987, fig. 135.665).
2. Basal sherd from same or similar vessel with dimples on the underside. There is another basal sherd with larger dimples from a second vessel.
3. Handmade hole-mouthed vessel fragment in similar fabric but oxidised red.
4. Weakly everted rim sherd from handmade jar in rough black fabric with profuse, up to 1.00mm, white quartz filler and occasional large shale inclusions.

A neck sherd from a jar in handmade soapy black fabric fired brown with profuse, up to 1.00mm, crushed grog filler is also present in the assemblage.

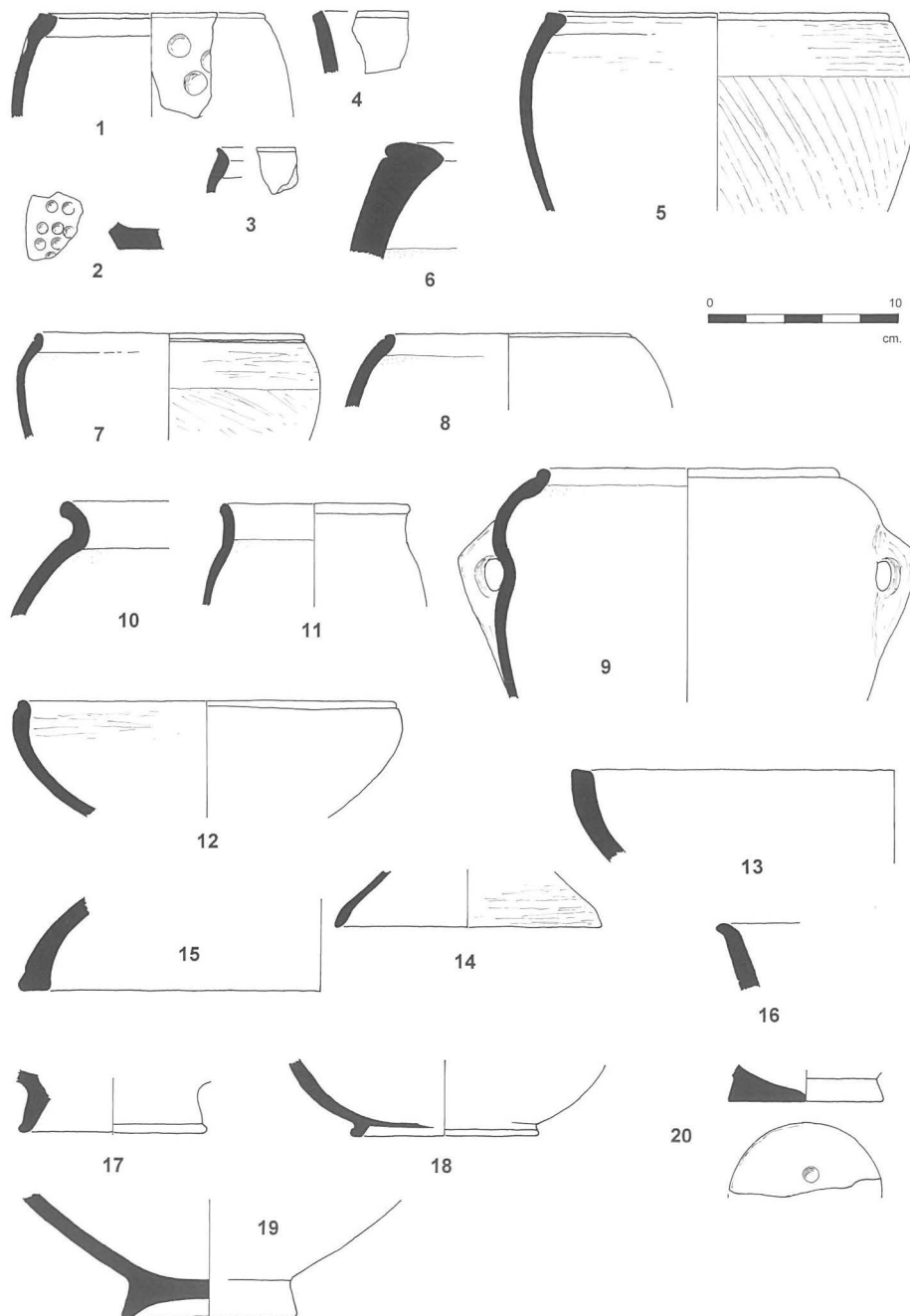


Figure 6: The Middle and Late Iron Age pottery from the Stickland’s Garden site, Stoborough

- 213). Ext. rim diameter 160mm. Fragments from this vessel were found in both A.V.7 and A.XIV.5A.12.
- 12 Storage-jar with flaring everted rim in overfired grey-brown Fabric C.1 with surface cracking. A.V.7.
- 13 Large everted-rim storage-jar of Ower Type 1 in orange Fabric C.3 overfired grey with surface cracking. Ext. rim diameter 260mm. A.I.6.
14. Small, slack-profiled jar of Ower Type 1 in grey Fabric C.3. Ext. rim diameter 140mm. A.I.6.

Assemblage 2, from the orange-fired surface of the Phase 1 firing structure (XIV.5A), is rather small (Table 2), and the breakdown is very similar to that of Assemblage 1 except for a sharp rise in the significance of the fine BB1 Fabric C.3. This rise is not repeated in the breakdown of Assemblage 3 from the clamp debris over the floor and may mean that this floor assemblage incorporates discarded vessels from the last firing of the clamp and is of later date than the bulk of the pottery from the debris above.

There is a suggestion of a fall-off in the significance of bead-rimmed jars and there do appear to be more everted jar rims with burnished chevron decoration on their undersides. The pieces catalogued below and illustrated in Figure 7 are representative of the assemblage.

15. Jar of Ower Type 1 in oxidised Fabric C.2. Ext. rim diameter 160mm. One of seven examples.
16. Jar of Ower Type 3 in oxidised Fabric C.3 with burnished chevron decoration on the underside of the rim. Ext. rim diameter 140mm. One of two examples.
17. Jar of Ower Type 6 in over-fired patchy grey-buff Fabric C.2 with cracked surfaces. Ext. rim diameter 100mm.
18. Lid-seated bowl of Ower Type 25 in black Fabric C.3. Ext. rim diameter 200mm. One of two. 7/9.
19. Hemispherical lid-seated bowl in black Fabric C.3 with overall burnishing. Ext. rim diameter 200mm. This type is not in the Ower corpus but was present at Greyhound Yard, Dorchester, where it was dated to the early-2nd century (Woodward *et al.* 1993, Type 59).

Four examples of Ower Type 9 bead-rim jars and a large bead-rimmed bowl of Type 24 were also present. The presence of three lid-seated bowls in what is a very small assemblage suggests a *c.* AD 100–120 date for the pottery. Figure 7.19 in particular seems to be copying the samian Curle 11 bowl — a form manufactured between *c.* AD 70 and 140 and heavily imitated by Romano-British potters during the samian shortage of AD 100–120, following the collapse of the South Gaulish industries.

Assemblage 3 (Table 3) from the orange and black earth (XIV.4, VIII.4, I.4/5 and II.3), consists of discarded

**Table 2:** Eves quantification of Assemblage 2 pottery from Site A

| Fabric          | Jars<br>EVES | Open forms<br>EVES | Storage-jars<br>EVES | Others<br>EVES | Total<br>EVES | %    | No. of<br>sherds | %    | Weight<br>(g) | %    |
|-----------------|--------------|--------------------|----------------------|----------------|---------------|------|------------------|------|---------------|------|
| <i>Oxidised</i> |              |                    |                      |                |               |      |                  |      |               |      |
| C.1             | 0.29         |                    |                      |                | 0.29          | 17.3 | 49               | 12.0 | 394           | 12.7 |
| C.2             | 0.34         |                    | 0.14                 |                | 0.48          | 28.6 | 187              | 45.9 | 1358          | 43.8 |
| C.3             | 0.47         | 0.05               |                      |                | 0.52          | 31.0 | 129              | 31.7 | 904           | 29.2 |
| Total           | 1.10         | 0.05               | 0.14                 |                | 1.29          | 76.8 | 355              | 87.2 | 2656          | 85.7 |
| <i>Black</i>    |              |                    |                      |                |               |      |                  |      |               |      |
| C.1             | —            | —                  | —                    | —              | —             | —    | —                | —    | —             | —    |
| C.2             | 0.07         |                    |                      |                | 0.07          | 4.2  | 18               | 4.4  | 166           | 5.4  |
| C.3             | 0.10         | 0.22               |                      |                | 0.32          | 19.0 | 34               | 8.4  | 277           | 8.9  |
| Total           | 1.27         | 0.27               | 0.14                 |                | 1.68          |      | 407              |      | 3099          |      |
|                 | (75.6)       | (16.1)             | (8.3)                |                |               |      |                  |      |               |      |
|                 | 0.25         | (19.7%)            | Bead-rimmed jars     |                |               |      |                  |      |               |      |
|                 | 1.02         | (80.3%)            | Everted-rim jars     |                |               |      |                  |      |               |      |

**Table 3:** Eves quantification of Assemblage 3 pottery from Site A

| Fabric          | Jars<br>EVES | Open forms<br>EVES | Storage-jars<br>EVES | Others<br>EVES | Total<br>EVES | %    | No. of<br>sherds | %    | Weight<br>(g) | %    |
|-----------------|--------------|--------------------|----------------------|----------------|---------------|------|------------------|------|---------------|------|
| <i>Oxidised</i> |              |                    |                      |                |               |      |                  |      |               |      |
| C.1             | 0.45         | 0.08               |                      |                | 0.53          | 9.5  | 108              | 6.5  | 1464          | 9.8  |
| C.2             | 3.01         | 0.37               |                      | Lid 0.09       | 3.47          | 62.4 | 943              | 56.7 | 8796          | 58.9 |
| C.3             | 0.52         | 0.35               |                      | Lids 0.10      | 0.97          | 17.4 | 480              | 28.8 | 3574          | 24.0 |
| Total           | 3.98         | 0.80               |                      | 0.19           | 4.97          | 89.3 | 1531             | 92.0 | 13834         | 92.7 |
| <i>Black</i>    |              |                    |                      |                |               |      |                  |      |               |      |
| C.1             | —            | —                  |                      |                | —             | —    | —                | —    | —             | —    |
| C.2             |              | 0.05               |                      | Lid 0.06       | 0.11          | 2.0  | 46               | 2.8  | 464           | 3.1  |
| C.3             | 0.32         | 0.16               |                      |                | 0.48          | 8.7  | 85               | 5.1  | 624           | 4.2  |
| Total           | 4.30         | 1.01               |                      | 0.25           | 5.56          |      | 1662             |      | 14922         |      |
|                 | (77.3%)      | (18.2%)            |                      | (4.5%)         |               |      |                  |      |               |      |

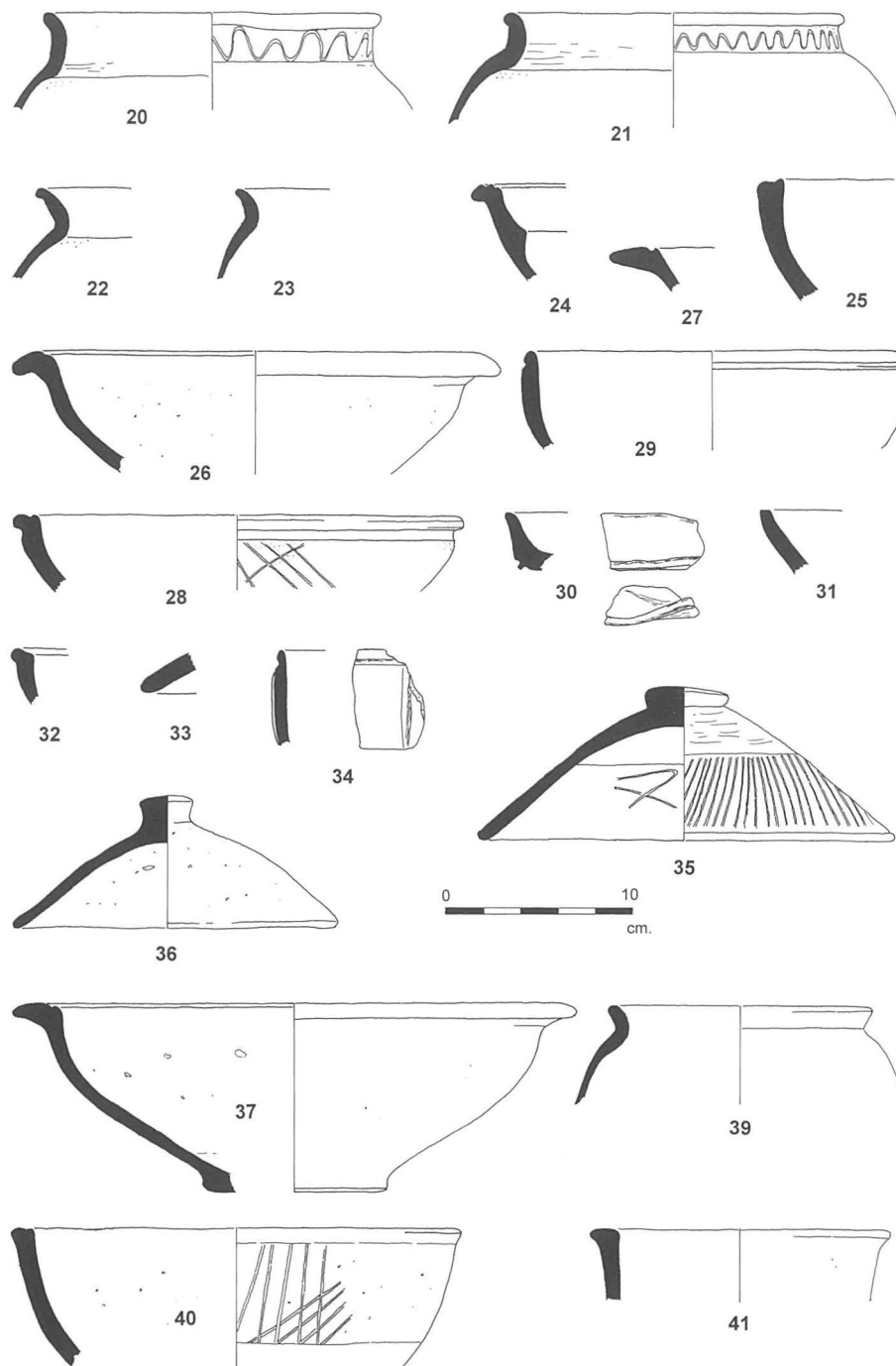


Figure 8: Pottery from Redcliff Site A, 20–37, 39–41

wasters from the Phase 1 firing structure and is the first large enough group of sherds for which quantification by Estimated Vessel Equivalents (EVEs) can be said to be reliable. Representative examples are listed below and illustrated in Figure 8.

The form breakdown is once again similar to that of Assemblages 1 and 2 except that bead-rimmed jars are almost absent and lids are more significant. Bowls tend to be lid-seated, although one or two Maiden Castle War Cemetery types are present. A few of the Type 25 bowls have very weak lid-seating (Fig. 8.32) and are starting to look like Phase 2 flanged dishes in section.

20. Jar of Ower Type 1 in oxidised Fabric C.3 with a burnished wavy line on the underside of the rim. Ext. rim diameter 180mm.
21. Similar jar in oxidised Fabric C.1. Ext. rim diameter 180mm.
22. Another jar of similar type in oxidised Fabric C.3. Ext. rim diameter 220mm.
23. Everted-rim jar of Ower Type 6 in patchy grey-orange Fabric C.3. Ext. rim diameter 140mm.
24. Lid-seated bowl in dirty buff-grey Fabric C.2.
25. Very large bowl of Ower Type 16 in polished black Fabric C.2, copying a Gallo-Belgic form.
26. Very large lid-seated bowl in rough black Fabric C.2 with

- internal reddening. Ext. rim diameter 260mm. One of two. A.VIII.4.
27. Very large lid-seated bowl of Ower Type 16 in grey-brown Fabric C.3. Ext. rim diameter 280mm.
  28. Lid-seated bowl in grey-brown Fabric C.1. Ext. rim diameter 240mm. Present at Greyhound Yard, Dorchester (Hearne and Smith 1991, Type 59).
  29. Bead-rimmed dish of Ower Type 14 in grey-brown Fabric C.1. Ext. rim diameter 200mm. Paralleled in Group B at Worgret, which is dated *c.* 50 BC–AD 50 (Hearne and Smith 1991, fig. 16.102)
  30. ?Dish fragment in black soot-soaked Fabric C.3 with overall burnish and slightly pinched rim. No exact parallel could be found but the dish is probably a variant of an Ower type (Woodward 1987a, fig. 47.111–12).
  31. Gallo-Belgic platter copy of Ower Type 29 in patchy buff-orange-grey Fabric C.3.
  32. Rim fragment from a bowl of Ower Type 25 in oxidised Fabric C.3. A.XIV.4.
  33. Simple lid of Ower Type 21 in black Fabric C.2. Ext. rim diameter 180mm. One of two.
  34. Maiden Castle War Cemetery Type bowl with vertical ribbing in black Fabric C.3 fired polished buff-brown. The ribbed variant of the War Cemetery bowl is hitherto unknown from BB1 production sites. It is regarded as a predominantly South-Western Black-Burnished Ware form by Holbrook and Bidwell (1991, 96), as all examples so far examined by them have proved to be in that fabric. The date range seems to be from the end of the pre-Roman Iron Age to the early–mid 2nd century.

Assemblage 4 consisted of the pot groups at the base of A.XX.3 black earth over natural and the fill of Ditch 1. These groups were deposited on or just above the natural ground surface and orange fill of Ditch 1 (A.XX.4) to the north-west of the Phase 1 firing area and largely consist of semi-intact wasters (Figs 8 and 9).

Pot Group 1 (Fig. 8) in the north-west of the trench consisted of the greater parts of two vessels.

35. Large lid in oxidised Fabric C.1 with burnished decoration on its upper surface. Ext. rim diameter 220mm.
36. Another smaller lid in patchy buff-grey Fabric C.1 with black patches. Ext. rim diameter 160mm.

A concentration of sherds from a mid 2nd-century acute-latticed cooking-pot only 0.30m to the north-east of this group is probably unconnected, as it overlies the fill of the later Ditch 4.

Pot Group 2 (Fig. 8), just to the north of Group 1, consists entirely of pieces from one vessel.

37. Lid-seated dish or reversible of Greyhound Yard Type 59 in patchy grey-brown-black Fabric C.1. Ext. rim diameter 300mm.

Pot Group 3 (Figs 8 and 9) consists of the shattered remains of a large storage jar and fragments from four other vessels, and was situated by the west baulk of A.XX close to the northern edge of Ditch 1.

38. Large flat-rimmed storage-jar of Greyhound Yard Type 41 in patchy black-buff Fabric C.1 with burnished wavy-line on the neck and acute latticing on the body. Ext. rim diameter 200mm (Fig. 9).
39. Jar with stubby everted rim in similar fabric fired patchy buff-black. Ext. rim diameter 150mm.
40. Lid-seated bowl of Ower Type 16 in similar fabric with external acute lattice decoration. Ext. rim diameter 240mm.

The vessel shown in Figure 8.41 was fully soot-soaked and its connection with this pot group may be purely coincidental.

41. Poorly formed flanged dish in polished black Fabric C.3. Ext. rim diameter 160mm. This is a very early example of the type and was probably one of the final products of the Phase 1 clamp.

Part of a War Cemetery bowl in a similar fabric was also present. These pot clusters may be from Phase 1 pot-making activities and their possible significance is discussed below (p.51).

#### Phase 2 (Figs 9–10)

Assemblage 5 (Table 4), from the 'orange and black' waste (III.4, V.4, VII.4, XIII.4), is considerably larger than any of those from Phase 1 and differs considerably both in fabric and form make-up. The predominant fabric is now C.3: the percentage of soot-soaked wasters by

**Table 4:** Eves quantification of Assemblage 5 pottery from Site A

| Fabric        | Jars<br>EVES    | Open forms<br>EVES | Storage-jars<br>EVES | Others<br>EVES            | Total<br>EVES | %    | No. of<br>sherds | %    |
|---------------|-----------------|--------------------|----------------------|---------------------------|---------------|------|------------------|------|
| <i>Patchy</i> |                 |                    |                      |                           |               |      |                  |      |
| C.1           | 0.76            | 0.39               |                      |                           | 1.15          | 9.0  | 130              | 9.6  |
| C.2           | 0.92            | 0.30               |                      | Flagon P.                 | 1.22          | 9.6  | 76               | 5.6  |
| C.3           | 4.28            | 1.03               |                      | Lids 1.16<br>Beakers 0.25 | 6.72          | 52.7 | 758              | 55.8 |
| Total         | 5.96            | 1.72               |                      | 1.41                      | 9.09          | 71.3 | 964              | 71.0 |
| <i>Black</i>  |                 |                    |                      |                           |               |      |                  |      |
| C.1           |                 |                    |                      |                           |               |      | 9                | 0.7  |
| C.2           |                 | 0.22               |                      |                           | 0.22          | 1.7  | 26               | 1.9  |
| C.3           | 1.87            | 1.26               | 0.08                 | Lid 0.23                  | 3.44          | 27.0 | 359              | 26.4 |
| Total         | 7.83<br>(61.4%) | 3.20<br>(25.1%)    | 0.08<br>(0.6%)       | 1.64<br>(12.9%)           | 12.75         |      | 1358             |      |

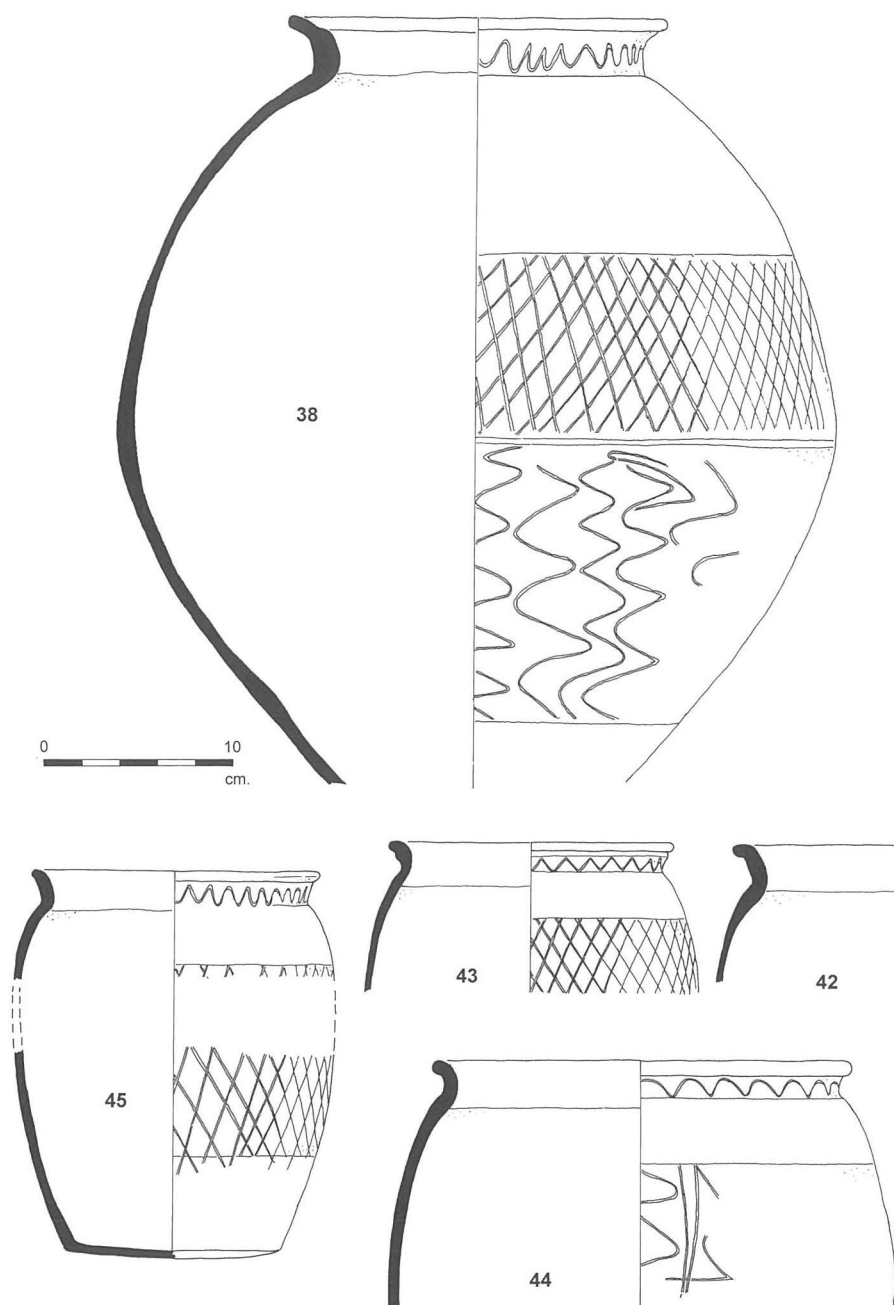


Figure 9: Pottery from Redcliff Site A, 38, 42–45

EVES is considerably up on that of Assemblage 3 (10.7%), although not much different to that of Assemblage 2 (23.2%). Open forms make up a quarter of all the pottery and consist largely of flanged dishes derived from the lid-seated forms of the preceding phase and bead-rimmed shallow dishes of War Cemetery bowl origin but minus its footring.

42. Everted rim jar of Ower Type 4 in oxidised Fabric C.3 with wide-spaced acute lattice decoration on its girth. Ext. rim diameter 180mm. Dated to the 2nd century at Greyhound Yard, Dorchester, and elsewhere in the South-West but as Gillam's Type 122 to *c.* AD 120–160 on military sites in the north of Britain (1970). A.III.4.

43. Everted rim jar in oxidised Fabric C.2 with acute lattice decoration on the girth and chevron burnishing on the

underside of the rim. Ext. rim diameter 150mm. Not in the Ower corpus but as Gillam's Form 129 is dated *c.* AD 140–180 in the north of Britain (*ibid.*). A.III.4.

44. Large globular jar in patchy buff-black Fabric C.1 with burnished arcading on the underside of the rim and irregular burnished patterns on the body. Ext. rim diameter 220mm. Jars of this type are dated to the early–mid 2nd century by Gillam (1976, fig. 3.30). A.V.4.

45. Everted-rim jar in black Fabric C.3 with wide band of acute lattice decoration on the girth and burnished chevron line on the underside of the rim. Ext. rim diameter 150mm. As Gillam's Form 119, this type of cooking-pot is dated *c.* AD 120–160 in the north (1970). A.V.4.

46. Flanged dish with burnished acute-latticing and similar to an example from Worgret (Hearne and Smith 1991, fig. 13.40). The type is not closely dated at Worgret but was present in the late 2nd-century dated Shaft 1425 at

- Greyhound Yard, Dorchester (Woodward *et al.* 1993, fig. 145.237). A.V.4.
47. Flanged dish in black Fabric C.3 with wide-spaced acute latticing on its exterior. Ext. rim diameter 200mm. Type 42.3 at Exeter is similar but undecorated and clearly residual in its 4th-century context (Holbrook and Bidwell 1991). A.111.4.
  48. Plain flanged dish in black Fabric C.2 with burnished exterior and reddened interior surfaces. Ext. rim diameter 200mm. Gillam dates a very similar but acute-latticed BB1 form to the mid 2nd century (1976, fig.4.60). A.V.4.
  49. Flanged dish of Gillam Form 309 (1970) in black Fabric C.3 with acute lattice decoration. Ext. rim diameter 180mm. The form is dated by Gillam to the early-mid 2nd century (1976, fig. 4.57). A.XIII.4.
  50. Bead-rim dish in patchy Fabric C.1 and dated to the late 2nd century in the north of Britain (Gillam 1976, fig. 5.71). Ext. rim diameter 240mm. A.XIII.4.
  51. Bead-rim dish in patchy buff-black Fabric C.1 with external acute lattice decoration and dated to the mid 2nd century (*ibid.*, fig. 5.69). A.XIII.4.
  52. Similar vessel but without decoration and closer in profile to its War Cemetery bowl antecedents, in oxidised Fabric C.3. Ext. rim diameter 220mm. A.XIII.4.
  53. Convex-sided dish in grey-black Fabric C.3 with burnished acute lattice decoration. Ext. rim diameter 200mm. A.V.4.
  54. Everted-rim beaker in oxidised Fabric C.3 of type dated by Gillam to the early-mid 2nd century (1976, fig. 2.16). Ext. rim diameter 100mm. A.V.4.
  55. Simple lid in oxidised Fabric C.3. Ext. rim diameter 140mm. A.V.4.
  56. Bead-rimmed lid in black Fabric C.3 with internal burnished decoration. Ext. rim diameter 200mm. A.V.4.
- Phase 3* (Figs 10–11)
- Assemblage 6 (Table 5), from the fill of the ‘pot gully’ in Trenches A.IV, VI and XIX, is the largest and most significant from the site. It is largely composed of reconstructable but shattered pots dumped in the gully and probably derived from the firing structure at the south-western end of the feature. One at least of these waster pots shows signs of use in that it has a small hole made in its side for suspension or some other purpose.
- Assemblage 6 continues the trends observed in the Phases 1 and 2 pot groups in that the use of the fine Fabric C.3 has become even more universal, open forms are increasingly significant and there is a higher percentage of soot-soaked sherds than previously.
57. Globular cooking-pot of Gillam Type 141 in oxidised orange-buff Fabric C.3 with wide-spaced acute lattice on the girth and zigzag decoration on the underside of the rim. Ext. rim diameter 160mm. The form in general is dated to AD 160–230 by Gillam (1970) but he also states that under-rim decoration had ceased by AD 200. *c.* AD 160–200. A.VI.3 Bottom fill.
  58. Cavetto-rim cooking-pot in patchy brown-black Fabric C.3 with 90° lattice on the girth and a wavy line on the underside of the rim. Ext. rim diameter 160mm. The combination of under rim decoration with 90° latticing suggests a narrow date range of *c.* AD 180–200. A.VIA.3.
  59. Cavetto-rim cooking-pot in black Fabric C.3 with narrow band of 90° latticing. Ext. rim diameter 100mm. A.VI.3.
  60. Cavetto-rim cooking-pot in black Fabric C.3 with narrow obtuse-lattice decorated band around the girth. Ext. rim diameter 160mm. A.VI.3.
  61. Cavetto-rim cooking-pot in red Fabric C.3 with sparse surface vesicles and obtuse-lattice decorated girth band. Ext. rim diameter 160mm. A.VI.3.
  62. Flanged bowl in patchy brown-black Fabric C.3 with burnished arcading on its exterior and chamfered base. Ext. rim diameter 220mm. Gillam dates this form to the mid-late 2nd century (1976, fig. 3.38). A.VIA.3.
  63. Similar form and in similar fabric to no. 62 and with burnished arcading on its exterior. Ext. rim diameter 200mm. This form of decoration is also found on 3rd-century incipient and developed beaded and flanged bowls but rarely, if ever, on proven 2nd-century BB1 forms. A date range of *c.* AD 180–220 is suggested. A.XIX.4 Top fill of gully.
  64. Flanged dish of Gillam Form 308 (1970) in oxidised Fabric C.3 with widely spaced acute latticing on its exterior. Ext. rim diameter 240mm. *c.* AD 130–180. A.VI.3.
  65. Similar form in black Fabric C.3 but with closely spaced acute latticing. Ext. rim diameter 200mm. A.VI.3.
  66. Another version of the above in oxidised Fabric C.3. Ext. rim diameter 200mm. A.VI.3 Top fill.
  67. Flanged dish in black Fabric C.3 with burnished arcading. Ext. rim diameter 180mm. A.VI.3 Bottom fill.
  68. Flanged dish in patchy black-brown Fabric C.3 with wide-spaced acute latticing. Ext. rim diameter 200mm. A.VIA.3.

**Table 5:** Eves quantification of Assemblage 6 pottery from Site A

| Fabric        | Jars<br>EVES | Open forms<br>EVES | Storage-jars<br>EVES | Others<br>EVES | Total<br>EVES | %    | Weight<br>(g) | %    |
|---------------|--------------|--------------------|----------------------|----------------|---------------|------|---------------|------|
| <i>Patchy</i> |              |                    |                      |                |               |      |               |      |
| C.1           | 0.76         |                    |                      |                | 0.76          | 3.3  | 274           | 1.9  |
| C.2           | 0.54         | 0.09               |                      |                | 0.63          | 2.8  | 280           | 1.9  |
| C.3           | 8.85         | 4.93               |                      |                | 13.78         | 60.5 | 10459         | 71.3 |
| Total         | 10.15        | 5.02               |                      |                | 15.17         | 66.6 | 11013         | 75.1 |
| <i>Black</i>  |              |                    |                      |                |               |      |               |      |
| C.1           | –            | –                  |                      |                | –             |      | –             |      |
| C.2           |              | 0.05               |                      | Lid 0.05       | 0.10          | 0.4  | 104           | 0.7  |
| C.3           | 4.86         | 2.54               |                      | Lids 0.12      | 7.52          | 33.0 | 3560          | 24.2 |
| Total         | 15.01        | 7.61               |                      | 0.17           | 22.79         |      | 14677         |      |
|               | (65.9%)      | (33.4%)            |                      | (0.7%)         |               |      |               |      |

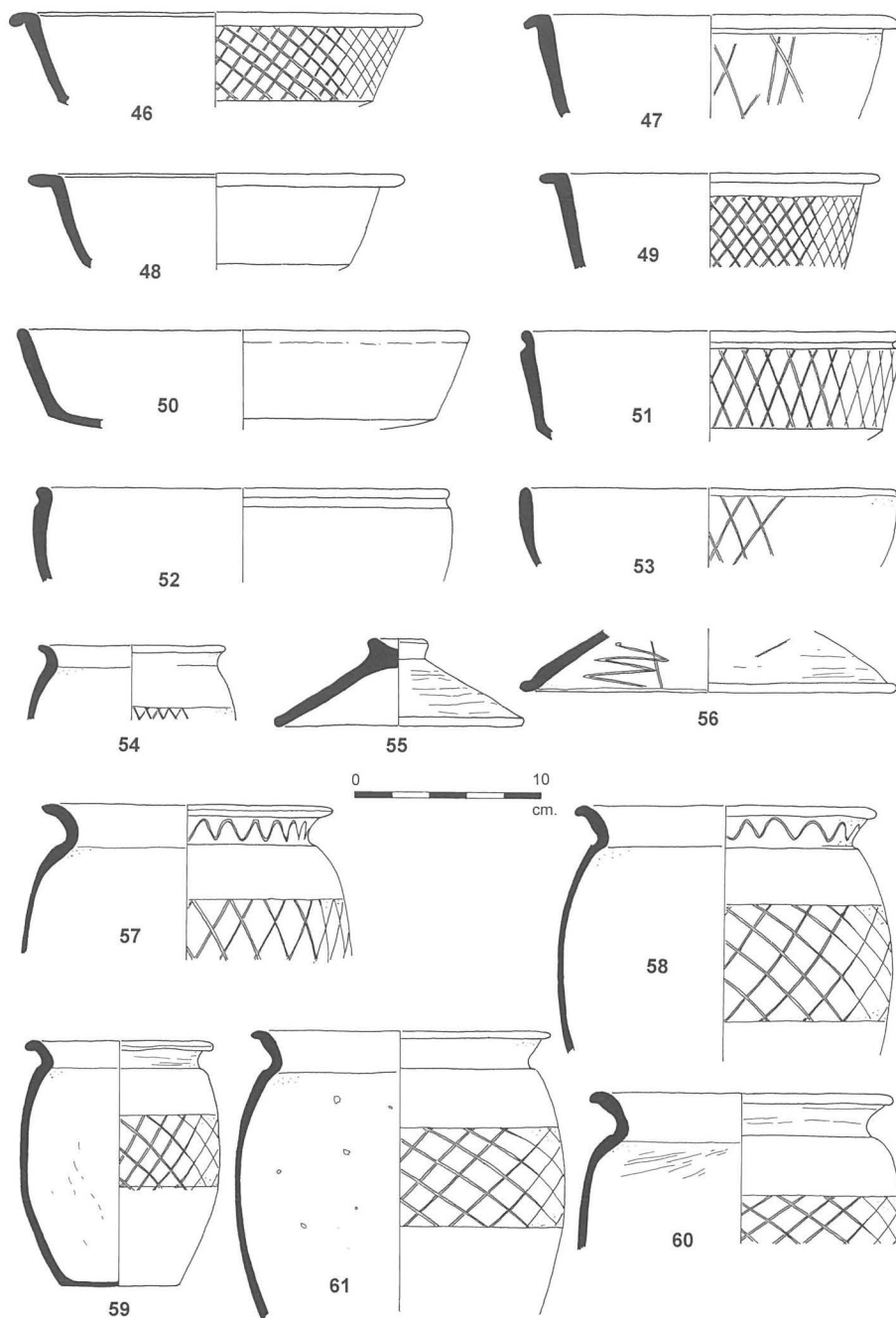


Figure 10: Pottery from Redcliff Site A, 46-61

69. Bead-rimmed bowl in oxidised Fabric C.3, with widely spaced acute laticing, of Gillam Form 318 dated *c.* AD 160-200. Ext. rim diameter 200mm. A.VI.3.
70. Bead-rimmed dish in chocolate brown-black Fabric C.3 with burnished external arcading. Ext. rim diameter 180mm. A.VI.3.
71. Bead-rimmed dish in brown Fabric C.3 with external acute lattice decoration and basal chamfer. Ext. rim diameter 140mm. A.VI.3 Bottom fill.
72. Straight-sided dish in oxidised Fabric C.3 with closely spaced external acute laticing. Ext. rim diameter 180mm. A.VI.3 Top fill.
73. Bead-rimmed dish in oxidised Fabric C.3 with widely spaced acute lattice. Ext. rim diameter 260mm. A.VI.3.

An estimated seven wide-spaced acute-latticed cooking-pots are present in this assemblage. Twice as many more are either decorated with 90° or obtuse-lattice on a narrow girth band; the former greatly outnumbering the latter type.

There are a number of contemporary flanged dishes and bowls but no examples of incipient beaded-and-flanged bowls of 3rd-century type with a lid-seating groove. The absence of this bowl type creates a problem: the type is present in BB1 at Carpow in a Severan pre-211 dated assemblage, whereas obtuse-latticed BB1 cooking-pots have been thought, on the Vindolanda evidence, to have appeared *c.* AD 223-225 at the time of the

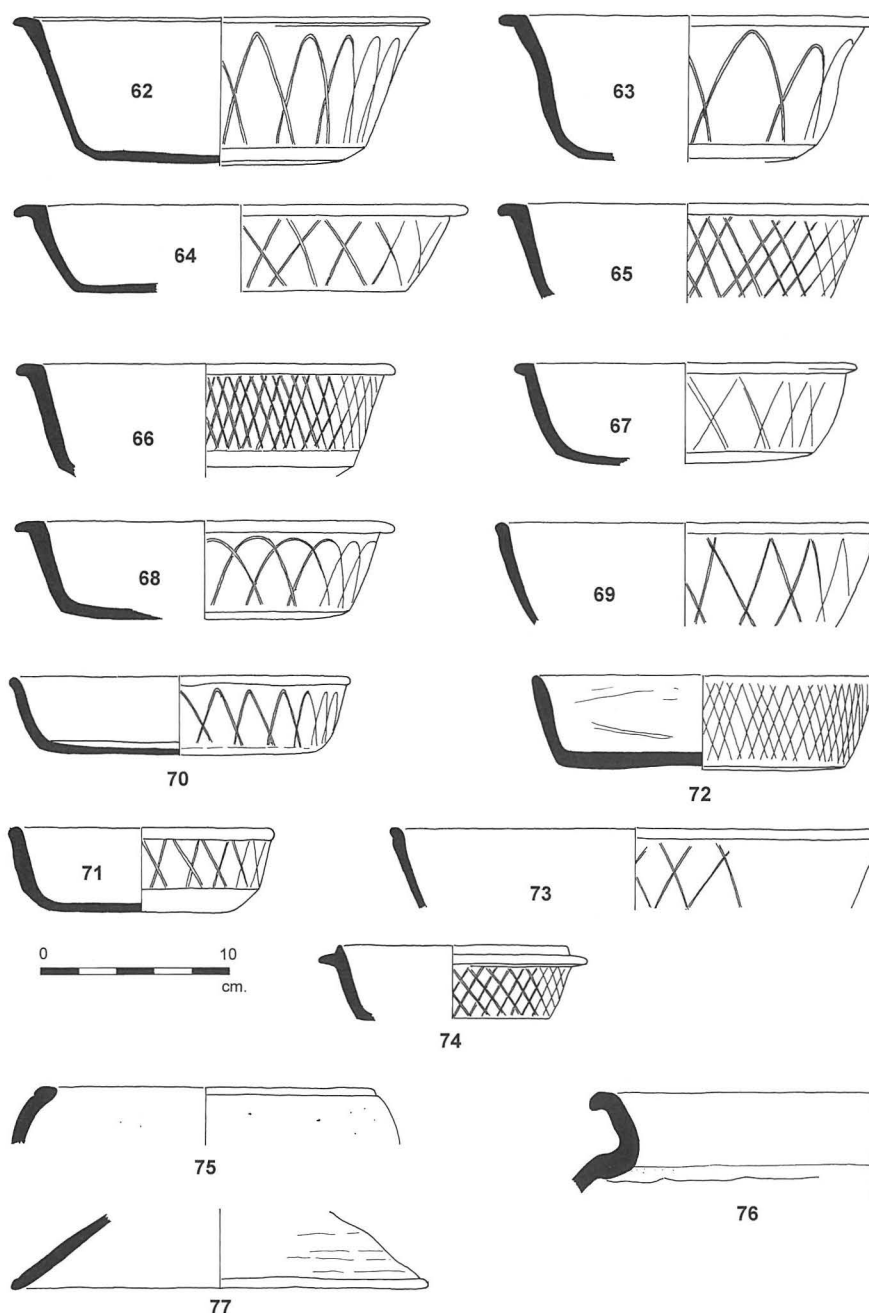


Figure 11: Pottery from Redcliff Sites A and B, 62–77

destruction of the Period 2 stone fort and construction of its Period 3 successor (Bidwell 1985, 175).

The Exeter sequence suggests that 90° latticed BB1 cooking-pots appeared at the very end of the 2nd century (*ibid.*, 176). This led Bidwell to associate the AD 223–225 dated fort construction inscription (*RIB* 1705) with the building of the Period 3 stone fort, allowing time for the morphological transformation of 90° into obtuse-latticing.

The Redcliff assemblage does, however, suggest that wide-spaced acute, 90° and wide-spaced obtuse latticing were in use concurrently at the beginning of the 3rd century and that roughly three times as many 90° latticed pots were produced as obtuse latticed ones. The Vindolanda pottery sequence indicates that this situa-

tion probably continued until *c.* AD 235 (*ibid.*, table VIII) and raises the question whether another (re-used) building inscription dated AD 205–7 is the one commemorating the construction of the Period 3 stone fort rather than that dated AD 223–225.

If we take this to be the case everything starts to fall into place: the absence of incipient beaded-and-flanged bowls from the Redcliff pot gully and the presence of only three examples from elsewhere on the site would suggest that the gully assemblage can be closely dated from *c.* AD 200 to just before 210, when production of the type probably began.

The current dating of other bowl and dish types present in the gully also needs some adjustment. A number of the dish types (Fig. 11.64–66) are given a terminal

date of *c.* AD 180 by Gillam but can now be seen to have continued in production until *c.* AD 200–210. Flanged bowl and dish types with burnished arcading of 3rd-century type (Fig. 11.63, 67 and 70) can be seen to date the beginnings of that decorative style to *c.* AD 200 and its first use on late 2nd-century forms at the end of their currency.

#### *Post-Phase 3 occupation*

A few sherds from the uppermost occupation horizons indicate very limited activity on the site during the 3rd and 4th centuries. Most of these sherds are of early 3rd-century date and strictly speaking may belong to the end of Phase 3. They include the fragments illustrated in Figure 11.73.

73. Beaded and flanged dish in oxidised Fabric C.3 with burnished obtuse latticing. Ext. rim diameter 120mm. A.XI.2B

A handled beaker fragment with everted rim was present in the fill of a 19th-century field-drain where it cut through A.XI.2B and is probably of early 3rd-century date as well. There is an incipient beaded-and-flanged bowl fragment from A.XIV.3 and further examples came from the fill of Ditch 4 (A.XV.4) and A.XXI 2/3.

Late 3rd to 4th-century pottery is even rarer on the site and comprises two developed beaded-and-flanged bowls from A.XXI.2/3 and A.XIII.3 in the south-east corner of the site. The latter example is abraded, lacks decoration and is probably 4th century in date.

#### **The pottery from the 1983 excavation, Site B**

The solitary trench (B.1) produced only 2174g of pottery in total. Assemblage 7, from Context B.I.11 immediately over the fill of Ditch 20, is the only one of any great interest. This layer produced a mere 544g (24 sherds) of pottery, including those catalogued below and illustrated in Figure 11.

75. Jar with flattened bead-rim in oxidised orange Fabric C.3. Ext. rim diameter 160mm.

76. Large jar of Ower Type 1 in grey-black Fabric C.2 with oxidised surfaces. Ext. rim diameter 300mm.

77. Bead-rimmed lid in black Fabric C.2. Ext. rim diameter 220mm.

The assemblage would appear to be of largely late 1st-century date, with a small lid-seated bowl fragment suggesting a Trajanic element as well. This makes the context broadly contemporary with the Phase 1 firing structure on Site A and perhaps related to its activity.

#### **The pottery from the 1953 excavations**

The selective nature of the surviving pottery from Brown's test pits means that any form of quantification by weight, number of sherds etc. would be meaningless. All that can be said is that some pits produced large quantities of sherds and others produced very little or none at all. The plan of the distribution of the test pits

(Fig. 1C) reflects this by marking sterile pits with a cross, pits producing very few sherds with a small circle and pits producing large quantities of sherds with larger circles.

Most of the surviving pottery is marked with the number of the test pit in which it was found. This enables three successive foci of activity to be distinguished within the area covered by the site and indicates that pottery production moved around within it during the 3rd and 4th centuries (Fig. 1C).

#### *Early 3rd-century pottery production*

The small amounts of 2nd-century pottery from the site come from the same area as the intense early 3rd-century potting activity centred on test pits R.22, 33, 34 and 36, and indicate some kind of limited activity before the main occupation. The early-3rd century material (Assemblage 8) comprises large numbers of both wasters and used vessels, including complete pots, belonging to the period immediately after the cessation of activity on Farrar's site to the west. Test Pit R.33 produced the pieces catalogued below and illustrated in Figure 12.

78. Near complete cavetto-rim cooking-pot in patchy brown-black Fabric C.3 with obtuse-latticed band on its girth but no horizontal groove above it. Ext. rim diameter 150mm.

79. Upper part of more bulbous cooking-pot in black Fabric C.3 with similar decoration. Ext. rim diameter 140mm.

Two more complete and near complete cooking-pot wasters of this type came from the R.38 extension of Test Pit R.34.

80. Upper part of bulbous cooking-pot in brown Fabric C.1 with rim-edge reddening and 90° lattice decoration. Ext. rim diameter 140mm.

81. Large flat-rimmed bowl in black Fabric C.3 with overall facet-burnishing and external burnished arcading. Ext. rim diameter 240mm.

81. Rim sherd from another example in similar fabric.

Flat-rimmed bowls are normally regarded as a 2nd-century BB1 type but the evidence of examples from the Crookhorn aisled building (Soffe *et al.* 1989), the lower fill of the Silchester town wall construction trench (Fulford 1984) and rubbish dumped on the road outside Winchester's South Gate immediately after the city wall was constructed *c.* AD 260 (Biddle 1975, 115) indicates that the variant without basal chamfer and with external burnished arcading was produced alongside incipient beaded-and-flanged bowls until the mid 3rd century.

83. Incipient-beaded-and-flanged bowl in reddish-brown Fabric C.3 with overall facet-burnishing, burnished arcading on the exterior and random scrolling on the underside (Gillam 1976, fig. 3.44, dated to the mid-late 3rd century). Ext. rim diameter 220mm.

84. Rim from another such vessel in brown Fabric C.3.

85. Similar vessel in grey Fabric C.3 fired polished black with buff margins and external burnished arcading, but with a more pronounced bead on the edge of the flange (Gillam 1976, fig. 3.43, dated to the early-mid 3rd century).

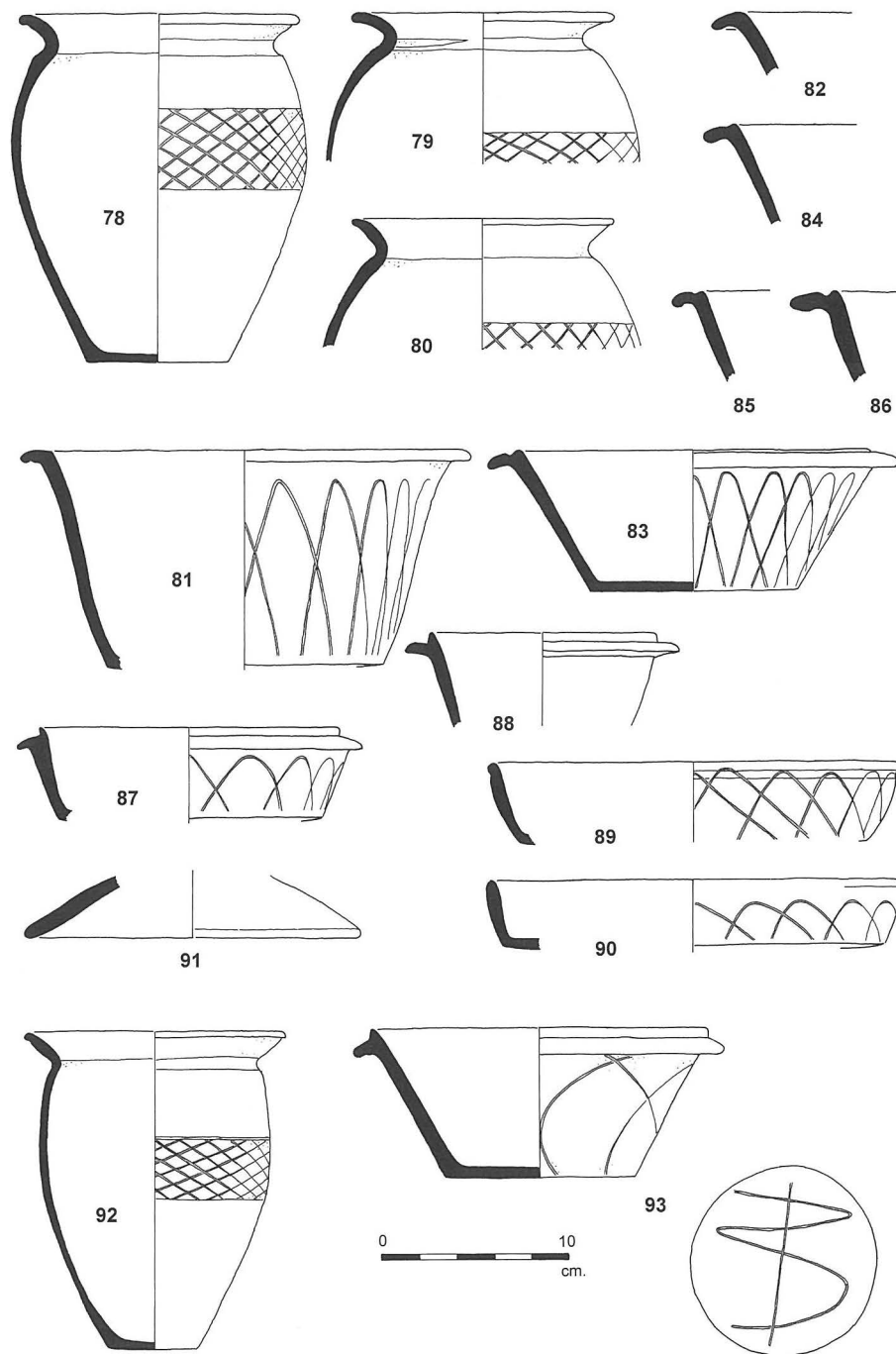


Figure 12: Pottery from Redcliff Site C, 78–93

86. Large incipient beaded-and-flanged bowl in grey-black Fabric C.2 fired polished black with buff margins.
87. Beaded-and-flanged dish in grey Fabric C.1 fired patchy black-buff with brown margins with burnished steep arcading. Ext. rim diameter 160 mm.
88. Small developed beaded-and-flanged bowl in black Fabric C.3 fired polished brown-black with thick buff margins and no decoration. Ext. rim diameter 120mm.

The earliest well-stratified developed beaded-and-flanged bowls are from London, in Pottery Group 16 from the Mithraeum dated *c.* AD 200–250 and a sherd from the Period 1, Phase 5 infill of the wooden quay at St Magnus House (Richardson 1986, fig.1.173). The quay has been dated by dendrochronology to *c.* AD

235–245. This Redcliff example is certainly a very early example of the type but its small size may mean that it should best be regarded as an aberrant variant of beaded-and-flanged dish — a type shown to have appeared at the beginning of the 3rd century, well in advance of the appearance of the developed beaded-and-flanged bowl.

89. Dish with beaded rim in brown-black Fabric C.3 with overall facet-burnishing and steep burnished arcading on the exterior surface (Gillam 1976, fig. 5.73 dated to the early-3rd century). Ext. rim diameter 220mm.
90. Straight-sided dish in buff-brown Fabric C.3 with internal facet-burnishing and steep burnished arcading on the

exterior surface (Gillam 1976, fig. 5.79 dated to the early 3rd century). Ext. rim diameter 220mm.

Most of the dish fragments from Test Pit R.33 have steep burnished arcading but there are a few fragments with flattened intersecting loops. Dishes with steep arcading decoration first appeared at the end of the 2nd century and are present for the first time in the AD 200–210 dated Phase 3 assemblage from the ‘pot gully’ on Farrar’s Redcliff site (Fig. 11.70). Steep arcaded decoration on dishes had been largely replaced by flatter intersecting looping by *c.* AD 250 (Lyne 1994, 72).

91. Simple lid in black Fabric C.3 fired polished patchy brown-black with orange margins. Ext. rim diameter 180mm.

Lids are thought by Wallace and Webster (1989) to be earlier than AD 200 in date but their limited circulation outside Dorset and absence from well-dated military sites in the north make precise dating difficult. Two examples are, however, present in the pottery from the tile kiln complex at Crookhorn north of Portsmouth, and one in that from the Downton villa (Lyne 1994, 175). Both sites show little, if any, sign of occupation before the mid 3rd century.

#### *Test pit R.49* (Figs 12–13)

Test Pit 49 produced a large quantity of early 4th-century pottery (Assemblage 9) from just south of the possible kiln. This pottery included a number of complete and semi-complete vessels.

92. Everted rim cooking-pot in black Fabric C.3 with attenuated body and narrow band of obtuse latticing around the girth below a horizontal groove (Gillam 1976, fig. 2.13, dated to the early–mid 4th century but probably in production from *c.* AD 280 onwards). Ext. rim diameter 140mm.
93. Developed beaded-and-flanged bowl in black Fabric C.3 with white and orange patches. There is a cornice under the rim, sweeping intersecting arcs on the exterior of the body and a motif resembling a cursive B scribed on the underside of the base. The type is dated by Gillam to the early–mid 4th century (1976, fig. 4.48). Ext. rim diameter 180mm.
94. Straight-sided dish with slightly beaded rim in medium grey Fabric C.3 with brown and off-white patches. There is rather disorganised burnished looped decoration on the exterior, a Redcliff motif on the basal interior surface and zigzag scribble on the underside of the vessel. Gillam (1976, fig. 6.82) dates a similar form, but without the Redcliff motif, to the early–mid 4th century. Ext. rim diameter 200mm. (Drawing by RAHF)

A similar dish in black Fabric C.3 but lacking decoration other than a Redcliff motif on the interior of the base also came from this test pit.

There is a decline in the use of decorative linear burnishing on open forms during the early 4th century and an increasing sloppiness in execution on vessels which still have such decoration.

95. Large oval dish with handles at each end, in black Fabric C.3 with slight reddening in places. Disorganised inter-

secting flattened loop decoration on the exterior and a burnished diablo on the interior surface of the sagging base. Gillam (1976, fig. 6.85) dates an identical form with diablo to *c.* AD 290–400 but this date range is more for the form in general: the diablo decoration is probably early 4th century in date.

The commencement date for the form can now be pushed back into the mid 3rd century by the discovery of an example in the infill behind the riverside quay at the St Magnus House site in London, although such ‘fish dishes’ only became popular during the 4th century.

96. Smaller example in dark grey Fabric C.3 with reddish discolouration. There are burnished intersecting loops on the exterior and a burnished diablo motif on the interior surface of the sagging base. (Drawing by RAHF)

Another similar vessel also came from R.49 and is identical to no. 96 except for the replacement of the looped decoration on the exterior by horizontal striae.

#### *Test pits R.8, 9, 10, 12, 15 and 40* (Figs 13–14)

This group of test pits produced large quantities of mid to late 4th century pottery (Assemblage 10), including some late 4th-century sherds.

97. Necked bowl in black Fabric C.3 with brown patches, decorated by narrow obtuse-latticed girth band below horizontal groove. Ext. rim diameter 160mm. R.8

This vessel type first appeared during the mid 4th century and was also produced at Cleavel Point, Ower (Woodward 1987a, fig. 45.71) and Kiln 503 at Worgret. They are seldom found east of Dorset, although there is an example from the fill of the Oakridge well near Basingstoke (Oliver 1993, fig. 12.80) and unpublished fragments from Rock villa and the Fishbourne beach emporium site on the Isle of Wight. Examples from Poundbury (Sparey-Green 1987, 65), Wollaston House, Dorchester (Andrews forthcoming), Exeter (Holbrook and Bidwell 1991, 103), Bath (Green and Young 1985, 151) and elsewhere suggest that the type continued to be produced in limited quantities until well into the 5th century and achieved a wide but thin distribution throughout the south-west of sub-Roman Britain.

98. Large everted-rim jar in black Fabric C.3 with narrow obtuse-latticed girth band below horizontal groove. There are three widely spaced solid hemispherical bosses superimposed on the latticed band, Ext. rim diameter 230mm. R.8. (Drawing by RAHF)

It is difficult to find parallels for the embossed decoration on this vessel, but the application of solid hemispherical bosses to pots in the south of Britain is a very late Roman phenomenon indeed. Small groups of convex-sided dishes with applied bosses centred on Portchester and Dorchester-on-Thames, identical in form but in handmade grog-tempered ware in the former case and in wheel-turned limestone gritted greyware in the latter, have been shown to date to the last years of the 4th and early 5th centuries and to have been copied in Early Saxon sandy fabric at Dorchester-on-Thames (Lyne 1994, fig. 63, 528).

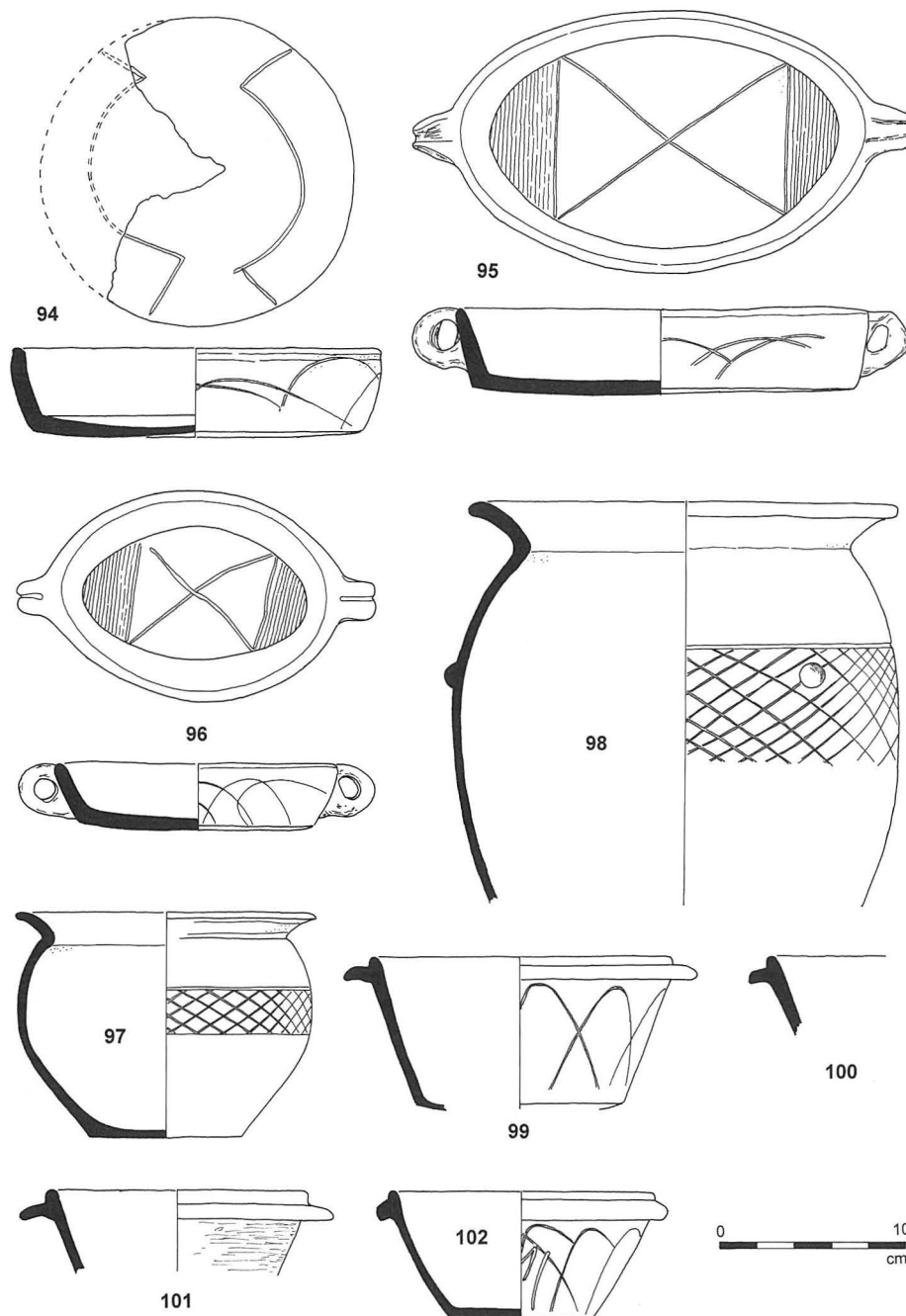


Figure 13: Pottery from Redcliff Site C, 94–102

Test pit R.15 produced a pear-shaped cooking-pot with a slightly more attenuated body than that from R.49 (Fig. 12.92) and with a narrower latticed band.

99. Developed beaded-and-flanged bowl in coarse black Fabric C.2 fired polished patchy brown-black with burnished arcading on the exterior and cornice under the rim. Ext. rim diameter 160mm. R.8.
100. Another example but without corning under the rim. Ext. rim diameter 160mm. R.8.
101. Small developed beaded-and-flanged bowl with elongated flange section in black Fabric C.2 with internal polish and external fettling. Ext. rim diameter 140mm. R.8.
102. Small stubby-flanged developed beaded-and-flanged bowl in black Fabric C.3 with burnished loops on its exterior

and zigzag on the underside. A graffito has been added before firing. Ext. rim diameter 140mm. R.8.

Stubby-flanged bowls of this type are characteristic of the period after AD 370 and are rarely found east of Dorset.

103. Deep straight-sided bowl with internal lid-seating in black Fabric C.3, with overall polish, close-spaced, overlapping burnished arcading on exterior, similar arcading on the underside, Redcliff motif on the interior of the base and scratched diagonal lines on the interior surface of the wall. Ext. rim diameter 160mm.

Straight and convex-sided dishes from most production centres in Roman Britain tend to become deeper after

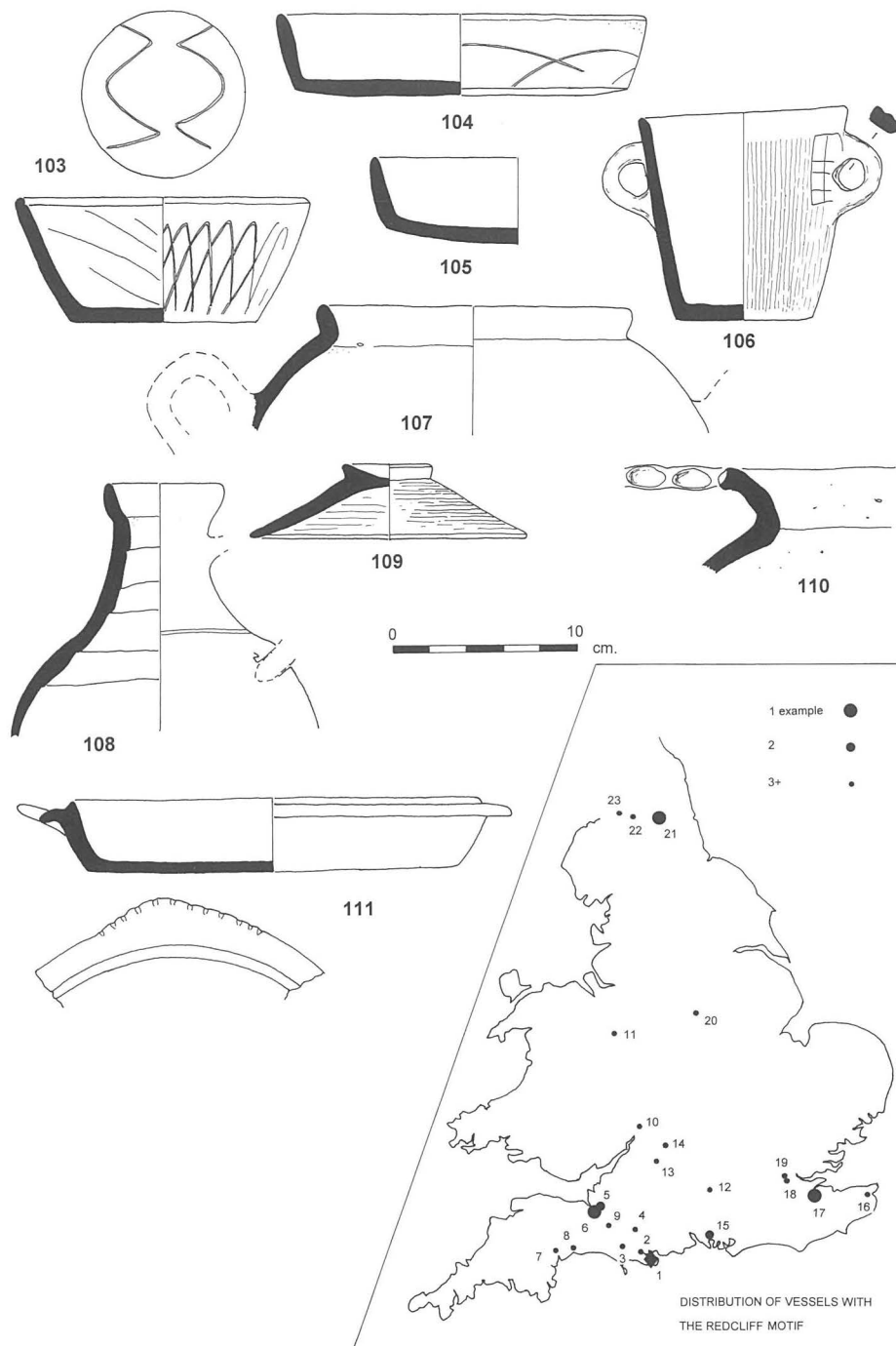


Figure 14: Pottery from Redcliff Site C, 103–111 and (inset) Distribution of vessels with Redcliff motif

the mid 4th century — to the point of having the proportion of bowls. The presence of the Redcliff motif and lid-seating does, however, suggest that this vessel is no later than the mid 4th century and something of an aberration.

104. Straight-sided dish in patchy brown-black Fabric C.3 with polished interior, burnished flattened intersecting loops on the exterior and scribbled decoration on the underside. External rim diameter 200mm.

105. Complete straight-sided dish with sagging base in black Fabric C.3 with patchy black-white internal slip extending over the rim top. There is no applied decoration other than horizontal striae. Ext. rim diameter 160mm.

106. Two-handled tankard in black Fabric C.3 with vertical

linear burnishing over the exterior and chequer-board panels of decoration flanking the triple-reeled handles. Ext. rim diameter 110mm. (Drawing by RAHF)

An oxidised fragment from a second example was found in test pit R.40. Identical vessels were manufactured at Ower during the Late Roman period (Woodward 1987a, fig. 49.175) and one was present in the Period 10 4th century or later occupation of Building 5433 at Greyhound Yard, Dorchester (Woodward *et al.* 1993, fig. 151.367).

107. Fragment from double-handled jar in coarse brown Fabric C.2 fired cream-brown where slipped externally and over rim. Ext. rim diameter 170mm. A number of ves-

sels of this type with three- and four-reeded strap handles were present in Gully 948 at Wollaston House, Dorchester (Andrews forthcoming) and dated to the early 4th century. The type was probably produced throughout the century.

108. Single-handled flagon in dark grey Fabric C.1 fired patchy creamy grey-black with cupped rim and vertical linear burnish on the neck. The handle was pegged into the shoulder at the lower end. Ext. rim diameter 65mm. (Drawing by RAHF)

Wallace and Webster (1989) suggest a mid-1st to late 2nd-century date for BB1 flagons, but as with lids this only reflects the period of their exportation beyond the south-west of Britain. Flagons similar to no. 108 are, however, present in assemblages from 4th century contexts at Ower (Woodward 1987a, fig. 49.166) and elsewhere and are clearly of late Roman date.

109. Lid in black Fabric C.3 with overall fettling. Ext. rim diameter 150mm.
110. Large storage jar in coarse black Fabric C.2 variant with profuse up-to 2.00mm white quartz filler, fired orange-brown with finger-impressed rim. External rim diameter 360mm.

#### Miscellaneous pottery (Fig. 14)

The archive relating to Redcliff Site C includes drawings by both Brown and Farrar of pottery fragments which have since gone astray. For the most part these missing fragment drawings do not contribute any new forms to the repertoire of those produced at Redcliff: there is, however, one important exception.

111. Beaded and flanged dish fragment with localised extension to the flange for carrying purposes. The drawing is copied from a measured one by P.A. Brown but an earlier sketch by Ray Farrar indicates that Brown's drawn fragment is just one part of a formerly reconstructed section of the vessel. This shows the dish to have been decorated with the Redcliff motif on its interior base. The notched decoration along its edge suggests that the flange extension may have been inspired by that found on the early to mid 3rd-century East Gaulish Samian Form Dr. 39/Lud Oa dish (Bird 1993, fig. 2). The find spot (Test Pit 36) indicates a similar date for the Redcliff BB1 vessel. Ext. rim diameter 220mm.

#### The 'Redcliff' motif

This distinctive decorative motif is restricted to the basal interiors of a variety of BB1 open forms and was first drawn attention to by Farrar (1973). The most

**Table 6:** Catalogue of find spots for pots with the Redcliff motif

| No. | Site and context                         | Gillam (1970) form | Date of context | Publ. reference                           |
|-----|--|--------------------|-----------------|---|
| 1.  | Redcliff Site C                          | 329                | Early 4th c.    | Farrar 1973, fig. 1.7                     |
|     | Redcliff Site C                          | 330                | Early 4th c.    | –   |
|     | Redcliff Site C                          | Deep dish          | Early 4th c.    | –   |
|     | Redcliff Site C                          | 315 var            | Mid 3rd c.      | –   |
| 2.  | Bestwall, Wareham                        | 329                | –               | –   |
| 3.  | Greyhound Yard, Dorchester Building 5433 | 228                | c. AD 250–400   | Woodward <i>et al.</i> 1993, fig. 151.361 |
| 4.  | Allard's Quarry, Marnhull                | 329                | –               | Williams 1977                             |
| 5.  | King's Sedgemoor                         | 329 (2)            | –               | Williams 1977                             |
| 6.  | North Newton                             | 329 (4)            | –               | Williams 1977                             |
| 7.  | Exeter, GS F116                          | 329                | c. AD 250–400   | Holbrook and Bidwell 1991, 100            |
| 8.  | Seaton                                   | 329                | c. AD 275–300   | Bidwell 1981, fig. 13.5                   |
| 9.  | Kingsham, Ilchester, Period V            | 329                | Early 5th c.    | Leach 1982, fig. 79.530                   |
| 10. | Gloucester                               | 329                | –               | Williams 1977                             |
| 11. | Wroxeter                                 | 329                | –               | Williams 1977                             |
| 12. | Silchester                               | 329                | –               | Williams 1977                             |
| 13. | Cirencester                              | 329                | –               | Williams 1977                             |
| 14. | Chedworth                                | Oval dish          | –               | Williams 1977                             |
| 15. | Portchester, Pit 103                     | 329                | c. AD 330–350   | Fulford 1975a, fig. 186.107.8             |
|     | Portchester, Pit 54                      | Oval dish          | c. AD 330–350   | <i>ibid.</i> , fig.186.107.8              |
| 16. | Richborough                              | 329                | –               | Farrar 1973                               |
| 17. | Holborough barrow, Kent                  | 329 (3)            | c. AD 250–300   | Cook 1954                                 |
|     |  | 330 (2)            | c. AD 250–300   | Cook 1954                                 |
| 18. | Southwark, Union St B well               | 315                | c. AD 270–300   | –   |
| 19. | London, Mithraeum                        | 329                | –               | Williams 1977                             |
| 20. | Littlechester fort                       | 329                | u/s             | Brassington 1967, fig. 92                 |
| 21. | Corbridge                                | 329 (several)      | –               | Farrar 1973                               |
| 22. | Chesterholm vicus bathhouse              | 329                | –               | Farrar 1973                               |
| 23. | Birdoswald 1929 alley                    | 329                | –               | Williams 1977                             |

common form to carry the motif is the straight-sided dish but it is also found on beaded-and-flanged dishes, developed beaded-and-flanged bowls and oval dishes with handles.

Four vessels bearing the motif are known from Redcliff Site C but none from excavated production sites at Ower, Worgret, Norden and Hamworthy. The apparent restriction of this decorative technique to Redcliff presents us with an opportunity to determine the distribution pattern of wares from a specific production centre within the BB1 industry.

The range of forms decorated with the motif would, by itself, suggest a late 3rd to 4th century date for its use and the bulk of site stratified assemblages from which examples come refine this date-range further to the late 3rd and early 4th-centuries. A Hadrianic example is alleged from the 1929 'Alley' assemblage at Birdoswald (Williams 1977, 192) but, although the bulk of the assemblage is of 2nd-century date, there is a little 3rd-century material (Birley 1930, fig. 14.18h, k and o).

The first list of Redcliff motif findspots is that compiled by Farrar (1973): additions were made by Williams (1977) and other examples have been recognised since.

The map (inset, Fig. 14) and catalogue (Table 6) show the distribution of known examples but does not claim to be exhaustive:

A recent paper on BB1 (Allen and Fulford 1996) attempts to work out the routes by which the wares were distributed. The Redcliff motif findspots indicate that the pottery made at Site C was probably dispersed along the same trade routes postulated by Allen and Fulford for the BB1 products in general (*ibid.*, fig. 13). The map shown on Figure 14 supplies good evidence for Redcliff products being transported by their route across country to the Severn estuary at Crandon Bridge and thence by sea to Hadrian's Wall, and by both their western sea route to Exeter and the eastern one into the Thames estuary and London during the late 3rd and early 4th centuries.

### The Roman pottery from Stoborough

#### Site E

The sandy soil above natural in Test Pit F (SF/2) produced a 2nd-century assemblage, of which six sherds survive and comprise a jar rim similar to Fig. 9.44, dishes similar to Figs 10.46 and 51 and fragments from two bowls copying the samian Dr. 30 form.

Layer SF/1 above yielded a mixed 2nd to 3rd century assemblage. The 38 sherds retained include fragments from three 2nd century flanged dishes, six acute-latticed cooking-pots, two incipient and one developed beaded and flanged bowl and the pieces catalogued below and illustrated in Fig. 15.

1. Fragment from dish in oxidised Fabric C.3 with flange

expanded in a similar manner to Fig. 14.111 but with dimpled instead of notched rim edge decoration. Ext. rim diameter 180mm.

2. Eight fragments from handmade bag-shaped ?strainer in patchy grey-buff Fabric C.1. Ext. diameter at girth 220mm.

The pottery from Test Pit J/K came from three levels. The three surviving sherds from the lowest level (J3) are of 1st-century character and comprise a bead-rim dish similar to Fig. 8.29, a bead-rim jar as Fig. 7.3 and a weakly everted jar rim similar to Fig. 7.4.

The one surviving sherd from J2 comes from an indeterminate ?bead-rim beaker form of probable 2nd-century date and the eighteen 2nd to 4th-century sherds from J1 (?the topsoil) include flanged dishes, incipient and developed beaded and flanged bowls, as well as those listed below (Fig. 15).

3. Handled beaker of Gillam Type 24 (1977) in patchy brown-grey Fabric C.3. Early-mid 2nd century.

The pottery from the lower waste dumping sectioned by Burr's Trench L (Context C3) includes Late Iron Age to c. AD 70 Durotrigian forms similar to Fig.6.5, 6 and 12, Fig. 7.7 and 12 and Fig. 8.28. The pottery from the upper dumping (Contexts A2, B2 and C2) includes similar forms as well as 2nd-century fragments resembling Fig. 9.45 and Fig.10.49. The vat itself produced wasters of which a small number survive.

4. Everted-rim jar in black Fabric C.3 with burnished wide-spaced acute-latticing. There is a meandering burnished line under the weakly everted rim. Ext. rim diameter 120mm.

5. Cavetto-rim jar of Gillam Type 2 (1976) in mis-fired grey-brown Fabric C.3 with burnished wavy-line beneath the rim. Ext. rim diameter 160mm. Fragments of this vessel came from both Contexts A1 and 1A below and above the stones within the vat. One of three. c. AD 160-180.

6. Another cavetto-rim jar in black-cored reddish-brown Fabric C.3 with burnished wavy-line beneath the rim and acute-latticing on the body. Ext. rim diameter 160mm. Context A1.

7. Everted-rim jar in oxidised brown Fabric C.3, with burnished zigzag beneath the rim. Ext. rim diameter 160mm. One of two. Context A1A.

8. Rim of flagon or lagena of Wallace and Webster Class B (1989) in polished brown Fabric C.3. Ext. rim diameter 160mm. Context A1A. Farrar's notes on the contents of the vat, made during the 1950s, illustrate a fragment which suggests that more of this vessel was originally present (DCM.E3334/7).

9. Rim sherd from grossly underfired bead-rim dish similar to Fig. 10.51, in crumbly buff fabric with surface greying. Mid 2nd century. Context A1.

10. A photograph of a complete small bead-rim pot with polished upper half and alleged to be from the vat survives in archive only (DCM.E3334/7). The photograph lacks a scale but shows what is clearly a tiny vessel alongside another more normal-sized obtuse-latticed cooking-pot of uncertain provenance. Similar to Gillam Type 19 (1976). Early to mid 2nd century.

- B.I.3 One Central Gaulish Dr. 33 cup rim sherd.  
 B.I.3 One Central Gaulish Dr. 18/31 platter footring sherd.  
 B.I.8 One Central Gaulish samian fragment.

#### Other imports

##### Phase 1

- A.I.4 Beaker sherd in sand-free pinkish fabric with occasional up to 0.50mm soft red ferrous inclusions and greyed externally with fine rouletted bands.  
 A.XIV.5 Pedestal base in very-fine-sanded pink fabric with moderate up to 1.00mm red ferrous inclusions.  
 A.XIX.3 Fragment from ?flagon in sand-free cream fabric. Either a Corfe Mullen kiln product or a pre-Flavian import from north-east Gaul.  
 A.XIX.3 Beaker sherd in micaceous sand-free whitish-grey fabric. Pre-Flavian.  
 A.XIX.3 Sherd of sand-free buff-orange fabric with tiny red ferrous inclusions.

##### Phase 3

- A.IV.4 Two flagon sherds in gritty pink fabric with profuse up to 0.50mm iron-stained quartz filler. ?A Verulamium Region Whiteware product.

#### Amphorae

##### Phase 2

- A.XIII.4 Fragment from Baetican Dressel 20 amphora.

#### Site C

This site produced the following samian imports, which were identified and dated by Geoff Dannell in 1977.

Test Pit R.8: Large Central Gaulish Curle 15 bowl fragment of Antonine date.

Test Pit R.38: Base from Central Gaulish Dr. 33 cup of Hadrianic date with obliterated potter's stamp.

Both of these fragments are very much older than the BB1 fragments with which they are associated. The Curle 11 had a life in use of at least 100 years, as did the Dr. 33.

The R.12 extension to Test Pit R.8 produced a decorated fineware fragment, now lost, which was drawn and identified as samian by Brown in the 1950s; an identification later altered to New Forest. The colour-coat was clearly red, otherwise the confusion with samian ware could not have been made. The missing piece may well have come from a painted Fulford Type 9.3 bottle dated to *c.* AD 300–330 (1975b) and in his oxidised Fabric 1A.

#### Site E (Fig. 15)

Test Pit J yielded two sherds from the vessel described below.

21. Lid-seated bowl with girth cordon in sand-free cream fabric with pink margins and orange-painted decoration. Int. rim diameter 80mm. Parallels have proved very difficult to find but it is possible that the pieces are from an early imported Iberian vessel in Ceramique Catalan Engobee ware of the late-2nd and 1st-century BC (Py 1993, 156). J1.4.

#### Site H

##### The samian

Footring fragment from South Gaulish samian Dr. 18 platter. SS1/1.

Rim sherd from Central Gaulish samian Dr. 18/31 platter. Ext. rim diameter 170mm. SS1/1.

Two abraded sherds from Central Gaulish samian Dr. 37 bowl.

##### Other imports (Fig. 15)

22. Rim fragment from T/R girth beaker of Verulamium Form GB22 in Fabric TR3, dated *c.* AD 9–50 (Stead and Rigby 1989, 132). Ext. rim diameter 70mm. SS1/1.  
 23. Girth sherd from closed form in sand-free pinkish-brown fabric with surface mica. SS1/1.  
 – Bodysherd from thin-walled flagon in North-east Gaulish whiteware. SS1.1A. *c.* AD 43–70.  
 24. Large mortarium sherd. Kay Hartley writes: '495g. Diam. 300mm. 21% inclusions. A mortarium in fine-textured (slightly soapy texture), pale pinkish-brown fabric (Munsell 7.5YR 7/4-pink), with pinkish-white core in the upper half (Munsell 5YR 8/2) and areas of dark grey in the core near the base. The frequent, miniscule, inclusions ( $\times 20$  magnification) consist mainly of quartz and some red-brown material with a few large, random orange-brown and opaque white (non-reactive) inclusions. The trituration grit consists mainly of quartz and red-brown material with occasional flint and rare black material. Insufficient remains to show whether or not this mortarium was ever stamped. This fabric is unusual and cannot be attributed to any known pottery. A few mortaria in similar fabrics have, however, been noted from Lake Farm and Poundbury and there is little doubt that all, including this example, are from a fairly local workshop, probably working on a very small scale. The rim-profile would best fit within the period AD 100–130.' SS1/2.  
 25. Rim fragment from Dressel 1–Pascual 1b amphora in cream fabric with profuse angular up to 1.00mm quartz and feldspar filler. SS1/2. *c.* 0–AD.40.  
 – Small clay rough-cast bag-beaker with short everted rim, in very fine-sanded orange-brown fabric with matt brown colour-coat. Ext. rim diameter 50mm. Probably a Colchester product. *c.* AD 130–200. SSB/2.

#### Potters' Equipment (Fig. 17)

##### Burnishers

The most common articles of pot making equipment from Redcliff are burnishing pebbles. These are of two types: line burnishers and area burnishers. There were 15 examples of line burnishers from Site A, including those listed below.

##### Phase 1

1. Long thin honestone, broken at one end, of dark grey Pennant Sandstone from the area around Clevedon in Avon (43g). L. 81mm; W. 19mm; Th. 12mm. It may possibly have had a secondary use as a burnisher (Williams 1998). A.XIV.4. 0.80m east of south-west corner of trench and 0.70m out to north. 13/5.  
 2. Flint nodule pointed at both ends with streaky cream/grey patination. One end has glossy wear from use exposing the dark core of the flint. A.XIV.4. Centre of north face of trench. 10/3.

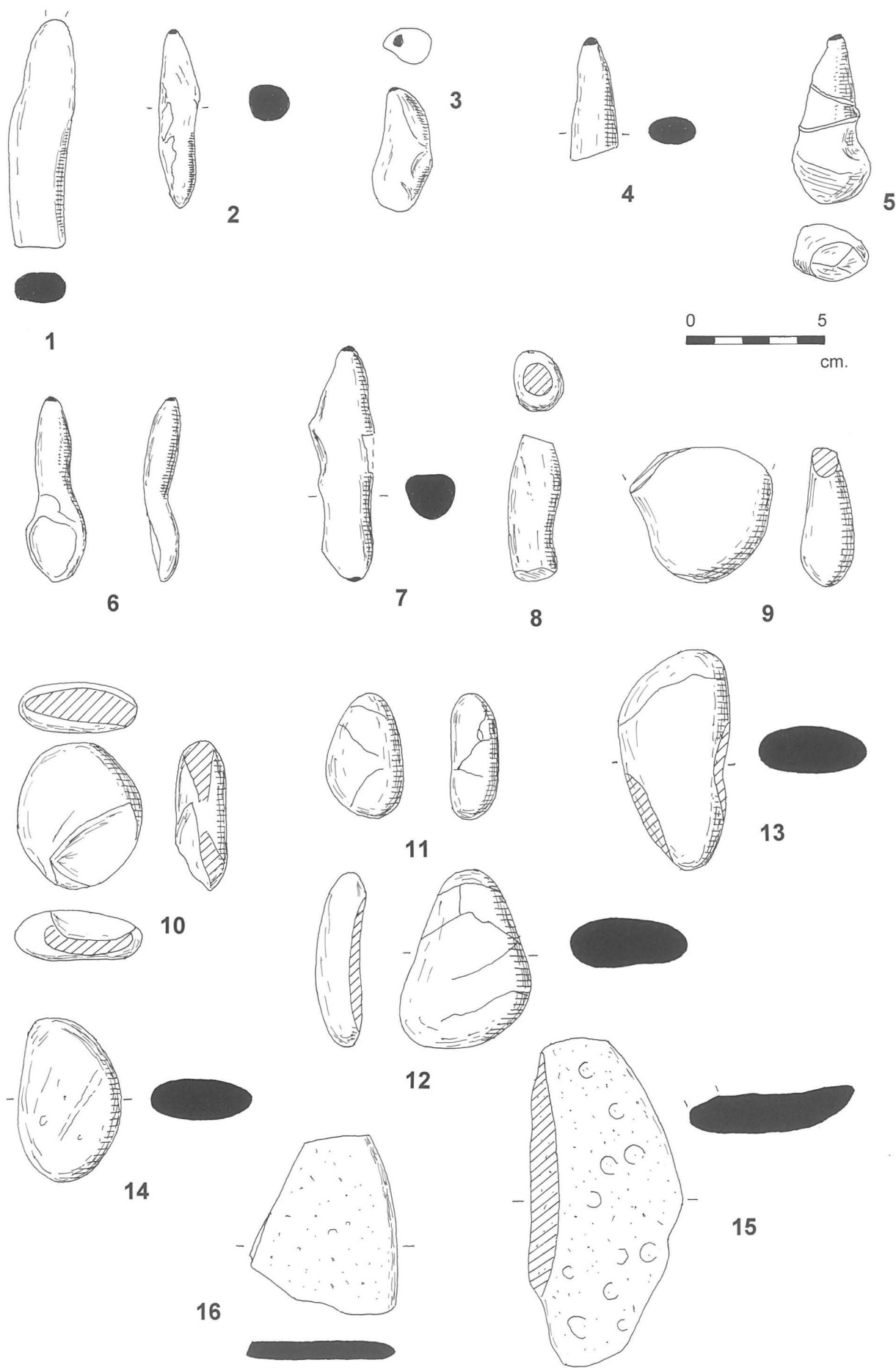


Figure 17: Line and area burnishers

3. Pointed flint nodule with buff patination and glossy wear on point. A.XIX.3.
4. Calcined grey flint nodule patinated patchy brown-grey and with wear on the point. A.XX.5. One of two calcined line burnishers. 10/12.

#### Phases 2 and 3 (Fig. 17)

5. Pointed black flint nodule with brownish-white patina and glossy wear on the point exposing the dark core. A.VI.4. 28/8.
6. Pointed buff flint nodule patinated grey with glossy wear on the point. A.XVII.3. 10/7.
7. Pointed and calcined flint nodule with grey-black patination and wear on both ends. A.XX.2/3. One of two. 10/11.

There are no line burnishers surviving from Site C.

There are 20 examples and probable examples of area burnishers from Site A, including those listed below.

#### Phase 1 (Fig. 17)

8. Cylindrical white-patinated flint nodule with one end worn flat. A.XIX.5.
9. Small well-rounded pebble of light pinkish-grey quartzite (66g) (Williams 1998) with brown iron-stained surfaces and area of polish along one edge. A.VIII.3. 10/10.

#### Phases 2 and 3 (Fig. 17)

10. Flattened oval grey flint pebble with patchy maroon patination and worn areas on each end. A.XX.3. 10/9.
11. Small well-rounded pebble of pinkish-white quartzite (40g) (*ibid.*) with high overall gloss. A.XX.3. 10/5.
12. Small well-rounded cracked piece of dark brown, light weight mudstone (30g) (*ibid.*) with glossy wear on concave underside where used to polish the convex surface of a pot. A.XX.3. 10/4.
13. Pale buff-brown patinated flint pebble with orange mirror-burnished patches on both long edges. A.XVI.3. 10/14.
14. Small well-rounded pebble of honey-coloured quartzite (58g) (*ibid.*). A.XI.2. 76/7.
15. Flake with extensive wear along one edge. A possible white limestone burnisher of Portland Roach or Whitbed (*ibid.*). A.I.2. 11/5.
- Two joining halves of a small, well-rounded, light grey Sarsen pebble (*ibid.*) A.VII.5. 8/30.
- Small well-rounded broken pebble of light reddish-grey quartzite (43g) (*ibid.*). A.XVIII.3. 10/13.
- Small well-rounded pebble of white quartzite (60g) (*ibid.*). A.III Ext.3. 19/25.
- Light brownish-grey elongated pebble of quartzite (104g) (*ibid.*). U/S. 13/10.

Site C produced a further five burnishing pebbles in shale and chert. Two have no provenance and the other three come from Test Pits 22, 36 and 38 dug into the early-mid 3rd-century part of the site. Is the absence of 4th century burnishing tools significant? It is possible that many of the burnishing pebbles from Site C were not recognised for what they were and discarded.

#### Forming templates (Fig. 17)

The following possible example came from Trench A.XIII.2 and may have been used to scrape surplus clay from the inner surfaces of cooking-pots.

16. Convex-edged flake of fossiliferous white Purbeck burr stone with rounded working edge. 29/8.

#### Pot spacers (Fig. 18)

Only five recognisable examples of pottery spacers came from Site A. This is at first sight a very small number, but it is quite likely that sand was normally used to separate pots in a clamp load and prevent them sticking together and distorting during firing.

17. Clay spacer in Fabric C.1 fired patchy grey-white with iron-staining. A.XIII.6.
18. Clay spacer in sand-free buff-fired clay. A.XIII.4.
19. Clay spacer in oxidised Fabric C.2 with deep finger impressions. A.XIV.5.
20. Pot spacer or counter cut from jar in oxidised Fabric C.2/3. A.XIX.3.

### Miscellaneous finds

#### Copper-alloy objects (Fig. 18)

Only one copper-alloy item was found:

21. Copper-alloy terminal with backing-plate. Graham Webster writes:

‘This is a round convex bronze (*sic*) terminal from a leather strap, a small piece of dried leather from which was found inside. It is unusual in having a back-plate still attached. There is a small collar at the top for a rivet and part of a hook or eyelet at the base for the attachment of a pendant. A similar example has been found at Verulamium (Frere 1972, fig. 33.57) in a dated context of AD 155–160, but mounted upside down in the report. Some belt mounts which would have matched with such a terminal have also been found at Verulamium (Wheeler and Wheeler 1936, pl. LXIII A). A.VI.1.

It has since been noticed that there are traces of a two-line inscription on the reverse of the backing-plate. Mark Hassall was unable to interpret this heavily corroded inscription and its meaning remains uncertain.

#### Iron objects (Fig. 18)

- Fourteen fragments of corroded iron sheeting. A.VIII.4.
- 22. Fragment from iron cleaver of Manning Type IIB (1976, 37). It was either used for cutting brushwood or wedging clay: the find spot on the edge of the Phase 2 firing structure suggests that the 1st function is more likely. A.III.4.
- 22. Large-headed nail with point broken off. A.XIV.4.

#### Stone objects (Fig. 18)

24. A roughly circular piece of heathstone, with a constructed central hole (510g). Probably derived from the local Bagshot Beds (Williams 1998). A loom weight or net sinker but see below. A.XVIII.3. 0.70m from south face of trench and 2.0m from south-west corner on surface of brown sandy layer. 10/17.
- A segment of upper stone from a large rotary quernstone, roughly 45% present (4,925g). Diameter: *c.* 510mm; thickness at edge 54mm. ‘The stone is a fairly fine-grained glauconitic sandstone from the Lower Greensand. A previous examination by F.G. Dimes, Geological Museum, suggested that it probably derives from the Hythe Beds of the Lower Greensand. He added that it may have come from

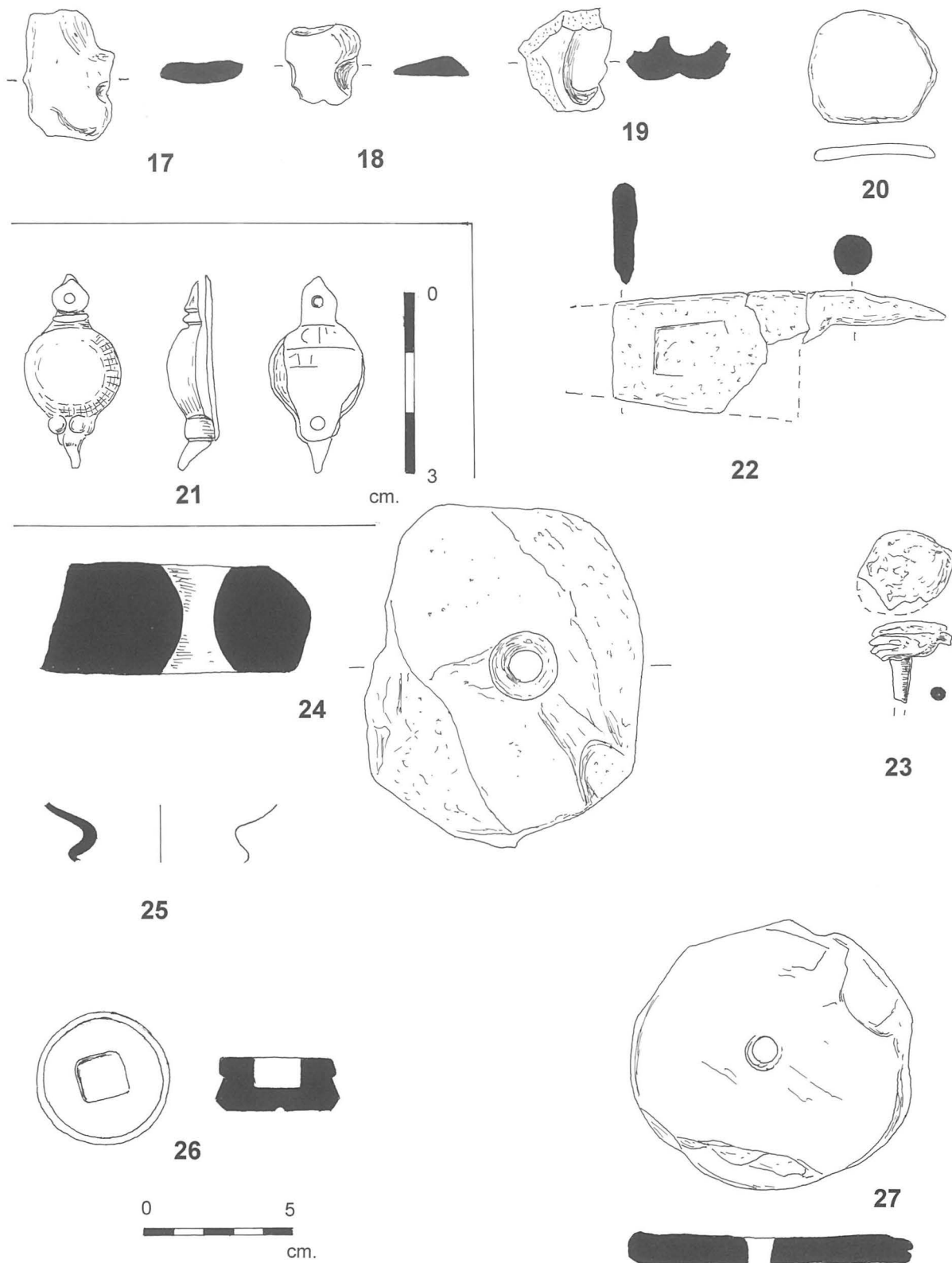


Figure 18: Pot spacers, miscellaneous small finds and shale lathe cores

an outcrop of the Hythe Beds which occur in Sussex, rather than the Kentish Rag of the Maidstone area. However, a close study of the stone by the writer shows that it is not, for example, the distinctive cherty glauconitic sandstone quarried at Lodsworth, West Sussex, which was utilised for quernstones during the prehistoric and Roman periods and whose products had a wide distri-

bution (Peacock 1987). Another source in Sussex, or perhaps further east into Surrey and Kent, is probably to be anticipated' (Williams 1998). A.III.Ext.4. 34/1.

These two fragments may be connected with pottery manufacture. Rotary quern fragments are frequently found on pottery production sites and have been

store until the current study was undertaken. This report only deals with the larger hand-picked pieces of charcoal, which were bagged separately from the bulk soil samples. Charcoal fragments in the soil samples are likely to be more comminuted but could, potentially, provide important data; these still require processing and sorting.

A total of 23 samples of hand-picked material from 5 context groups were examined. The results indicate that a range of woods and possibly peat or turf were used to fire the kilns.

#### Materials and methods

The samples mostly included large chunks of charcoal up to 30mm in length and sometimes as wide as 10mm, although some fragments were considerably smaller. Several samples included lumps composed of plant fragments embedded in a matrix of other materials; these were consistently poorly preserved and sometimes cindery in appearance.

The charcoal was prepared for examination using standard methods. The fragments from each sample were fractured to expose fresh transverse surfaces and sorted into groups based on the anatomical features observed using a  $\times 20$  hand lens. Representative fragments from each group were selected for further examination under high magnification. Freshly fractured surfaces were prepared in the transverse, tangential and radial planes. The fragments were supported in sand and examined using a Nikon Labophot incident-light microscope at magnifications of up to  $\times 400$ . The anatomical structure was matched to reference material. The composite lumps of material were prepared and examined in a similar manner.

Where possible the maturity (i.e. sapwood/heartwood) of the wood was assessed and the number of growth rings recorded. It should be noted that the measurements of stem diameters are from charred material; when living, these stems may have been up to 40% wider.

#### Results

The results are summarised in Table 7. The anatomical structure of the charcoal was consistent with the taxa (or groups of taxa) given below. It is not usually possible to identify to species level. The anatomical similarity of some related species and/or genera makes it difficult to distinguish between them with any certainty, e.g. members of the Pomoideae, Leguminosae and Salicaceae. Classification is according to *Flora Europaea* (Tutin *et al.* 1964–80).

Betulaceae: *Alnus* sp., alder; *Betula* sp., birch

Ericaceae: *Calluna vulgaris* (L.) Hull, ling and/or *Erica* sp., heather. These genera cannot be separated using anatomical features.

Fagaceae: *Quercus* sp., oak

Leguminosae: *Ulex* sp., gorse and/or *Cytisus* sp., broom. These genera are anatomically similar.

Rosaceae Prunoideae: *Prunus* spp., which includes *P. avium*, wild cherry; *P. padus*, bird cherry; *P. spinosa*, blackthorn. Although it can be difficult or impossible to differentiate between these species, the charcoal from Redcliff was anatomically more characteristic of *P. spinosa*.

Salicaceae: *Salix* sp., willow and/or *Populus* sp., poplar. These genera are anatomically similar

#### Orange fired base of 1st century clamp

Fuel deposits from the clamp (layers 4 and 5) were composed of oak (*Quercus*) heartwood, narrow stems of gorse/broom (*Ulex/Cytisus*), twiggy pieces of willow (or poplar) (*Salix/Populus*) and heather (Ericaceae). In addition, aggregate lumps of very cinder-like material included randomly aligned fragments of herbaceous plant material, e.g. narrow stems and pieces of epidermal tissue. These were poorly preserved and impossible to identify. Other substances were also included and some pieces presented a slightly 'bubbly' appearance. While it was not possible to identify the origin of this material with certainty, the constituent elements and morphology were consistent with those of turf or possibly peat. It is possible, although probably unlikely given its frequency throughout the contexts, that this material is the product of miscellaneous fragmented materials used as fuel (or a damping medium) that became compacted/compressed. Sample ref. 15/4 also included a large piece of charred material probably from a herbaceous plant. This appeared to be a fleshy root (diameter 10mm) with small epidermal warts.

#### Orange and black earth from raked back clamp superstructure

Three samples were examined from this slightly later structure (AD 120). These indicated the use of *Prunus*, probably blackthorn, and willow (or poplar) (*Salix/Populus*). Sample ref. 30/8 included a lump of very cindery material which was too degraded and poorly preserved to identify; plant structures were not observed but a possible origin similar to the peaty material described above could not be ruled out.

#### General black waste dump over features

Six samples from layers 3 and 4 (see Table 7) produced a fairly wide range of woody species including oak (*Quercus*) roundwood and sapwood; alder (*Alnus*) roundwood (e.g. diameter 15mm, 7 growth rings); birch (*Betula*); willow (or poplar) (Salicaceae) probably up to 30mm in diameter; heather (stem diameter about 5mm); and narrow blackthorn (*P. spinosa*) stem (diameter 5mm). Samples ref. 7/25 and 7/27 included three relatively wide pieces of oak; these measured up to 30mm in radial cross-section, but in each instance the inner and outermost regions were missing. A minimum (charred) diameter of about 70mm was estimated. The widest piece included 20 growth rings with an average rate of growth; heartwood had not developed. This would imply the use of cord-wood or young poles/trunks. There was no evidence of the 'peaty' residues in these samples.

**Table 7:** Hand-picked carbonised fuel residues

| Area  | Layer      | Ref   | <i>Alnus</i> | <i>Betula</i> | Ericaceae | Leguminosae | <i>Prunus</i> | <i>Quercus</i> | Salicaceae | Agg |
|---|------------|-------|--------------|---------------|-----------|-------------|---------------|----------------|------------|-----|
| Orange fired base of 1st century clamp                      |            |       |              |               |           |             |               |                |            |     |
| A VIII  | L4         | 15/2  | –            | –             | –         | 1r          | –             | –              | –          | –   |
| A VIII  | L4         | 15/3  | –            | –             | –         | –           | –             | 2h             | –          | X   |
| A VIII  | L4         | 15/4* | –            | –             | –         | –           | –             | –              | –          | X   |
| A VIII  | L5         | 30/10 | –            | –             | –         | –           | –             | –              | 5r         | –   |
| A XIV   | L5         | 7/23  | –            | –             | 1r        | –           | –             | –              | –          | X   |
| Orange and black earth from raked back clamp superstructure |            |       |              |               |           |             |               |                |            |     |
| A III   | L4         | 30/3  | –            | –             | –         | –           | –             | –              | 2          | –   |
| A V   | L4         | 30/8  | –            | –             | –         | –           | –             | –              | –          | ?X  |
| A XIII  | L4         | 30/9  | –            | –             | –         | –           | 4             | –              | –          | –   |
| General black waste dump over features                      |            |       |              |               |           |             |               |                |            |     |
| A III   | L3         | 30/11 | –            | –             | –         | –           | –             | –              | 1          | –   |
| A IV  | L4         | 30/12 | –            | –             | 3r        | –           | –             | –              | –          | –   |
| A VII   | L3         | 15/1  | 10r          | –             | –         | –           | 1r            | 27rs           | 6r         | –   |
| A VIII  | L3         | 15/5  | ?1           | 7             | –         | –           | –             | 5rs            | –          | –   |
| A X111  | L3         | 7/27  | –            | –             | –         | –           | –             | 2s             | –          | –   |
| A XIV   | L3         | 7/25  | –            | –             | –         | –           | –             | 1s             | –          | –   |
| Pot gully (AD 180–220)                                      |            |       |              |               |           |             |               |                |            |     |
| A IV  | gully      | 30/2  | –            | –             | –         | –           | –             | –              | –          | X   |
| A IV  | gully      | 30/7  | –            | –             | –         | –           | –             | –              | –          | X   |
| A IV  | L3, gully  | 30/5  | –            | –             | –         | –           | –             | –              | –          | X   |
| A IV  | L3, gully  | 30/6  | –            | –             | –         | –           | –             | 4sh            | –          | ?X  |
| A XVI   | L5         | 14/11 | –            | –             | –         | –           | –             | 2r             | 1          | –   |
|   | gully fill |       |              |               |           |             |               |                |            |     |
| Miscellaneous features                                      |            |       |              |               |           |             |               |                |            |     |
| A XVII  | L6         | 14/21 | 26           | –             | –         | –           | –             | –              | –          | –   |
| A XVII  | L8         | 14/7  | 2            | –             | –         | –           | –             | –              | –          | X   |
| A XVII  | L8         | 14/10 | 2            | –             | –         | –           | –             | –              | –          | –   |
| A XVII  | L9         | 14/22 | –            | –             | 1         | –           | 1             | 1r             | –          | –   |

\*This sample also included a fragment from a fleshy herbaceous plant, probably root, approx. 10mm in diameter (when charred). Key: Agg: aggregated material; r: roundwood (diameter <20mm); s: sapwood; h: heartwood X = present

#### *Pot gully (AD 180–220)*

Charcoal was sparse from the pot gully. Four of the five samples (see Table 7) included poorly preserved aggregated material; some probably included very degraded plant fragments and, in general, the material bore a resemblance to the ‘peaty’ material described above. Sample ref. 14/11 included oak (*Quercus*) roundwood and willow (or poplar) (*Salix/Populus*). Oak sapwood and heartwood was present in sample 30/6.

#### *Miscellaneous features*

Charcoal from three samples from layers 6 and 8, which underlay features probably pre-dating the 2nd century, mainly consisted of alder (*Alnus*). Sample ref. 14/7 (L 8) also included some ‘peaty’ material. Sample ref. 14/22, Layer 9, from beneath layer 8, consisted of oak (*Quercus*) roundwood, blackthorn (*P. spinosa*) and heather (Ericaceae).

#### **Discussion**

Fuel residues from the kilns relate to contexts from the 1st, 2nd and 3rd centuries. The pottery may have operated sporadically or on a more continuous basis throughout this time; its continued existence suggests that the raw materials (clay, water and fuel) were sufficiently plentiful.

The character of the fuel examined is roughly similar from each phase, and is composed of a mixture of wood and probably peat or turf. The following taxa were identified: alder (*Alnus*), birch (*Betula*), gorse/broom (*Ulex/Cytisus*), blackthorn (*P. spinosa*), oak (*Quercus*), willow/poplar (*Salix/Populus*), and heather (Ericaceae). With the exception of some oak, most of the wood fuel consisted of narrow roundwood, with a high proportion measuring less than 20mm in diameter. There was no evidence, however, to suggest the use of coppiced wood. Large fragments of oak from the black waste dump

proved to be from cord wood and/or poles/narrow trunks which probably measured at least 100mm in diameter when living. Oak heartwood from the 1st century clamp and the pot gully (AD 180–220) endorse the use of billets of wood during these phases.

Interestingly, birch and, in particular, alder were recorded from the black waste dump and the layers from the miscellaneous features but not, as yet, from the clamp structures. Any interpretation, however, based on the identification of the hand-picked pieces of charcoal, must be somewhat tentative since relatively little material was examined from each phase/context. Data from charcoal in the unprocessed bulk soil samples could provide additional evidence.

### Fuel woods

Although a fairly wide range of woods was identified (alder, birch, heather, gorse/broom, blackthorn, oak, and willow/poplar), this largely consisted of fairly narrow roundwood. There was no evidence of woodland management, which implies that fuel was gathered from 'the wild' and almost certainly gathered locally. Heather, birch, gorse/broom and oak are typical of heathland and acidic soils. Boggy/damp patches or banks of streams and rivers within such an environment would provide suitable niches for willow and alder. Poplar is probably less likely to have grown in this environment.

The use of small roundwood may imply the depletion of local resources (perhaps in response to prolonged use of the site) but it does have the advantage of producing a hot fire (Ian Freestone, pers. comm.), and this type of fuel may, therefore, have been selected particularly for this purpose. Gorse and heather burn fiercely with great heat and have traditionally provided fuel for ovens and kilns (Edlin 1949; Mabey 1996); birch also produces an intense although rather short-lived heat (Porter 1990). The dense woods of blackthorn and oak provide high energy fuels and the use of thick billets of oak would have provided a longer-lasting fuel. Alder and willow are slow-burning.

### Peat and turf

Many samples included aggregated lumps of material that contained small fragments of plant tissue. These were frequently highly carbonised and difficult to examine. Narrow stems from herbaceous plants and epidermal tissues were embedded in a matrix of unidentified material. While it was not possible to identify this material, it seems plausible that it may have derived from peat or turves used as fuel.

### Conclusions

The charred fuel deposits from the pottery kilns include wood fuel from characteristic heathland taxa such as heather, gorse (and/or broom), birch, oak and blackthorn, as well as alder and willow (or poplar,

although this is less likely). The fuel comprised mainly small roundwood although larger billets of oak were also used. The frequency of aggregated lumps of charred material, which include herbaceous plant tissues, suggest the combined use of peat/turves and wood, which evidently produced an effective and long-lasting heat-source.

## Charred Plant Remains

*Joy Ede*

Four samples were selected for analysis for carbonised plant remains (other than charcoal which is reported separately). Samples were processed by Wessex Archaeology. The flots and residues were sorted and items identified by the author using magnification up to  $\times 100$ . Where flots or residues were large they were subsampled, as resources did not permit total extraction. As the samples varied in size all totals were calculated to represent the equivalent for a sample size of one litre (Table 8). Terminology follows Clapham *et al.* (1981).

### Late 1st/early 2nd century AD

One sample from this phase (sample XIV 5 7/21) was from a burnt clamp base. All the items from the flot and the 2mm residue were extracted and identified but just one eighth of the residue fraction less than 2mm was sorted and identified, the resulting figures then multiplied by 8 to bring them up to the equivalent of the other parts analysed (Table 8).

This half-litre sample contained a grain of wheat and six cereal grains too badly preserved to be identified more fully. There was a lot of wheat chaff, mainly glume bases, with some other cereal chaff including broken oat awns and some barley chaff. Most of the chaff was extracted from the residue and not from the flot. The 'weed' species represented in the assemblage included almost 60% from the grass family and the bistort/dock family. Almost all the remainder was too badly preserved to be identified. Other species represented were from the fat hen family (Chenopodiaceae), scentless mayweed (*Tripleurospermum inodorum*) and probably spike-rush (cf. *Eleocharis* sp.). There were also small carbonised leaves which have been identified as a heather (Ericaceae) and a bud which is also probably from a heather.

### Mid 2nd century clamp

One sample (sample V 4 25/3) from the rake-back of the burnt superstructure contained both burnt and unburnt soil, indicating a mixed deposit consisting of both burnt kiln superstructure and sandy soil from the area immediately surrounding the kiln. The carbonised remains can be assumed to come from the superstructure rather than the unburnt soil.

This half litre sample contained just two cereal grains which were too badly preserved to be identified further. There was some wheat chaff, mainly glume

**Table 8:** Charred seeds

| Sample                                     |                      | III/3 24/2 | IV 25/8 | V/4 25/3 | XIV/57/21 |
|--|----------------------|------------|---------|----------|-----------|
| Scientific name                            | Common name          |            |         |          |           |
| <i>Triticum</i> sp.                        | wheat grain          | 40         | 1       | –        | 2         |
|  | glume base           | 1984       | 204     | 114      | 1236      |
|  | spikelet fork        | 80         | 3       | 4        | 30        |
| <i>Hordeum</i> sp.                         | barley grain         | 16         | –       | –        | –         |
|  | chaff                | 8          | 2       | –        | 10        |
| <i>Avena fatua/ludoviciana</i>             | wild oat chaff       | 8          | –       | –        | –         |
| <i>Avena</i> sp.                           | oats grain           | 32         | –       | –        | –         |
|  | awn fragment         | 32+        | 1+      | 2+       | 20+       |
| Cereal indet.                              | grain                | 72         | 4       | 4        | 6         |
|  | fragments            | ++         | +       | +        | +         |
|  | chaff                | +          | +       | +        | +         |
|  | TOTAL GRAIN          | 160        | 4       | 4        | 8         |
|  | TOTAL CHAFF          | 2080       | 208     | 118      | 1276      |
| <i>Ranunculus</i> sp.                      | buttercup            | –          | 1       | –        | –         |
| Chenopodiaceae                             | fat hen/orache etc.  | –          | 1       | –        | 4         |
| Cf. Leguminosae                            | legumes              | 8          | –       | –        | –         |
| <i>Polygonum</i> cf. <i>aviculare</i> agg. | Knotgrass            | 8          | –       | –        | 2 + cf2   |
| <i>Polygonum</i> sp.                       | bistort/persicaria   | –          | –       | –        | 6         |
| <i>Rumex acetosella</i>                    | sheep's sorrel       | 8          | 3       | –        | 4         |
| <i>Rumex</i> sp.                           | dock                 | 32         | 2       | –        | 2         |
| Polygonaceae                               | docks etc. indet.    | 24         | 1       | –        | 8         |
| <i>Galium aparine</i>                      | cleavers             | 8          | –       | –        | –         |
| <i>Tripleurospermum inodorum</i>           | scentless mayweed    | –          | –       | –        | 2         |
| Compositae                                 | daisy family         | 8          | –       | –        | –         |
| <i>Plantago lanceolata</i>                 | ribwort plantain     | 8          | –       | –        | –         |
| Cf. <i>Eleocharis</i> sp.                  | cf. spike-rush       | –          | –       | –        | 2         |
| Cyperaceae                                 | sedge/rush etc.      | 16         | –       | –        | –         |
| Cf. <i>Bromus</i> sp.                      | cf. brome grass      | 8          | –       | 2        | –         |
| Gramineae                                  | grasses small seeded | 80         | –       | 2        | 4         |
|  | medium seeded        | 64         | 4       | 6        | 44        |
|  | chaff                | 8          | –       | –        | –         |
| Unidentified seeds                         |                      | 40         | 3       | 4        | 42        |
|  | TOTAL SEEDS          | 312        | 14      | 14       | 122       |
| Ericaceae                                  | heather leaves       | ++         | +       | +        | +         |
|  | cf. buds             | 24         | 1       | –        | 2         |
| <i>Corylus avellana</i>                    | nut shell frag       | 8          | –       | –        | –         |
| Indet.                                     | Thorn                | –          | –       | 2        | –         |

NOTE: Due to variation in sample size, numbers of charred elements for each sample are re-calculated to represent constant sample size of one litre (actual numbers are presented in archive).

bases, an oat awn fragment and some other miscellaneous fragments of chaff which was also probably all wheat. The only identified 'weed' seeds were of grasses, with two unidentified seeds. Carbonised heather leaves were found in this sample.

Another sample from this phase (III 3 24/2) came from a layer of burnt waste that lay over the kiln features. This did not appear to contain burnt soil but contained many burnt plant remains. It had the highest density of carbonised plant remains (other than charcoal) per litre of the four samples analysed.

This was a one litre sample with a large flot which was sub-sampled. Carbonised items were extracted and identified from one-sixteenth and from a second one-sixteenth sub-sample. These did not vary appreciably in

their composition so the results were combined and multiplied by eight to provide the numbers expected from the complete sample. There were no carbonised seeds from the residue.

There were more cereal grains in this than in any other sample. These grains were composed of wheat, oats and probably barley as well with a high proportion (just less than half) unidentified, other than being cereal. There was a lot of wheat chaff with a little barley and oat chaff also present. Almost three-quarters of the 'weed' seeds were of the grass and bistort/dock family with a probable leguminous plant, cleavers, plantain and a sedge/rush type plant represented. Carbonised heather leaves and buds were also present.

### Late 2nd century–early 3rd century ‘pot gully’

One sample (IV 25/8) came from this phase and was from a deposit which may have contained an element of waterlain sediment, as it functioned as a drainage channel for the pot clamp.

This two litre sample contained few cereal grains — one wheat grain and seven other cereal grains unidentified further. There was a lot of wheat chaff and some barley chaff with two fragments of oat awn. Three-quarters of the ‘weed’ seeds were either from the medium to large-seeded species of the grass family or the bistort/dock family, with most of the rest unidentified but including a buttercup seed and a seed from the fat hen family. Carbonised heather leaves were present.

### Discussion

These four samples span two centuries of activity, from the 1st to the 3rd century AD. The carbonised remains in the samples apparently directly relate to the use of pottery clamp kilns. The most likely explanation for their presence is that most, if not all, these carbonised remains represent the results of burning material as fuel. However, an element may result from food preparation.

In all samples most of the carbonised plant material other than charcoal was wheat chaff. Most of the chaff was badly preserved, with just the small denser parts of the glume bases present. Some of the larger pieces could be identified as spelt wheat (*Triticum spelta*) chaff and there were no definite elements of emmer wheat (*T. dicoccum*) chaff. Spelt wheat is the most common wheat found on sites dating from the Romano-British period. These glume wheats are processed to remove the tough covering of glumes from around the grains before being considered fit for human consumption and it is this relatively late stage of processing that is represented by the chaff in these samples (there is an absence of straw and other items related to earlier phases of processing). Such crop processing waste has been recorded as being used for several purposes but particularly either for fodder or thrown onto fires (Hillman 1984, stages 12 and 13). It seems possible here that this material was used as kindling for these kilns, or had some other specific purpose in the firing of the pottery, suggested by its small size and relative abundance. The chaff would burn quickly with a hot heat, as would the heather found in these samples. These elements, and the heather and gorse found in the charcoal, may represent a process of the firing technology as yet not understood but dependent on a fast hot heat. The presence of wheat chaff indicates that crop processing may have taken place not too far away.

Most of the samples contained a very small amount of cereal grain, probably accidentally incorporated into the crop processing debris (chaff). The weed seeds could have originated with this crop processing debris too, or with the collected wood, or as an element of turf used as

fuel. This latter is suggested by the charcoal analysis. A large proportion of the plants represented by these weed seeds are grasses which accords with the idea of turf gathering but grass is also an expected weedy element of arable fields.

One sample contained a higher proportion of cereal grain (III/3 24/2). This sample represented a layer of burnt waste spread over features. It is possible that the cereal grain originated from a different source to that of the crop processing waste. The grain may represent an element of clean grain accidentally charred in storage or in food preparation, for instance.

As with the charcoal analysis there are elements of acidic soils indicated (*Rumex acetosella*, sheep’s sorrel, and Ericaceae, heather) and possibly damper soils, indicated by the Cyperaceae seeds. Both environments are locally present today and similar conditions would have applied in the Romano-British period too.

The presence of such large quantities of chaff in all samples taken in the context of a specialised pottery production centre at this time may indicate an organised system of crop processing and collection of the waste from these processes. The crop processing could have occurred on individual farms with waste collection being part of a much larger system. Given a lack of any known specialised crop processing sites this is perhaps the most likely explanation at present. The fact that the sites of the Wytch Farm Oilfield showed a rather small presence of chaff (Carruthers 1991, 208) may also indicate some sort of organisation in cereal production and distribution in this area. The possibility that the cereal processing and distribution was organised places the pottery production site into a much larger landscape where not only the more ‘industrial’ processes such as pottery, salt and building stone production were highly organised but also the agriculture of the area. However any such theory cannot be corroborated or put onto any firm footing from just one site, or indeed four samples. It does, however, pose questions for further research.

### Soil Report

*Michael J. Allen*

The natural soils in the locality are mapped humo-ferric podzols of the Shirrell Heath 1 Association on the River Frome valley side, which are subject to gleying. Pelo-alluvial gley soils of the Midelney Association are mapped on the floodplain (Findlay *et al.* 1984). In the region as a whole, typical gley podzols of the Sollon 2 Association occur over Tertiary Sands. These sandy podzolic soils are characterised by very humic peaty A horizons, sandy mineral soils with a leached upper horizon (Ea) and a mineral enriched lower horizon (Eb and Eb(g)), often separated by an iron pan with mottling and localised gleying.

### Samples submitted to the AM Laboratory

A series of seven samples of soil and sediment from the excavations were submitted by Ray Farrar in 1975 to the Ancient Monuments Laboratory (AML samples 756011, and 756013–18), and through the offices of Dr Helen Keeley were reported upon by T.P. Taylor (AML Report June 1976). A further three soil samples and one charcoal sample were submitted in 1976 and for which, although we have no AML numbers, there seems to be a typescript from Taylor (unpub. MS May 1977).

Four other samples are recorded as being submitted in 1980 and 1981, and given AML numbers (801249, 801250, 801251 and 810701), but there is no record of any reports from these samples. The series of questions the excavator addressed of samples in general was:

- is the black colour burnt organic matter?
- whether the orange-red soil layer or coloured soils are burnt?
- i.e. has this surface or soil been subjected to repeated firings?
- Supplementary questions about the included burnt materials (grasses, leaves, turves, twig charcoal i.e. fuel etc.) are answered by the analysis of the charred plant remains and charcoals presented here (Ede and Gale respectively).

The soil samples submitted to the AML were described by J.P. Taylor of the Institute of Archaeology (AML Report, June 1976) who commented that the black colour of many of the layers (2, 3, 5 and 7) was mainly due to the presence of charcoal. Highly oxidised material in some layers suggested that it was burnt (layers 3, 4), and one layer (layer 6) showed evidence of reducing conditions (i.e. gleying) indicating local water-logging.

Taylor also supplied a typescript report in May 1977, but no record of what samples he examined survives. However, it seems to include layers 4 and 5, and possibly relates to the samples submitted to AML in 1976. He recorded that the large amounts of charcoal found above the burnt layer indicated the use of wood or peat as fuel (Taylor MS May 1997). Further, that the 'clay skin' described by the excavator was bright red (2.5YR 4/8) and, although could have been natural iron pan in the podzolic soils, after subjection to high temperatures in a muffle furnace failed to change its colour Taylor concluded that reddening was due to previous heating/burning. Finally, Taylor recorded that the alkali-soluble organic matter from layer 4 (no record) was 10.4mgs/g compared with 1.66mgs/g in layer 5, from which he concluded that its origin was largely highly organic peaty material. The presence of fine, indistinct and sporadic laminations in the sample indicated natural silt and clay being washed in between layers of organic material.

### Undisturbed soil block from pot gully (ditch 5)

A block of undisturbed soil (X [77/2]) was submitted for examination and description in June 1998. It comprised a block about 144mm × 97mm max. and up to 71mm deep, with a series of pottery sherds lying on the upper surface. Two clear horizons were noted; a burnt layer upon which the pottery sherds rested, and a lighter sandy layer beneath. The soils were described, the burnt soil carefully excavated and then processed by flotation. The surface of the underlying layer was exposed during this process and examined including close visual inspection under ×10–×30 magnification.

#### Descriptions

Burnt layer; gully fill: Very dark grey to black (7.5YR3/1 to 3/0) structureless sandy loam (no laminations noticed), with localised discrete patches of yellowish red (5YR 5/8 to 4/6) silty loam and fine sandy loam mainly small but to 4mm diameter, few small fine stones, many fragments of charcoal and charred items.

Natural layer: Reddish brown (5YR 5/4) coarse sandy loam, poor structure, rare fine roots, very rare small stones. This is a part of the B/C horizon of the sandy podzolic soils; i.e. the archaeological 'natural'. No reddening of the material was seen at the contact zone between this and the burnt layer. However, the sand grains would not necessarily indicate any oxidation or changes at relatively low temperatures (less than c. 800°C).

#### Interpretation

The burnt layer was largely mixed soil material containing a relatively large amount of charred plant remains and charcoal. Some evidence of burnt soil is present in the form of oxidised lumps. These, however, seem to be burnt soil fragments within the general burnt charcoal debris. There is no evidence that burning was *in situ* as the deposit was homogeneous/heterogeneous. Further, no evidence of any burning (reddening or oxidation) was noticed either on, or in, the underlying 'natural' coarse sandy loam.

The small reddened and oxidised patches were examined under a low power (×10–×60) stereobinocular microscope. The matrix (a fine silty loam) was reddened, but none of the coarse bleached sand grains were discoloured except for brown staining, which may be iron oxides. The reddened oxidised elements were finer-grained material, largely silt and non-quartz fine sand-size particles; probably constituents of the former soil. The surface of the coarse quartz sand grains did not seem to be altered, from which we can deduce that any burning in contact with the sand was at temperatures lower than that required to fuse and alter the sand (silica dioxide SiO<sub>2</sub>); i.e. c. 1400°C.

### Soil descriptions and comments on bulk samples

Soil descriptions were made on all disturbed dry soil samples prior to processing, to aid in the characterisa-

tion and interpretation of excavated contexts. No evidence of soil/sediment structure could be determined from the disturbed samples. Munsell soil colours were recorded moist to aid in the determination of burning and address specific questions asked of the samples by the post-excavation team. The descriptions of the samples are listed below and are followed by further interpretative comments by context group.

### **Interpretative comments**

The following interpretative comments attempt, where possible, to address the questions asked of the contexts, though it must be appreciated that description only provides some basic information.

#### *Orange fired base of 1st-century clamp*

Both samples showed reddening due to burning; some charcoal was also present. The pinkish nature of the burning is consistent with moderate temperatures (possibly higher than, or about, bonfire burning), and is consistent with contexts associated with the fired base of a kiln.

#### *Fired clamp floor*

Reddening of the soil (almost pink) indicates burning at probably moderate to high temperatures, again consistent with direct contact with heat on a fired clamp floor.

#### *Orange and black earth from raked back clamp superstructure*

Both samples from this were highly mixed soil deposits containing charcoal, reddened burnt soil and some natural unburnt soil with iron panning. This is consistent with the mixing of natural sandy podzolic soils with some surface burning.

#### *General black waste dump*

Samples from these contexts, thought to consist of burnt peat and other fuels from clamps, were variable. In general there was little or no evidence of burnt soil, but the deposits were inherently organic and some of this matter may have been burnt or heated. Charcoal content (by visual inspection) was very variable. Description does not provide proof for the use of heathland turves or peat as a fuel, but the organic nature of the deposit is not inconsistent with that suggestion. Evidence should be sought either from charred plant remains and charcoals or from further description of undisturbed samples of the contexts which may retain some pedological structure.

#### *Pot gully (AD 180–220)*

Some soil reddening from both burning and natural iron from the podzols is noted, together with varying quantities of comminuted charcoal, but see above.

#### *Miscellaneous features*

A variety of samples from modern topsoil to other deposits were described. Typically these are variable, but the modern topsoil indicates the presence of typi-

cally organic layers associated with podzolic soils. Such horizons might provide a suitable limited fuel for potters, but similarly might be mistaken for burnt peat.

### **Soil descriptions from disturbed bulk samples**

#### *Orange fired base of 1st-century clamp*

A XIV, layer 5 (1982)[7/21] 5YR 5/3 reddish brown sandy loam with mottles/inclusions of 5YR 6/6 reddish-yellow — burning. This indicates burning of the soil at moderate (higher than bonfire) temperatures

A XIV, red floor (1982)[20/5] 5 YR 5/3 reddish brown sandy loam. Burnt soil.

#### *Fired clamp floor (AD 120)*

A III, layer 6 (1977) [25/4] 10 YR 5/4 yellowish brown and 10YR 3/1 very dark grey sandy loam, some charcoal but no signs of burnt or reddened soil

A III, brick red layer [25/5] 5YR 5/3 reddish brown sandy loam with mottles/inclusions of 5YR 6/6 reddish-yellow — burning. This indicates burning of the soil at moderate (higher than bonfire) temperatures

#### *A XVIII, brick red floor*

(1982) [20/3] 5YR 6/4 light reddish-brown fine sandy loam. Burnt soil material. Probably relatively high temperatures, consistent with burnt floor

#### *Orange and black earth from raked back clamp superstructure*

A III layer 4 (1977) [25/1] mixed soil 5YR 5/4 brown and 5YR 6/6 reddish yellow sandy loam reddening is probably, but not conclusively, due to burning — reddening here may be iron.

A V, layer 4 (1978) [25/3] mixed soil and medium to coarse sand with charcoal inclusions (too mixed to assign Munsell colours)

#### *General black waste dump*

A III, layer 3 (1977) [24/2] 10YR 3/1 to 10YR 2/1 very dark grey to black sandy loam. No visual evidence of peat but very humic and contains charcoal

A III, layer 3 (1977) [25/6] 10YR 4/2 dark greyish brown sandy silt loam, few stones. No evidence of any burning (reddening or blackening) and no obvious visual evidence of any peaty material

A VII, layer 3 [24/5] 10YR 4/2 dark greyish-brown sandy silt loam, few stones. No evidence of any burning (reddening or blackening) and no obvious visual evidence of any peaty material

#### *Pot gully (AD 180–220)*

A IV, gully fill (1977) [25/8] 10 YR 5/6 yellowish-brown sandy silt with charcoal and reddened (looks like iron staining not burnt) soil inclusions

A VI, gully (1978) [24/7a] 10 YR 5/6 yellowish-brown sandy silt with charcoal and reddened (burning and iron staining) soil inclusions

A VI, gully (1978) [24/7b] 10 YR 5/6 yellowish-brown sandy silt with charcoal and reddened (burning and iron staining) soil inclusions

*Miscellaneous features*

A, layer 1 (1977) [25/2] 10 YR 4/3 brown coarse sandy loam, humic soil — topsoil

A III, layer 1 (1977) [25/7] 10 YR 4/3 brown coarse sandy loam, humic soil — topsoil

A III, layer 2 (1977) [24/3] 10 YR 4/3 brown coarse sandy loam, humic soil — topsoil

A III, layer 7 (1977) [24/4] 5YR 5/3 reddish-brown fine sandy loam, some limited burnt soil fragments in soil — not chocolate brown and black soil as in archive descriptions

A XIII, layer 7 (1982) [7/16] 5 YR 3/1 very dark grey sandy loam, humic soil, few stones no evidence of reddening due to burning

A XIII, layer 7 (1982) [20/6] 5YR 3/2 dark reddish brown sandy loam, humic soil, few stones no evidence of reddening due to burning

A XV, layer 5 (1983) [9/7] 5YR 5/3 reddish-brown sandy loam with mottles/inclusions of 5YR 6/6 reddish yellow — burning. This indicates some burning of the soil at moderate (higher than bonfire) temperatures

Soil descriptions (Munsell soil colours recorded moist).

**Discussion on the soils and sediments**

Many of the soil samples recovered from the excavations and subjected to basic examination and description indicate evidence of burning. None of the material examined indicates burning at very high temperatures. Only the soil surface to a few millimetres in depth would actually be exposed directly to the heat; all other areas would be indirectly subjected to heating and thus the soils examined would reflect lower temperatures than might have existed during firing.

Burning is indicated by the oxidation (reddening) of soil material, which is usually noted within disturbed soil samples and has generally given the soil material its reddened hue. In the undisturbed soil sample from the pot gully (ditch 5) evidence of burning was present as burnt relict soil fragments; inclusions in the layer indicating that burning here was not *in situ*. Elsewhere it is possible that some of the reddening of a 'clay skin' noticed by Farrar may not be due to burning, but to mobilisation of iron in these podzolic soils and formation of an iron neoformed features (i.e. proto iron pan). Where Taylor examined this, however, burning was evident.

*In situ* burning is likely to create localised oxidation (reddening) of the soil surface to very limited depths; only in the centre of the kiln is reduction (blackening) of the soil ever likely. Even here, on exposure to air and oxygen, often these become reddened (oxidised) on cooling. The record of any *in situ* burning may, however, be confused due to the presence of localised groundwater gleying and iron pan formation.

The black colouration in many of the soil samples processed was undoubtedly due to the inclusions of charcoal and charred elements. However, Taylor's

analysis of ?layer 4 from 1976 samples certainly indicates the presence of organic matter, such as peat or possibly turves. This is, in part, also intimated from the analysis of the included charred remains.

**Palaeo-environmental discussion/summary**

*Michael J. Allen*

**Firing of the kiln**

There is no doubt that much of the intrinsic and extrinsic features of the soil material described are a result of burning.

**Effects of firing on the local soils**

The soils were subject to local ground-water gleying (pseudo-gleys), perhaps exacerbated in some of the features by the archaeological activities. This has resulted in the local mobilisation of iron, but also in the olive-green colours produced in some of the samples described by Taylor. Some of the humic peaty topsoils within the vicinity, and certainly on the floodplain are also gleyed (pelo-alluvial gley soils and typical gleyed podzols)

**Kiln fuel**

The included charcoals indicate the use of stout timber, largely selected from the local damp environment (river floodplain etc.). There is evidence of billets of wood, and a range of timber from smaller branches, poles and narrow trunks to larger wood pieces.

Both the charcoal and charred seeds indicate the presence of heath species and of the possible burning of peat or turves; whether as fuel or as a part of the burnt clamp structure cannot be determined. However, the presence of humo-ferric soils, which provide a very humic, peaty topsoil, is likely to be the origin of this material. This does not burn very well, nor at high temperatures; it may have been a structural element of the kiln clamp aiding in the retention of heat and exclusion of air (oxygen) to facilitate the production of reduced, blackened vessel, i.e. Black Burnished wares.

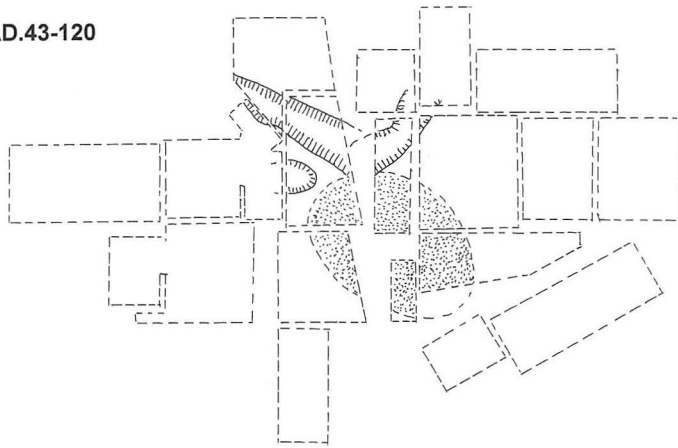
**Petrological examination of Romano-British Black-Burnished Ware Pottery and Clay**

*D.F. Williams*

**Introduction**

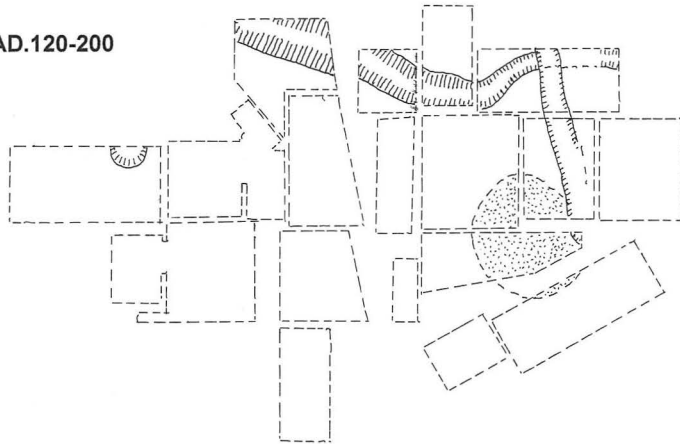
A fabric examination was undertaken on several 'waster' sherds of black-burnished ware (BB1) from the pottery production site from the 1975–1983 excavations at Redcliff, south-east of Wareham. Thin sections were made of all of the sherds and studied under the petrological microscope: the intention being to see how much variation in fabric, if any, there may be between three groups of sherds previously separated by eye. In addition, a heavy mineral separation was performed on two

SITE A. PHASE 1 AD.43-120



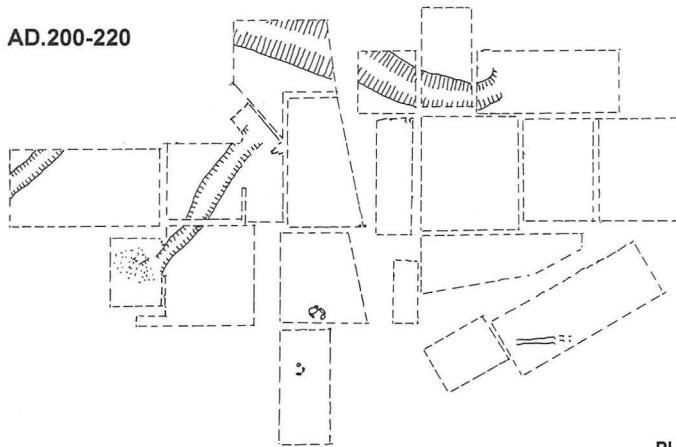
A

SITE A. PHASE 2 AD.120-200



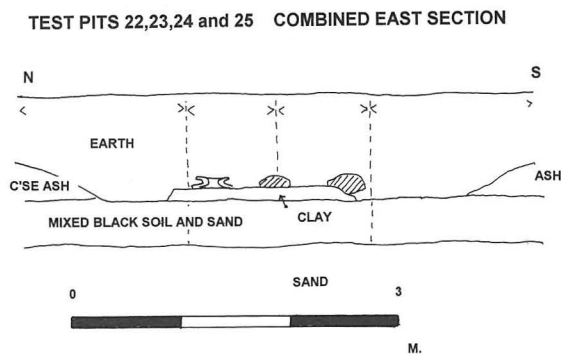
B

SITE A. PHASE 3 AD.200-220

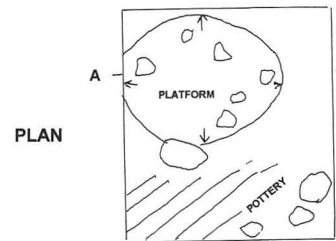


C

D



TEST PIT 49



E

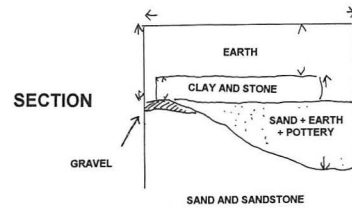


Figure 20: A. Site A, Phase 1 plan; B. Phase 2 plan; C. Phase 3 plan; D. Site C, north-south section in east side of combined Test Pits 22, 23, 24 and 25 trench; E. Plan of Test Pit 49 and east-west section through 'platform'

throughout the occupation of Site A. Trench XX seems to have been the main focus of such activity during Phase 1, where the remains of a large storage-jar in the south-west corner of the trench (Fig. 9.38) may be from a vessel potters used to store water, in order to keep the clay they were working with plastic (Figs 2 and 20A).

Two broken, but largely complete, lids from the north-west quadrant of the same trench (Fig. 8.35–6), laid on the natural ground surface a very short distance north of the smashed storage-jar, may have been used as turntables in the manufacture of convex-based 'war cemetery' bowls and other forms before the addition of footrings.

It has been suggested that the perforated piece of sandstone (Fig. 18.24), from the base of Context 3 (Phase 2) in Trench XVIII to the south-west of Trench XX, may have been the spindle seating for a turntable, constructed in a similar but cruder manner to a potters' wheel but incapable of fast rotation (pp.80–2).

### *Decorating*

The next stage in BB1 pottery manufacture was the application of linear and area burnished decoration when the pots had dried to being leather hard.

Four pointed flint nodules with gloss on their points from usage in linear burnishing, a schist whetstone converted to similar use and a pebble used for area-burnishing came from the Phase 1 waste in and around Ditch 1 in Trenches XIV and XX. These burnishers form a small concentration centred only a couple of metres south-east of the smashed water storage vessel and probably mark the spot where such activities were carried out during Phase 1 (Figs 2 and 20A).

One focus of Phase 2 burnishing activities lay in the north-western part of Trench XVIII, only two metres from and on the same horizon as the location of the possible turntable spindle mounting block referred to above. A cluster of three burnishing nodules came from the grey clayey fill of the shallow depression, Pit 1, against the north baulk of the trench (Figs 2 and 20B).

A second cluster of six burnishing nodules from the Phase 2 waste Context 3 in Trench XX indicates either that such activities continued in that area from Phase 1 or that the nodules are residual and derived from the earlier activity.

### *Pot drying*

Immediately to the south of the Phase 1 concentration of burnishing tools in Trenches XIV and XX was a slight oval hollow 0.20m deep and 1.00m wide on the west side of Trench XIV (Pit 2). We do not know the full length of the feature as its western end in Trench XIX was never surveyed in, although visible in section on the east side of that trench. The lower fill of Pit 2 consisted of dense black sooty soil: this and a cluster of fired clay fragments from its vicinity in Trench XIX suggest that

the feature may have originally held an oven for drying pots (Figs 2 and 20A).

The burning in the bottom of the Phase 2 Ditch 4 against the west baulk of Trench XX is close to the concentration of burnishing nodules from Context 3 and could conceivably have been caused by pot-drying fires: otherwise, there are no indications of Phase 2 pot-drying ovens.

The best pot-drying ovens are the two Phase 3 examples from Trenches I and XVII and are described above (p.52). The nature of their construction from loose limestone slabs and the indication that Oven 1 had been rebuilt at least once may explain the lack of definite evidence for Phase 2 drying ovens (Figs 2 and 20C).

### *The firing structures*

The firing technology used by the Durotrigian and later BB1 potters was clearly designed to produce soot-soaked or smudged black pottery, although large vessels such as storage-jars tend to be oxidised. We know from production sites at Redcliff and Worgret that these black, soot-soaked wares were first produced in clamps or clamp-like structures during the Late Iron Age through the 1st and early 2nd centuries and that this firing technology developed through semi-kiln firing structures in the late 2nd to early 3rd centuries into full-blown single-flued updraught kilns during the late 3rd and 4th centuries.

The appearance of the fabric was changed little, if at all, by this developing technology and it would appear likely that the reason for its adoption was to lower the percentage of pots rendered patchy in colour by both oxygen leaking into the firing structures and fuel coming in contact with pots.

We have already seen that there was a steady drop in the percentage of discoloured wasters at Site 1 from 92% by EVE in Phase 1, through 71% in Phase 2 to 67% in Phase 3. There was a corresponding increase in the use of finer BB1 fabric C.3 from 34% in Phase 1, through 80% in Phase 2 to 94% in Phase 3. All of this reflects increasing control over both firing temperatures and the atmospheres within firing structures.

There are two basic ways of producing black pottery: the first of these is to smudge or soot-soak the pots by smoking them and sealing the pores in the fabric with fine soot. This can be achieved in several ways, ranging from smoking the vessels before firing in a specially constructed smoke-house, as practiced by the 18th–19th century potters in Jutland (Peacock 1982, 18) to the more common method of covering pots with fine, loose manure, earth or tree bark when maximum temperatures had been reached during firings (Shepard 1954, 88).

The second method is simply to produce the blackening by carbonisation of the organic material naturally present in the potting clay. This carbon is normally burnt out of the pot when temperatures go above 700° centi-

grade, but, if there is not enough oxygen present in the firing structure, the carbon or some of it remains at higher temperatures (Willey 1986). Such conditions would prevail in a clamp constructed in the same manner as one used for charcoal burning; where charcoal has to be prevented from being converted into ash by oxygen.

There is some evidence, and particularly from the Phase 2 example, for the Site A firing structures being constructed in a similar manner to charcoal-burning clamps. The dump of reddish-black material (A.III.4, A.V.4, A.XIII.4 and A.XXI.4) heaped up around the west and south sides of the Phase 2 firing floor has been shown to consist of reddish-yellow sandy loam, medium to coarse sand and charcoal. This almost certainly derived from turves piled up over the pots and fuel in the centre of the firing structure and dumped to one side when the structure was emptied of its load. Examination of the carbonised plant remains from A.V.4 further supports this identification as it includes heather leaves and buds and grass seeds.

Carbonised spelt wheat chaff and grain were also present in this turf material but, as with wood charcoal, was far more common in the black earth overlying the bulk of the Phase 2 firing floor. It has been suggested that this chaff was used as kindling in the early stages of firing up the clamp but its fine texture would make it a good smudging agent if packed around the pots in the centre of the structure; then covered with stacked oak billets and branches together with smaller quantities of alder, birch, blackthorn and willow before being sealed in with stacked turves. The carbonisation of large quantities of chaff around the pots in an oxygen-starved atmosphere would be the equivalent of covering them in soot and make the burning out of carbon within the pot fabric virtually impossible under such circumstances.

Firings of this nature would generate charcoal as well as soot-soaked pots and it is probable that this material was sold off as fuel for clay ovens along with the wares.

The amounts of chaff needed for kindling to light a clamp could easily be supplied by small areas of local arable. If, however, the chaff was used packed around successive loads of pots for soot-soaking purposes, it would require the local processing of very large volumes of grain in order to guarantee a regular supply; far more than is likely to have been grown in the local, heathland dominated, environment.

We can thus begin to see Redcliff Site A as not just engaged in the production of pottery but also in the parching of large quantities of spelt wheat and the production of charcoal and possibly shale items. The proximity of the site to the navigable River Frome at the bottom of the hill suggests that a large part of Site A's output was transported by ship into Poole Harbour and thence by sea around the coasts of Britain to Redcliff's province-wide clientele.

## The Archive

*Peter J. Woodward*

By 1993 Ray Farrar had accomplished a considerable amount of research and analysis on the material and records resulting from his excavations at Redcliff, but had yet to embark on the preparation of a full report after his retirement from the Royal Commission (Peers *et al.* 1994). After his death in 1993 his widow, Sheila, arranged for myself, Vivian Swan and Malcolm Lyne to deal with the dispersal and deposition of a vast body of research material that he had been working on at his home in Berkhamstead. Many of his records went to the Royal Commission: the material, records and studies for Dorset, including Redcliff, came to Dorset County Museum.

This Farrar archive (DCM Entry 5334) is not only of the greatest importance to the study of the monuments Ray recorded for the Royal Commission (cf. RCHM 1970) but also for Romano-British pottery studies and in particular the Black Burnished Ware of Poole Harbour. Within this archive are very detailed annotations on the many BB1 vessels Ray studied and recorded and, although some are published, these first-hand notes by the doyen of BB1 pottery studies will be immensely valuable in future comparative research.

In the process of my curation of the Archaeological Collections at the Dorset County Museum the Farrar archive has been gradually processed and accessioned for research since its time of deposition and it is those parts relating to Redcliff (DCM Entry 3334/1) and Stoborough (DCM Entry 3334/7) that are described and published here.

In November 1996 Malcolm Lyne gave a lecture on the BB1 industry to the Archaeological Group of the Society at their meeting, and I prepared a small display on Ray's excavations at Redcliff and its archive which a number of members had been processing, marking the pottery from the excavations and assisting in the archive preparation of the records for research and accession.

In December 1996 I applied for a grant from the Dorset Archaeological Committee to commission Malcolm Lyne to prepare an assessment of the archive and set out a proposal for publication. This assessment and proposal (Lyne 1997) was presented to the Dorset Archaeological Committee in June 1997: this also included the study and publication of the material from Tony Brown's excavations at Redcliff in 1954, which had been deposited earlier at the Dorset County Museum (between 1987 and 1991) by Martin Green; a part of the Tony Brown collection which derived from his archaeological fieldwork and excavations in Purbeck and had at one time been displayed at his small independent museum at Corfe Castle (Farrar 1987).

As a result of a subsequent application to the Dorset Archaeological Committee in July 1997, the Committee agreed a seeding grant for the preparation of a full report

on both the Brown and Farrar excavations for publication. Sufficient further grants were obtained by March 1998 for Malcolm to embark on a research and publication programme. As a result of this a full publication report was presented to the Dorset Archaeological Committee in December 1998 (Lyne 1998).

At the same time as this report was being prepared, the fieldwork and excavation notebooks of Tony Brown were deposited at the Dorset County Museum in May 1998 by Tanya Cotterell, following research and study at Bournemouth University over several years (Cotterell 1998). These had earlier been microfiched by the National Monuments Record and had been deposited earlier in the Archaeological Collections at Dorset County Museum.

It was now possible to prepare a museum accession for Tony Brown's excavations at Redcliff and more fully explore that collection. In the light of the Brown notebooks and a further exploration of the Farrar Archive, it was possible to identify additional material that was of importance to publish together with the report that was being prepared, *viz* that material resulting from excavations by Tony Brown and Harry Burr nearby at Stoborough (RCHM 1970).

As a result a supplementary application was submitted to the Dorset Archaeological Committee in December 1998 to prepare the Stoborough material for publication and complete the environmental studies of the Redcliff excavations. With an additional grant, the present report was completed in September 1999.

In summary, this report refers to the following archives and objects held at the Dorset County Museum:

- 1952.81.1 The Stoborough vat, not surviving
- 1955.34 Stoborough vat samples (as 1952.81.1)
- 1957.24.1–3 Complete vessels from Stoborough excavations, .1 not surviving. However, although this is as the Accession is described, the two other vessels are almost certainly not from Stoborough (ML)
- 1969.2 Nutcrack Lane excavations 1952–53, Burr and Brown
- 1994.26 Redcliff excavations 1975–83, R.A.H. Farrar (DCM Entry 3334/1)
- 1999.20 Records, notes and correspondence on the Stoborough excavations, R.A.H. Farrar (DCM Entry 3334/7)
- 1999.89 Tony Brown Archive (DCM Entry 3589/1–8)
- 1999.90 Redcliff excavations, Tony Brown Collection (DCM Deposition *c.* 1991)
- 2000.5, 8, 9, 11, 12 R.A.H. Farrar Archives (DCM Entry 3334)

The post-excavation research archive which relates to this publication and copies of associated material will be deposited together under DCM Accession 1994.26

## Acknowledgements

The three excavators whose work is the subject of this paper are now all deceased, and in the case of Harry Burr and Tony Brown we have no record regarding any acknowledgements they might have wished to place on record. Ray Farrar's Redcliff excavation was carried out with the help of a series of grants from the Dorset Natural History and Archaeological Society and the Dorset Archaeological Committee between 1977 and 1981. The Dorset Institute of Higher Education in Weymouth and the Dorset Natural History and Archaeological Society assisted by supplying volunteers and equipment. Phyllis Aylward, Reg Davis, Marianne Gardner-Willoughby, Rosemary Maw and Tony Brown were singled out by Ray for special mention, as was Anthony Clark of the Ancient Monuments Laboratory of the then Department of the Environment for his initial fluxgate gradiometer survey.

My thanks go to Peter Woodward for his assistance in writing up these excavations and to the various specialists who have contributed to the report. The pottery and other items from Ray Farrar's excavation were washed, marked and catalogued by Lilian Ladle with Roy Page and John Hedges, and the report was produced with the aid of grants from the Dorset Archaeological Committee, Purbeck District Council, the Robert Kiln Charitable Trust, Association of Roman Archaeology, The Roman Research Trust and Mrs Sheila Farrar.

All the hard work undertaken in acquiring grants to support the research and report preparation was undertaken by Peter Woodward (see archives), who in particular would like to thank all members of the Dorset Archaeological Committee who supported the project and in particular David Hinton and Councillor Mrs Debenham. It was a great pleasure to present the project on site at Redcliff to members of the Dorset Archaeological Committee, members of the Arne Parish Council and the landowner, Mr Barnes of Redcliff Farm, who is the donor of all the finds from Redcliff and Stoborough to the Dorset County Museum.

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### Abbreviations

- AML Ancient Monuments Laboratory
- BAR British Archaeological Reports
- CBA Council for British Archaeology
- DCM Dorset County Museum
- RCHM Royal Commission on Historical Monuments
- RIB Collingwood, R.G. and Wright, R.P., 1965 *The Roman Inscriptions of Britain* (Oxford)

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## The Macroinvertebrate Fauna of a small spring-fed Watercourse, the Lulworth Stream (Dorset)

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### Summary

*The Lulworth Stream is characterised by short length, low altitude, isolation from other freshwaters and artificial channel modification. The macroinvertebrate fauna was examined in three seasons at six sites between the source and the sea. A total of 99 taxa was recorded from the regularly sampled sites over the sampling period. Physical, chemical and biological data for the sites were used to assess the environmental quality of the stream. Diversity was found to be lower than expected when compared to a similar spring-fed watercourse, the Wool Stream, which is a tributary of the River Frome. Also, some taxa, abundant in the Wool Stream occurred rarely in the Lulworth Stream (Gammaridae, Sphaeriidae). The restriction of the fauna was considered to be due to a combination of factors, but particularly geographical isolation and channel modification.*

### Introduction

As part of a continuing series of studies of small Dorset watercourses (Armitage *et al.* 1994; Armitage and Blackburn 1998; 2001) the Lulworth Stream was selected to provide additional data on spring-fed chalk streams. The aim of this investigation was to survey the benthic macroinvertebrate fauna and use these data, together with environmental information, to comment on faunal community composition, in relation to the isolation of the stream and other factors.

### Study Area and Methods

The Lulworth Stream emerges below a chalk cliff face as a groundwater-fed spring approximately 500m from the sea in the village of West Lulworth. The stream provides a water supply source for Wessex Water who abstract 150 megalitres per annum (about 10% of the total annual flow). It has no tributaries and is contained within a valley throughout its length, with hills up to 150m in height to the north, east and west. Consequently, the stream is very isolated from other above-ground freshwater bodies (Fig. 1). The stream

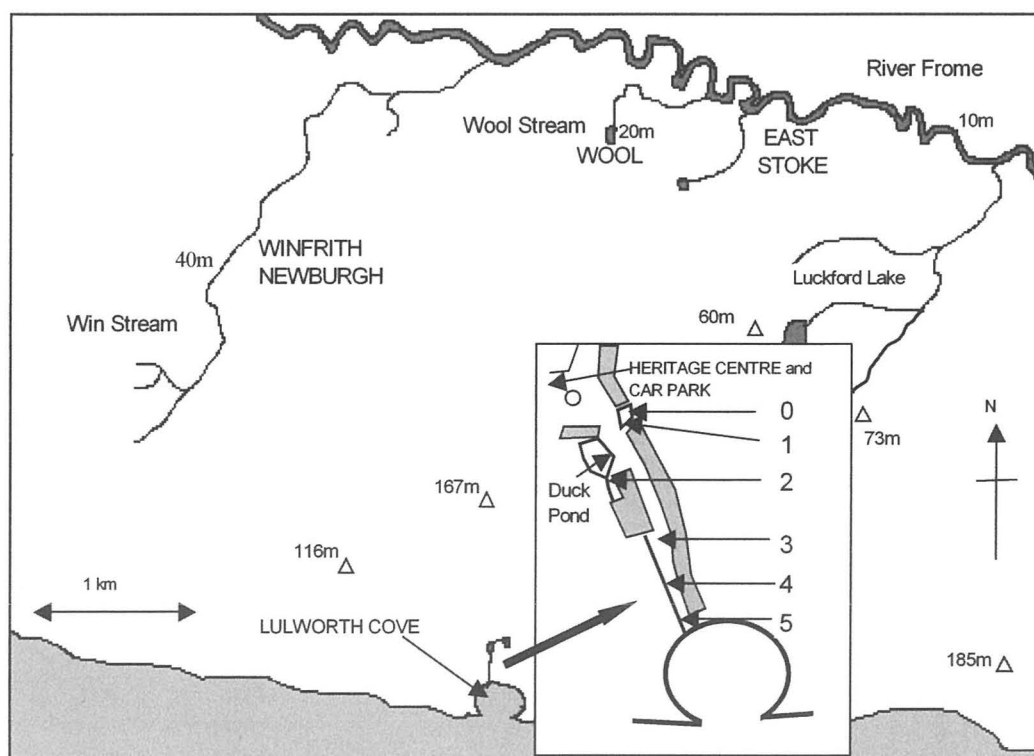


Figure 1: The location of the Lulworth Stream in relation to surrounding water courses showing the altitudes of the surrounding hills, and inset, the position of sites along the stream. Grey shading on the inset sketch represents buildings

channel is heavily modified by man and the characteristics of each of the running water sites do not differ greatly from each other. Samples were taken from six sites, which encompass the range of observed variation in the study area.

**Site 0:** The spring source creates an artificial medium-sized (about 25m<sup>2</sup>) pool with virtually no flow. The pool is surrounded by a stone wall with a narrow outlet on one side. *Cladophora* and *Veronica anagallis-aquatica* were especially prevalent in the summer, with an unidentified moss present on the surrounding walls, while in autumn there is an input of leaf litter from surrounding trees.

**Site 1:** A walled, fast-flowing section created by the pool outflow. Areas of low flow are formed on each side of this outlet. Patches of moss were particularly noticeable in summer but there were few macrophytes, due to dense shade.

**Site 2:** Situated just downstream of a pond that holds a population of ducks and geese. At this site the stream opens out to form a wide, shallow section with few in-stream macrophytes due to maintenance by the adjacent homeowner. Occasional small patches of *Apium nodiflorum*, and *Veronica anagallis-aquatica* were present, with stands of *Carex* sp. at the water's edge on one side and the other bank comprising a low wall of bare cobbles.

**Site 3:** After flowing through a culvert the stream passes into a fast-flowing walled section that runs alongside the road. *Cladophora* was dominant within the stream, especially in summer but macrophytes were absent apart from a patch of watercress (*Rorippa nasturtium-aquaticum*) during the summer sampling.

**Site 4:** The stream here is similar in morphology to Site 3. *Cladophora* occurred on the substrate with small amounts of *Apium nodiflorum*. Watercress was dominant at the sides of the stream during the autumn sampling, while a sparse overhang of brambles was present throughout the study period.

**Site 5:** The stream flows over a small weir and onto the beach where samples were taken in the summer and autumn only. This site would be affected by spring tides. The only aquatic plant to occur here was the alga *Enteromorpha*, which is associated with estuarine habitats.

Data on the physical and chemical attributes of each site are presented in Table 1. Macroinvertebrate samples were collected in 2001 in spring (March 9), summer (July 7) and autumn (October 30) using a standard 3-minute kick/sweep technique (Wright *et al.* 1993) with a pond-net of 900mm mesh. Samples were fixed in 5% formaldehyde solution and sorted into 70% alcohol. Identifications were made to species level wherever keys and life history stage allowed.

**Table 1:** The physical and chemical characteristics of 6 sites on the Lulworth Stream based on the mean parameters recorded at the 6 sites in three seasons in 2001. (Except site 5 — data based on two seasons (summer and autumn) and for alkalinity, value is for summer only)

| Site   | 0      | 1      | 2      | 3      | 4      | 5      |
|--|--------|--------|--------|--------|--------|--------|
| Grid reference (SY)                                | 823800 | 823800 | 823800 | 824799 | 824799 | 824799 |
| Altitude (m)                                       | 12     | 11.5   | 9.5    | 6      | 3      | 1.5    |
| Distance from source (km)                          | 0.01   | 0.02   | 0.08   | 0.14   | 0.16   | 0.18   |
| Slope (m/km)                                       | 2      | 50     | 40     | 50     | 50     | 50     |
| Water width (m)                                    | 7      | 1.5    | 4.7    | 1.3    | 1.5    | 1      |
| Mean depth (cm)                                    | 43     | 19     | 7      | 12     | 13     | 9      |
| Velocity category*                                 | 1      | 2      | 3      | 3      | 3      | 3      |
| <i>Substratum cover (%)</i>                        |        |        |        |        |        |        |
| Boulders & cobbles                                 | 2      | 21     | 27     | 37     | 47     | 82     |
| Pebbles & gravel                                   | 73     | 58     | 58     | 46     | 42     | 15     |
| Sand   | 20     | 20     | 12     | 12     | 10     | 3      |
| Silt & clay  | 5      | 1      | 3      | 5      | 2      |        |
| Macrophytes (% cover)                              | 32     | 50     | 24     | 40     | 33     | 5      |
| <i>Chemical data</i>                               |        |        |        |        |        |        |
| pH   | 7.39   | –      | –      | 7.79   | 7.85   | –      |
| Alkalinity (mg l <sup>-1</sup> CaCO <sub>3</sub> ) | 136.0  | 200.6  | 200.4  | 133.0  | 197.6  | 200.0  |
| Nitrate (mg l <sup>-1</sup> NO <sub>3</sub> N)     | 8.09   | –      | –      | 8.09   | 9.10   | –      |
| Phosphate (?g l <sup>-1</sup> PO <sub>4</sub> P)   | 26.95  | –      | –      | 30.24  | 19.30  | –      |

\*Velocity categories (cm sec<sup>-1</sup>) as follows: 1 (≤ 10), 2 (>10–25), 3 (>25–50)

**Table 2:** Presence/absence of macroinvertebrates at 6 sites on the Lulworth Stream based on 3 minutes kick/sweep samples taken in spring, summer and autumn (except site 5 — summer and autumn only)

| Taxa/Sites                                  | 0 | 1 | 2 | 3 | 4 | 5 | Taxa/Sites                                   | 0 | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|--|---|---|---|---|---|---|
| NEMATODA                                    | 0 | 0 | 0 | 0 | 0 | 1 | <i>Tipula montium</i> group                  | 0 | 1 | 1 | 1 | 1 | 1 |
| HYDRAZOA                                    |   |   |   |   |   |   | <i>Tipula paludosa</i> Meigen                | 0 | 0 | 1 | 1 | 1 | 1 |
| Hydridae                                    | 1 | 0 | 0 | 0 | 0 | 0 | <i>Tipula maxima</i> Poda                    | 0 | 1 | 1 | 1 | 1 | 0 |
| TRICLADIDA                                  |   |   |   |   |   |   | <i>Limnophila (Elaeophila)</i> sp.           | 0 | 1 | 0 | 0 | 0 | 0 |
| <i>Polycelis felina</i> (Dalyell)           | 1 | 1 | 1 | 1 | 1 | 1 | <i>Dicranota</i> sp.                         | 0 | 1 | 1 | 1 | 1 | 1 |
| <i>Polycelis nigra</i> ()                   | 1 | 1 | 1 | 1 | 1 | 1 | Psychodidae                                  |   |   |   |   |   |   |
| MOLLUSCA                                    |   |   |   |   |   |   | <i>Pericoma blandula</i> Eaton               | 0 | 0 | 0 | 0 | 1 | 0 |
| <i>Potamopyrgus antipodarum</i> (Smith)     | 1 | 1 | 1 | 1 | 1 | 1 | <i>Pericoma pseudoexquisita</i> Tonnoir      | 0 | 1 | 0 | 1 | 1 | 0 |
| <i>Psidium</i> sp.                          | 0 | 0 | 0 | 0 | 0 | 1 | <i>Pericoma</i> sp.                          | 1 | 1 | 0 | 1 | 0 | 0 |
| OLIGOCHAETA                                 |   |   |   |   |   |   | <i>Psychoda severini</i> Tonnoir             | 0 | 0 | 0 | 1 | 0 | 0 |
| <i>Lumbriculus variegatus</i> (Müller)      | 1 | 1 | 1 | 1 | 1 | 1 | Culicidae                                    |   |   |   |   |   |   |
| <i>Stylogdrilus heringianus</i> Claparède   | 1 | 0 | 1 | 1 | 1 | 1 | <i>Anopheles claviger</i> (Meigen)           | 1 | 0 | 0 | 0 | 0 | 0 |
| <i>Chaetogaster diaphanus</i> (Gruithuisen) | 0 | 0 | 1 | 0 | 0 | 0 | Dixidae                                      |   |   |   |   |   |   |
| <i>Nais simplex</i> group                   | 0 | 1 | 1 | 1 | 1 | 1 | <i>Dixa maculata</i> complex                 | 0 | 1 | 1 | 0 | 1 | 0 |
| <i>Nais barbata</i> Müller                  | 0 | 0 | 1 | 0 | 0 | 0 | Ceratopogonidae                              | 0 | 0 | 1 | 1 | 1 | 0 |
| <i>Nais communis</i> Piguët                 | 0 | 0 | 1 | 1 | 0 | 1 | Simuliidae                                   |   |   |   |   |   |   |
| <i>Nais elinguis</i> Müller                 | 0 | 0 | 1 | 1 | 1 | 1 | <i>Simulium aureum</i> group                 | 0 | 0 | 1 | 1 | 1 | 1 |
| <i>Nais pardalis</i> Piguët                 | 0 | 1 | 1 | 1 | 1 | 0 | <i>Simulium ornatum</i> Meigen               | 0 | 0 | 0 | 1 | 1 | 1 |
| <i>Nais variabilis</i> Piguët               | 0 | 0 | 1 | 1 | 0 | 0 | <i>Simulium cryophilum</i> group             | 0 | 0 | 0 | 1 | 1 | 1 |
| <i>Ophidonais serpentina</i> (Müller)       | 0 | 0 | 1 | 1 | 0 | 0 | Chironomidae                                 |   |   |   |   |   |   |
| <i>Pristina idrensis</i> Sperber            | 0 | 0 | 0 | 1 | 0 | 0 | <i>Macropelopia</i> sp.                      | 1 | 1 | 1 | 1 | 1 | 1 |
| <i>Stylaria lacustris</i> (L.)              | 1 | 1 | 1 | 1 | 1 | 1 | <i>Procladius</i> sp.                        | 1 | 0 | 1 | 0 | 0 | 0 |
| <i>Limnodrilus hoffmeisteri</i> Claparède   | 1 | 0 | 0 | 0 | 0 | 0 | <i>Thienemannimyia</i> group                 | 0 | 1 | 1 | 1 | 1 | 0 |
| <i>Limnodrilus udekemianus</i> Claparède    | 0 | 0 | 0 | 1 | 0 | 0 | <i>Trissopelopia longimana</i> (Staeger)     | 0 | 1 | 1 | 0 | 0 | 0 |
| <i>Rhyacodrilus coccineus</i> (Vejdovsky)   | 0 | 0 | 1 | 0 | 0 | 0 | <i>Zavelimyia</i> sp.                        | 1 | 1 | 0 | 0 | 0 | 0 |
| <i>Tubifex tubifex</i> (Müller)             | 1 | 0 | 0 | 1 | 0 | 0 | <i>Sympotthastia</i> sp.                     | 1 | 1 | 1 | 0 | 0 | 0 |
| Lumbricidae                                 | 1 | 1 | 1 | 1 | 1 | 1 | <i>Diamesa thienemanni</i> Kieffer           | 0 | 0 | 1 | 1 | 0 | 0 |
| <i>Haplotaxis gordioides</i> (Hartmann)     | 0 | 1 | 0 | 0 | 0 | 0 | <i>Diamesa</i> sp.                           | 0 | 1 | 1 | 1 | 1 | 0 |
| Enchytraeidae                               | 0 | 0 | 0 | 1 | 0 | 1 | <i>Prodiamesa olivacea</i> (Meigen)          | 1 | 0 | 0 | 1 | 1 | 0 |
| HIRUDINEA                                   |   |   |   |   |   |   | <i>Brillia bifida</i> (Kieffer) *            | 1 | 1 | 1 | 1 | 1 | 1 |
| <i>Helobdella stagnalis</i> (L.)            | 1 | 1 | 1 | 0 | 0 | 0 | <i>Chaetocladius</i> sp.                     | 1 | 1 | 1 | 1 | 1 | 1 |
| <i>Glossiphonia complanata</i> (L.)         | 1 | 1 | 1 | 1 | 1 | 1 | <i>Cricotopus trifascia</i> (Edwards)        | 0 | 0 | 0 | 0 | 0 | 1 |
| HYDRACARINA                                 | 1 | 1 | 1 | 1 | 1 | 1 | <i>Cricotopus</i> sp.                        | 1 | 1 | 1 | 1 | 1 | 0 |
| OSTRACODA                                   | 1 | 0 | 0 | 0 | 1 | 0 | <i>Eukiefferiella claripennis</i> (Lundbeck) | 0 | 1 | 1 | 0 | 1 | 1 |
| CRUSTACEA                                   |   |   |   |   |   |   | <i>Eukiefferiella ilkleyensis</i> (Edwards)  | 0 | 1 | 0 | 1 | 1 | 1 |
| <i>Asellus aquaticus</i> (L.)               | 1 | 1 | 1 | 1 | 1 | 1 | <i>Heterotrissocladus</i> sp.                | 1 | 0 | 0 | 0 | 0 | 0 |
| <i>Crangonyx pseudogracilis</i> Bousfield   | 0 | 0 | 1 | 1 | 0 | 0 | <i>Limnophyes</i> sp.                        | 0 | 1 | 0 | 1 | 0 | 0 |
| <i>Gammarus pulex</i> (L.)                  | 0 | 0 | 0 | 0 | 1 | 0 | <i>Metricnemus</i> sp.                       | 0 | 0 | 1 | 0 | 1 | 0 |
| EPHEMEROPTERA                               |   |   |   |   |   |   | <i>Orthocladus oblidens</i> (Walker)         | 0 | 0 | 1 | 0 | 0 | 0 |
| <i>Baetis rhodani</i> (Pictet)              | 1 | 1 | 1 | 1 | 1 | 1 | <i>Orthocladus thienemanni</i> Kieffer       | 0 | 0 | 1 | 1 | 0 | 0 |
| <i>Ephemerella ignita</i> (Poda)            | 0 | 0 | 0 | 1 | 0 | 0 | <i>Orthocladus</i> sp.                       | 0 | 0 | 1 | 0 | 0 | 0 |
| COLEOPTERA                                  |   |   |   |   |   |   | <i>Rheocricotopus</i> sp.                    | 0 | 1 | 0 | 0 | 1 | 0 |
| <i>Agabus</i> sp.                           | 0 | 0 | 1 | 1 | 1 | 0 | <i>Thienemanniella</i> sp.                   | 1 | 1 | 1 | 1 | 1 | 1 |
| <i>Helophorus brevipalpis</i> Bedel         | 0 | 1 | 1 | 1 | 1 | 1 | <i>Tvetenia bavarica</i> (Goetghebuer)       | 0 | 1 | 1 | 1 | 1 | 1 |
| <i>Helophorus flavipes</i> Fabricius        | 0 | 0 | 0 | 0 | 1 | 0 | <i>Tvetenia calvescens</i> (Edwards)         | 0 | 1 | 1 | 1 | 1 | 1 |
| <i>Elmis aenea</i> (Müller)                 | 1 | 1 | 1 | 1 | 1 | 1 | <i>Tvetenia discoloripes</i> Goetghebuer     | 0 | 0 | 1 | 0 | 0 | 0 |
| <i>Riolus subviolaceus</i> (Müller)         | 0 | 0 | 0 | 1 | 1 | 0 | <i>Phaenopsectra</i> sp.                     | 1 | 0 | 0 | 0 | 0 | 0 |
| TRICHOPTERA                                 |   |   |   |   |   |   | <i>Polypedilum</i> sp.                       | 0 | 0 | 0 | 0 | 1 | 0 |
| <i>Rhyacophila dorsalis</i> (Curtis)        | 0 | 0 | 1 | 1 | 1 | 1 | <i>Micropectra</i> sp.                       | 1 | 1 | 1 | 1 | 1 | 1 |
| <i>Hydroptila</i> sp.                       | 1 | 1 | 1 | 1 | 1 | 1 | <i>Paratanytarsus</i> sp.                    | 1 | 1 | 1 | 1 | 1 | 0 |
| <i>Oxyethira</i> sp.                        | 1 | 1 | 1 | 1 | 1 | 0 | Stratiomyiidae                               |   |   |   |   |   |   |
| <i>Tinodes waeneri</i> (L.)                 | 1 | 0 | 0 | 0 | 0 | 0 | <i>Beris</i> sp.                             | 1 | 0 | 0 | 0 | 0 | 0 |
| <i>Plectrocnemia conspersa</i> (Curtis)     | 1 | 1 | 1 | 1 | 1 | 1 | Empididae                                    |   |   |   |   |   |   |
| <i>Hydropsyche siltalai</i> Dohler          | 0 | 0 | 0 | 1 | 0 | 0 | <i>Chelifera</i> group                       | 1 | 1 | 0 | 0 | 0 | 0 |
| <i>Crunoecia irrorata</i> (Curtis)          | 0 | 1 | 1 | 0 | 0 | 0 | <i>Clinocera</i> group.                      | 1 | 1 | 1 | 1 | 1 | 1 |
| <i>Limnephilidae</i> sp.indet               | 1 | 0 | 0 | 0 | 0 | 0 | Ephydriidae                                  | 0 | 0 | 1 | 0 | 0 | 0 |
| <i>Drusus annulatus</i> (Stephens)          | 1 | 1 | 1 | 1 | 1 | 1 | Anthomyzidae                                 | 0 | 0 | 0 | 1 | 0 | 0 |
| <i>Apatania muliebris</i> McLachlan         | 1 | 1 | 0 | 0 | 1 | 1 | Lonchopteridae                               | 1 | 0 | 0 | 0 | 0 | 0 |
| <i>Sericostoma personatum</i> (Spence)      | 1 | 1 | 1 | 1 | 1 | 0 | Muscidae                                     |   |   |   |   |   |   |
| DIPTERA                                     |   |   |   |   |   |   | <i>Limnophora</i> sp.                        | 0 | 1 | 1 | 1 | 1 | 1 |
| Tipulidae                                   |   |   |   |   |   |   |  |   |   |   |   |   |   |

\*formerly *B. modesta*

## Results and Discussion

### The fauna

A total of 99 taxa were recorded at the regularly sampled sites (sites 0–4) over the three seasons (Table 2). Of this total, over 82% belonged to just four major groups, these being Chironomidae (31 taxa), other Diptera (22), Oligochaeta (20), and Trichoptera (11). The distribution of taxa amongst major groups is shown in Table 3. A further three taxa are added to the total list when the site 5 information is included. The composition in terms of major faunal groups and total abundance (based on three seasons) is illustrated in Figure 2.

Total abundances were highest at sites 2 and 3 (Fig. 2), with a large proportion of each total due to populations of Ephemeroptera (mainly *Baetis rhodani*) and Oligochaeta respectively. Species richness was also relatively high at these two sites (Table 3) with around double the number of Oligochaeta species here compared to any of the other sites. A notable feature of the fauna at all sites was the very low abundance of *Gammarus*, which is normally abundant in unpolluted chalk streams. Other striking features were the low diversity of Ephemeroptera and the complete lack of any Plecoptera.

Site 0, with 44 taxa, had the lowest taxon richness of the sites sampled in all three seasons. Numerically, the fauna was dominated by the crustacean *Asellus aquaticus*. Very few Baetidae were recorded at this site, while Simuliidae were absent.

Despite high current velocities, Simuliidae were also absent from Site 1. This was probably due to a lack of particulate food material available to these filter feeders so near the spring source. Again, *A. aquaticus* occurred in large numbers but was less prevalent than at site 0. Total number of taxa was low (51) and a total abundance of 5499 was the lowest value for sites 0–4 (Fig. 2).

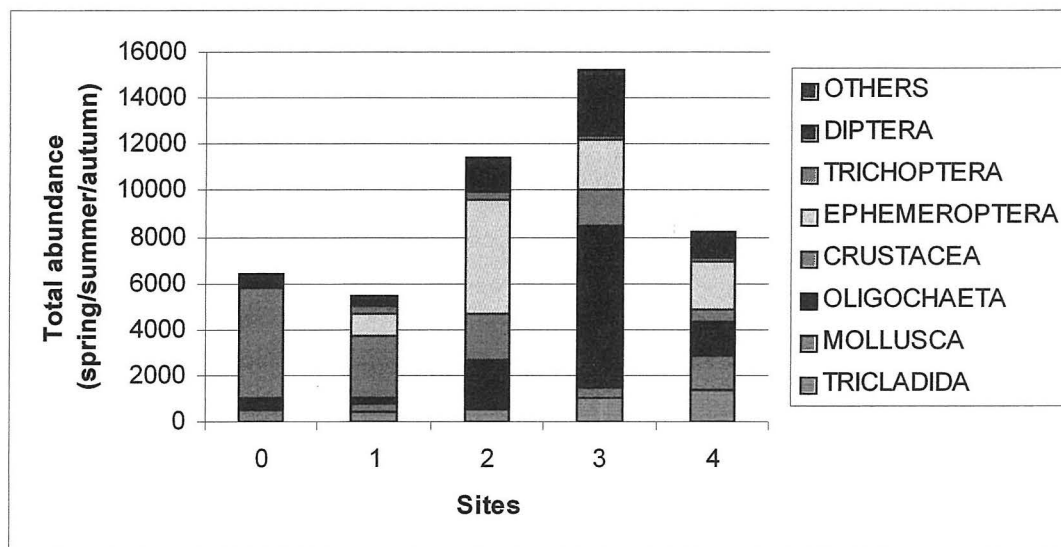
**Table 3:** The distribution of species/taxa per major groups and total number of taxa per group at five sites on the Lulworth Stream

| Major groups/Sites | 0  | 1  | 2  | 3  | 4  | Total |
|--------------------|----|----|----|----|----|-------|
| HYDROZOA           | 1  | 0  | 0  | 0  | 0  | 1     |
| TRICLADIDA         | 2  | 2  | 2  | 2  | 2  | 2     |
| MOLLUSCA           | 1  | 1  | 1  | 1  | 1  | 1     |
| OLIGOCHAETA        | 6  | 6  | 13 | 14 | 7  | 18    |
| HIRUDINEA          | 2  | 2  | 2  | 1  | 1  | 2     |
| HYDRACARINA        | 1  | 1  | 1  | 1  | 1  | 1     |
| CRUSTACEA          | 2  | 1  | 2  | 2  | 3  | 4     |
| EPHEMEROPTERA      | 1  | 1  | 1  | 2  | 1  | 2     |
| COLEOPTERA         | 1  | 2  | 3  | 4  | 5  | 5     |
| TRICHOPTERA        | 8  | 7  | 7  | 7  | 7  | 11    |
| CHIRONOMIDAE       | 13 | 18 | 21 | 16 | 17 | 30    |
| DIPTERA            | 6  | 10 | 10 | 14 | 13 | 22    |
| TOTAL              | 44 | 51 | 63 | 64 | 58 | 99    |

Site 2, immediately downstream of the duckpond, had a higher overall richness of 63 taxa and was the richest site for Chironomidae with 21 species. Abundance of Baetidae was very high with over twice the number of the next highest site (site 3). The representative of this family was exclusively *Baetis rhodani* at all the sites. Another notable feature was the presence of nine different species of Oligochaeta in the family Naididae.

The highest number of taxa (64) was recorded from Site 3. This included an Oligochaeta species count of 15 of which eight were naid worms. This was also the most numerically abundant site overall (over 15000). Again, Naididae provided a large contribution to this total (almost 6000).

Less than half the numbers of Oligochaeta taxa were found at site 4 compared to site 3 despite the two sites being outwardly similar in appearance. Five Coleoptera



**Figure 2:** The faunal composition (relative numbers in major groups) at five sites on the Lulworth Stream based on samples collected in three seasons (spring, summer and autumn)

species were recorded here but all are common and widespread in the area.

Site 5 produced the lowest total number of taxa (42) but this is not directly comparable because samples were not taken here in the spring. Three freshwater taxa, the chironomid *Cricotopus trifascia* plus single specimens each of Sphaeriidae (*Pisidium* sp.) and Nematoda were found solely at site 5. Despite the beach location, only one non-freshwater taxa was found, a single marine amphipod (sandhopper).

A notable feature of the fauna is the very low population of *Gammarus* present in the stream with just a single specimen captured in the spring at site 4. Reasons for this surprising result are suggested in the section on environmental assessment.

No rarities were found during this study and apart from the rich diversity of Oligochaeta and Chironomidae the fauna was characterised by absences such as Plecoptera and very low numbers of taxa expected to be abundant such as Gammaridae.

The large variety of Chironomidae and Naididae, and large numbers of Simuliidae present at sites 2 and 3 are probably related to the presence of the duckpond immediately upstream and the activities of the associated waterfowl. These sites would be subject to enrichment and increased input of particulate matter. Site 3 is also subject to rainwater run-off, which may increase sediment supply, again creating favourable conditions for Oligochaeta and Chironomidae, which are deposit feeders.

The fauna was mainly composed of species common in surrounding catchments, however, one chironomid species found was unusual. *Tvetenia bavarica* is normally associated with montane habitats (Langton, pers. comm.) but was found at five of the six sites (not site 0). The steep gradient, fast water velocity and stony substratum, give the Lulworth Stream unusual characteristics for a lowland watercourse, and create a montane-like habitat. However, this species has been collected recently in lowland streams in Northern Ireland (Langton, pers. comm.) indicating a more widespread distribution.

The macroinvertebrate diversity of the Lulworth stream is low in comparison to sites on the Wool Stream that have similar physical and chemical characteristics. (Armitage and Blackburn 1998). The following list details the families, sub-families and tribes that were present at the spring source (1) and the 'urban' sites (2) on the Wool stream but did not occur at equivalent sites on the Lulworth stream and *vice versa*.

#### Wool (sites 1 and 2)

|                |            |
|----------------|------------|
| Ancylidae      | Leuctridae |
| Caenidae       | Lymnaeidae |
| Curculionidae  | Nemouridae |
| Dendrocoelidae | Physidae   |

#### Lulworth (sites 0 and 4)

|               |
|---------------|
| Chironomini   |
| Dixidae       |
| Psychomyiidae |
| Prodiamesinae |

|                  |              |
|------------------|--------------|
| Ephemerellidae   | Piscicolidae |
| Ephydriidae      | Planorbiidae |
| Erpobdellidae    | Scirtidae    |
| Glossosomatidae  | Sphaeriidae  |
| Haliplidae       | Succineidae  |
| Heptageniidae    | Tabanidae    |
| Hydropsychidae   | Valvatidae   |
| Lepidostomatidae | Veliidae     |
| Leptoceridae     |              |

The low faunal richness apparent in the present study could be due to a number of factors. The Lulworth Stream is very isolated from other surface water bodies both in distance and by the height of the intervening ridge and hills confining the area (Fig. 1) and therefore not easily accessible to potential colonisers. The flying adult stage of some aquatic insects such as species of Ephemeroptera, Plecoptera and Trichoptera could in theory allow successful dispersal to the study site but these are weak flyers and most stay close to the stream from which they emerge (Petersen *et al.* 1999). Also, the short length of the stream represents a small 'target' for windblown insects, and the prevailing wind direction is south-westerly from the sea.

Despite these barriers to colonisation, the possibility exists for relatively long-distance dispersals (>5km) for a very small proportion of adults, particularly mated females, if the weather conditions are favourable (Kovats *et al.* 1996). This could explain the presence in the Lulworth stream of relatively high numbers of the caseless caddis *Plectrocnemia conspersa* and the mayfly *Baetis rhodani*, which have a weak flying adult stage, but are very common and widespread in surrounding catchments making these species more likely random colonisers.

Because of the terrestrial barrier, it could be expected that entirely aquatic species would be even more restricted. However, some species may be accidentally introduced by being attached to the feet or feathers of the ducks and geese that congregate at the study site. This is especially likely with small invertebrate species, such as the snail *Potamopyrgus antipodarum* (the only gastropod present at any of the sites). Larger gastropod species may not be so easily transported by water birds and any that were introduced are likely to be eaten by the large duck population.

Another possible reason for the reduced diversity is the nature of the Lulworth bankside environment, where artificial stone-laid walls offer less opportunities for colonising organisms than would a variety of bank types, including gently sloping vegetated banks (Armitage *et al.* 2001). However, a similar 'urban' site on the Wool Stream (site 2) yielded a much higher number of taxa (78) than the Lulworth Stream (58), so other factors may be responsible.

Rainwater is diverted off the road and into the stream at site 3. A sample of this run-off which may make up more than 50% of the discharge during high

rainfall was analysed on February 4 2002 and was found to contain very high levels of suspended solids (215 mg/l) and soluble reactive phosphate (605  $\mu\text{g l}^{-1}$  P) compared to respective values of 4.3 and 42 in the adjacent stream. Therefore, particularly during heavy rainfall, the fauna in this part of the stream will be impacted by these inputs and also by the increased velocity of water. Except during the severest floods this nutrient enriched sediment will remain in the interstices between cobbles and pebbles on the substratum. This may partially account for the relatively high abundance and diversity of deposit feeding oligochaetes and chironomids at site 3.

The Lulworth Stream is subject to periods of very low or no flow. In the period 1994 to 1999 these low flow periods occurred between the months of October and February. In the first week of November 1997 no flow was recorded at the gauging point. These low flow periods are followed by rapid recharge of the chalk aquifer and the highest discharges are usually recorded three to four months later. Despite the rapid recovery it is likely that the low flow periods have an adverse effect on the faunal community

#### Environmental assessment

The ratio of *Gammarus* spp. (freshwater shrimp) to *Asellus* spp. (water hog-louse) can be used to indicate the presence of organic pollution at a site (MacNeil *et al.* 2002). *Asellus aquaticus* is very abundant at the Lulworth sites but only one specimen of *Gammarus pulex* were found during the entire study. Nitrate levels are indeed fairly high in the Lulworth Stream but are at a similar level to those found at the Wool Stream which supports large numbers of *Gammarus* (Armitage and Blackburn, 1998). The reasons for this difference are not clear. *Asellus aquaticus* is particularly abundant in still water containing leafy debris as a food source. There are two such locations in the study stream, at site 0 and above site 3 (the duckpond). These locations are quite large in relation to the stream as a whole and are likely to be good breeding grounds for *Asellus* (site 0 did harbour a large population). Areas downstream of these localities would be subject to washout from these populations, and this would boost abundances at sites less able to support a large *Asellus* population. *Gammarus* does not normally occur in still water but the very small number present in the flowing sections is puzzling. This may be partly explained by the low amount of vegetation and detritus available on which *Gammarus* feeds. A recent survey of a similarly isolated stream further west at Ringstead found a high abundance of *Gammarus* (Vincent, pers. comm.). This stream runs through a wooded catchment with a consequent input of fallen leaves and vegetative detritus. At present though, the near absence of *Gammarus* at Lulworth cannot be adequately explained with the available data.

RIVPACS (River Invertebrate Prediction and Classification System) is a software program developed by the former Institute of Freshwater Ecology for the

**Table 4:** Indices of environmental quality based on three faunal parameters (BMWP score, number of scoring taxa and Average Score per taxon) for each site. The probability of any of the sites belonging to any group in the classification is <0.1%

| Site            | 0     | 1     | 2     | 3     | 4     |
|-----------------|-------|-------|-------|-------|-------|
| OBSERVED        |       |       |       |       |       |
| BMWP Score      | 64    | 81    | 99    | 98    | 89    |
| Total BMWP taxa | 13    | 15    | 19    | 19    | 18    |
| ASPT            | 4.92  | 5.4   | 5.21  | 5.16  | 4.94  |
| EXPECTED        |       |       |       |       |       |
| BMWP Score      | 152.7 | 142.7 | 166.4 | 177.6 | 170.6 |
| Total BMWP taxa | 29    | 23.7  | 27.4  | 28.1  | 27.3  |
| ASPT            | 5.25  | 6     | 6.06  | 6.3   | 6.24  |

classification and prediction of macroinvertebrate communities in running waters (Wright *et al.* 1993), and is able to provide an assessment of the environmental quality of a site. A warning message is shown on the output from the program (on screen or printout) if, on the basis of the physical and chemical data, the site has a probability of less than 5% of belonging to any of the classification groups used to develop the system.

Certain macroinvertebrate families (termed BMWP families) are allocated a score on a scale of 1–10 if present in a sample. The score relates to how resistant that family is to organic pollution, a higher score equating to greater intolerance. This can be used to create faunal parameters to indicate environmental quality. Predicted target values of these faunal parameters (number of scoring taxa, BMWP biotic scores and Average Score Per Taxon) were obtained using RIVPACS and are compared with observed values based on combined seasons data (Table 4).

The RIVPACS database includes a wide range of running water sites but does not, at present, include headwater streams. Although the large difference between observed and expected faunal parameters may appear to indicate reduced water quality, the sites possess characteristics that do not match those of the RIVPACS classification groups, thus the predictions cannot be used as evidence that the stream is impacted in any way but are here used simply to highlight the low biological richness of the system.

The small number of taxa at the study sites gives a low BMWP score, which would normally indicate reduced water quality in a system that was not isolated. However, in the Lulworth Stream, because of the barriers to colonisation, a better indication of the biological quality of the stream is given by the ASPT score, which is the average BMWP score of the BMWP taxa represented at the site. These scores are similar to those observed on the Wool Stream, which is known to be of a high biological quality (Armitage and Blackburn 1998).

|                         | BMWP | ASPT |
|-------------------------|------|------|
| Lulworth (site 0)       | 64   | 4.92 |
| Wool (site 1: cressbed) | 138  | 4.93 |
| Lulworth (site 3)       | 98   | 5.16 |
| Wool (site 2: 'urban')  | 171  | 5.70 |

### Conclusions

The Lulworth Stream does not contain a rich and varied fauna and this may be attributed to isolation from potential colonisers and anthropogenic modification of the stream channel which restricts the number of niches available. Rainwater run-off from the road may have some impact at the sites downstream of this influence but water quality is generally good and similar to that of the Wool Stream, which is of a much higher biological quality. RIVPACS is unable to provide reliable predictions of biological scores because sites less than 0.2km from source (see Table 1), which are present in this study, are not widely represented in the RIVPACS dataset. In fact, the particular combination of physical characteristics (slope, substrate etc.) that describe the Lulworth Stream is unusual for a lowland stream, and more often associated with upland areas. It would be useful in future studies to examine other topographically isolated coastal streams in the region which possess unmodified channels so that the importance of isolation can be better quantified.

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The test-pit survey consisted of 59 machine-cut plough-soil pits excavated with a half-metre ditching bucket on a 5m spacing on the survey grid, over an area of 30 × 40m. The plough-soil from 31 of these test-pits was examined by hand and the material recovered identified. The only piece of Neolithic/Early Bronze Age pottery to survive was from a test-pit close to the outer ring ditch, from which it had probably derived. The lithics of Neolithic/Bronze Age industries (24) were to some extent plough-damaged. Fresher material and tools (3) coincided with the test-pits close to the outer ring, particularly on the north-east. The later Bronze Age/Early Iron Age pottery (13) was distributed on the northern side of the triple ring. Most of the later Iron Age and Romano-British pottery (51) concentrated around the eastern and western edges of the outer ring. There was a general spread of post-medieval pottery and tile (29) across the whole site.

A single trench, 15m long by 2m wide and orientated north-south, was cut by machine to remove the ploughsoil across all three ring-ditches and for a distance of 4m into the central area, to within 2m of the calculated centre. Plough-marks aligned east-west across the trench scoured the clay subsoils and bedrock. Three subsoil features, coincident with the three geophysical ring-ditch anomalies, were recorded and excavated. Four smaller trenches were also cut along the outer ring in the south-east quadrant. The monument recorded consisted of a single inner post-palisade set in a continuous trench; the location of post-pipes identified the position of perhaps six timbers of c. 0.2m diameter. The middle ring had been cut as a ditch with 'vertical' sides and 'flat' bottom, c. 1.3m across and 0.8m deep, in the base silts of which two post-holes of 0.2m diameter and 1.2m apart had been cut. This post setting was later to be replaced by two sets of slightly larger sized posts, up to 0.4m in diameter, cut into silts and set against the inner (4 posts) and outer (5 posts) sides of the ditch. In the top of the middle ring the outer post setting was sealed by a clay deposit, 0.2m thick; possibly part of an original outer bank. The outer ring was a ditch, c. 2m across and 1m deep, with a 'V' shaped profile, naturally silted, but with no sign of a bank surviving. The presence of a small assemblage of Late Neolithic/Early Bronze Age pottery from the lower ditch silts and the middle ring features firmly identify this monument as a complex Late Neolithic timber monument with palisades. This may have been a henge, although no close parallels have yet been identified. Late Iron Age and Romano-British pottery in the upper silts of the outer ditch and in the clay 'redeposited bank' in the middle ring suggest that the monument was levelled by settlement development in the early centuries AD. The line of the outer ring continued into the trenches opened in the south-east quadrant. Excavation in these trenches clearly indicated that there was no entrance to the henge in this location.

Also in the trenches in the south-east quadrant, an arc of a circular stone-filled trench, c. 0.3m across and 0.5m deep, cut across the silts of the outer ring-ditch. This probably represents the south-west, post-built, outer wall of a large circular house 12m across. This was sealed by a spread of clay and flint, containing sherds of later Bronze Age/Early Iron Age pottery, and some Late Iron Age pottery in the upper surfaces below the ploughsoil. This clay and flint spread probably represents the outer bank of the Neolithic henge, outside and abutting a large hut of the

later Bronze Age, levelled across the hut site in the Late Iron Age or the early centuries AD. Two small gullies recorded in this area, aligned roughly north-south towards one of a pair of large geophysical anomalies abutting the outer ring, probably belong to elements and alignments of the Bronze Age field terraces developed and enlarged in the successor settlements. Elements of this field system were excavated in 2000 (*op cit.*).

In conclusion the monumental sequence and the context of the Late Bronze Age neckrings can now be summarised. By the later Bronze Age the circular Neolithic monument, henge, survived, probably in pasture, as an earthwork of two low concentric banks with a shallow ditch on the inner side of the outer bank. Close to the south-eastern side of the monument and lower down the hill-slope of the spur a field system with hut terraces had developed above the spring line feeding the head of a valley stream. Centred across the outer bank on the south-eastern side of the henge a large and prestigious circular house was constructed at the head of the field system, looking to the south-east. This structure, incorporating and utilising the earthwork remains of the earlier henge enclosure (*cf.* the distribution of the later Bronze Age pottery from the test-pits within the northern and western part of the henge) would have dominated the settlement in the later Bronze Age and Early Iron Age. It is perhaps from this building that the gold neckrings were taken, to be ritually concealed deep in the soils above the spring line in the valley below — perhaps a communal rite dedicating symbols of wealth and power to the natural but unpredictable springs of life and well-being.

This fieldwork was undertaken as a part of the project to explore the context and display the Chickerell gold neckrings (*op cit.*, 147, Acknowledgements). The fieldwork of 2002 was undertaken by members of the Dorset Natural History and Archaeological Society, the Archaeology Group at the Dorset County Museum, and was supported with a grant from the Dorset Archaeological Committee and an anonymous donation.

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Peter J. Woodward

#### A SHEELA-NA-GIG AT WORTH MATRAVERS

The corbel-table on the church of St Nicholas at Worth Matravers features a carving of a Sheela-na-gig, which, unlike the figure on the similarly dedicated church at nearby Studland, is as yet unrecorded in the literature (for the Studland carving see Lundgren and Thurlby 1999, 6, 7, fig. 12; with caution, McMahan and Roberts 2001, 165–6; the figure at Worth Matravers will be included within a forthcoming PhD thesis [Oakley 2003]).

Sheela-na-gigs can be broadly described as 'carvings of naked females posed in a manner which displays and emphasises the genitalia' (Kelly 1996, 5). Located on the sixth corbel from the east on the exterior north side of the chancel, the image at Worth Matravers is flanked by corbels carved with beast and beak heads (Fig. 2). The figure is in a squatting position with her legs parted, her left arm diagonally extended across the front of the body so that the



Figure 2: The Sheela-na-gig at Worth Matravers (A. Woodcock)

hand rests just above the exposed genitals. The right hand is placed on the lower part of the stomach. The head of the figure is disproportionately large for the body and has semi-circular ears, a short nose, curved eyebrows above oval eyes, and a straight mouth. The legs, bent at the knees, are finished with broad, almost disc-like feet.

The figure is one of 64 carved corbels that run uninterrupted along the north and south sides of the nave and chancel that date to the early years of the 12th century, like the superstructure of the rest of the building. Such an amount of carved material, undoubtedly original to the site, casts some doubt upon the assertion that the Romanesque chancel arch and south doorway of the mid 12th century were brought from some other church, possibly a dissolved monastery, the tympanum over the south door replacing earlier work (RCHME 1970, 410–11; Alford 1984, 6). However, sections of the corbel-table have probably been disturbed by rebuilding and restoration work during the medieval and modern periods. Yet while the south wall of the chancel was rebuilt in the 13th century and its east wall in the 14th, its north wall, apart from the insertion of two 13th-century windows, appears to have escaped substantial modifications (RCHME 1970, 410–11). Hence it is very likely that the location of the corbels on this side, including the Sheela-na-gig, represents their original situation.

The figures at Worth Matravers and Studland are the only examples of Sheela-na-gig carvings currently known in Dorset. The close proximity of the two sites is interesting: the corbel-table at Worth Matravers precedes that at Studland by about thirty years and the presence of a Sheela-na-gig within its range of designs may have had some influence upon the masons responsible for the carvings at Studland.

In the context of a carved corbel-table, the Sheela-na-gig becomes part of the repertoire of imagery traditionally labelled grotesque. The significance of grotesque imagery (which may include, for example, displaced, dismembered, hybrid, distorted, or exaggerated bodies or body parts) in locations identified as sacred or associated with the supernatural is often overlooked. In combination with the typical medieval perception of the supernatural as ambiguous and amoral (Caciola 2000, 67), such imagery is likely to

have served to identify sacred space as well as to protect it, thereby serving a symbolic apotropaic role as well as a simply structural one.

### Acknowledgements

Thanks are due to Professor David A. Hinton and Theresa Oakley for their comments upon this notice.

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## THE EXCAVATION OF A MEDIEVAL BUILDING IN KIMMERIDGE VILLAGE

### Introduction

An archaeological watching brief during the construction of a new sewerage system and associated works at Kimmeridge, Dorset, identified part of a medieval stone-walled building in the southern portion of the village (NGR SY91507968). The watching brief was commissioned by Wessex Water and carried out between April and July 2002 by AC *archaeology*. The section of the scheme that was monitored is shown on Figure 3 and it extended from a new pumping station to the south of the village, through the rear gardens of properties fronting onto the main street, then through open fields in a north-east direction. The sewer connects with existing facilities at Church Knowle. In addition, the excavation of a new electricity cable trench heading east from the village was also monitored.

### Archaeological and historical background

The village is situated alongside a road that continues down to Kimmeridge Bay and the sea. A settlement is known to have existed here at the time of the Domesday Book in 1086, but little is known of its subsequent later medieval development. The parish church of St Nicholas, which is situated at the northern end of the village, is believed to have been originally constructed in the 12th century. Many of the houses within the present village are of 17th or 18th century date. Previous archaeological investigations within the village have failed to provide evidence of medieval occupation (Hewitt 2000).

### Methodology

The watching brief was carried out over a distance of c. 1.6km (Fig. 3). Topsoil was removed by 360° mechanical excavator within the full working width of the scheme,

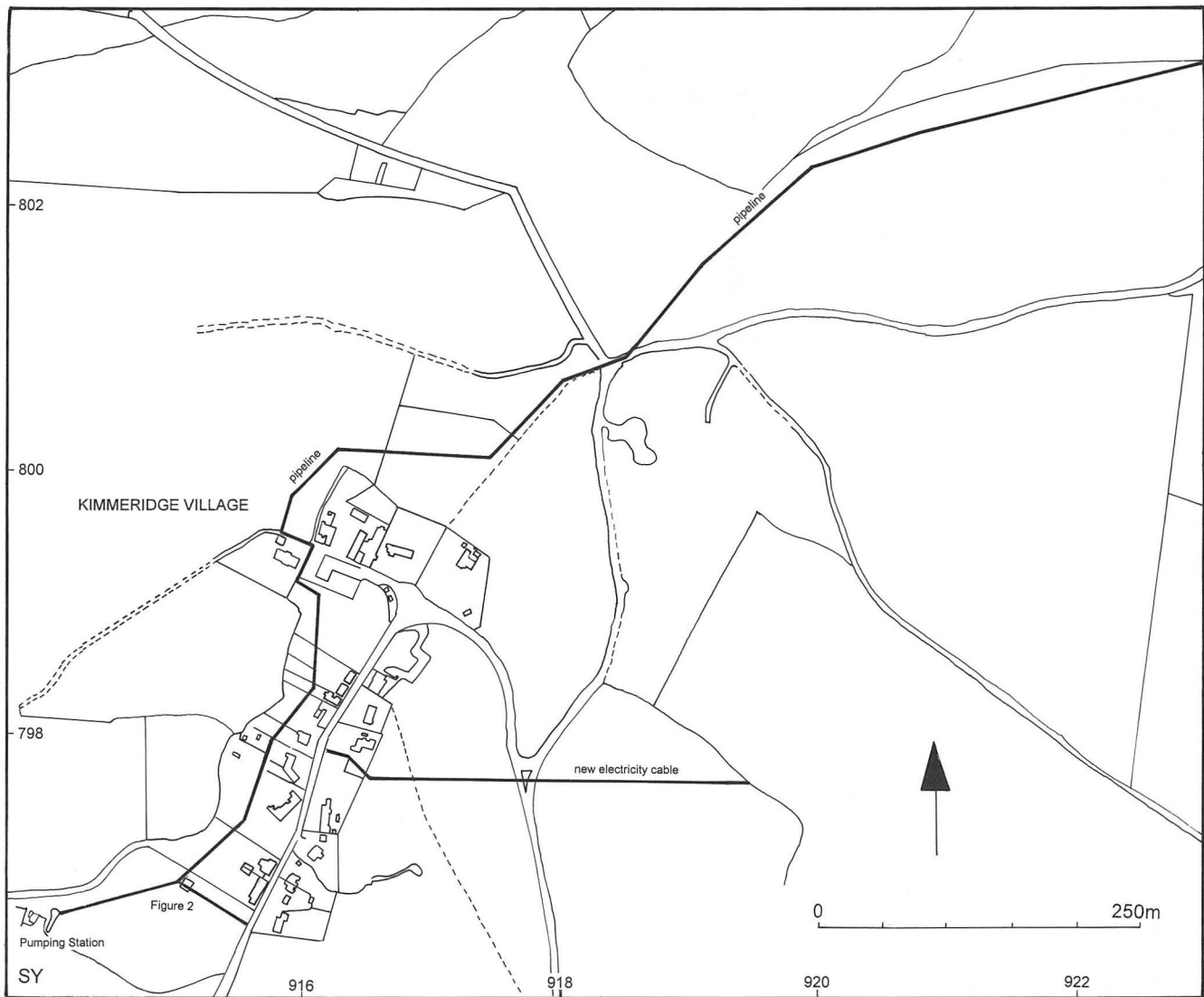


Figure 3: Location of scheme

which was 6m through gardens in the village and 15m in fields.

In the area where the medieval building was discovered, the exposed subsoil surface was cleaned by hand and recorded in plan. Further hand-excavation was concentrated on the new pipe trench itself or to clarify evidence for the structure's entrance. Following consultation with the Senior Archaeologist, Dorset County Council and completion of the archaeological work, the remainder of this site was recovered with topsoil to prevent any damage during pipeline construction. The area was subsequently reinstated.

### Results

Throughout the majority of the scheme the topsoil comprised a 300mm thick dark greyish-brown clayey silt, directly overlying natural Kimmeridge Clay. Only small quantities of post-medieval finds were recovered and no archaeological features were present. Following topsoil removal in a pasture field at the southern end of the village, a quantity of limestone rubble was visible at the interface with the Kimmeridge Clay, which on further examination was shown to be the remains of a medieval building.

The building (Structure 16 on Figure 4; see also Pl. 1) was on an approximate east to west alignment. The removal of overburden and demolition deposits revealed the building to have plan dimensions of 10m (east to west) and 5.5m (north to south). It was not, however, fully revealed in plan, as parts of it extended beyond the excavation area (see Fig. 4). The walls of the building ([8], [17], [18], [32], [31] on Fig. 4) were all of the same limestone construction and, where fully exposed, were generally 700mm wide.

Following the cleaning across the structure, two slots (Slots 1 and 2; Fig. 4) were hand-excavated. Slot 1 was positioned on the proposed course of the pipe trench where it cut through the south-west corner of the building. Excavation here established that the wall footing survived to a height of 650mm and was composed of a rubble core with clay-bonded and randomly coursed limestone block facing walls with alternated quoins. The walls were generally built on top of a shallow rubble foundation (not shown on Fig. 5). An irregular internal floor (29) could be identified within the building and consisted of crushed limestone within compacted clay. A wall to a probable oven [18] formed part of the west wall to the building and was sepa-

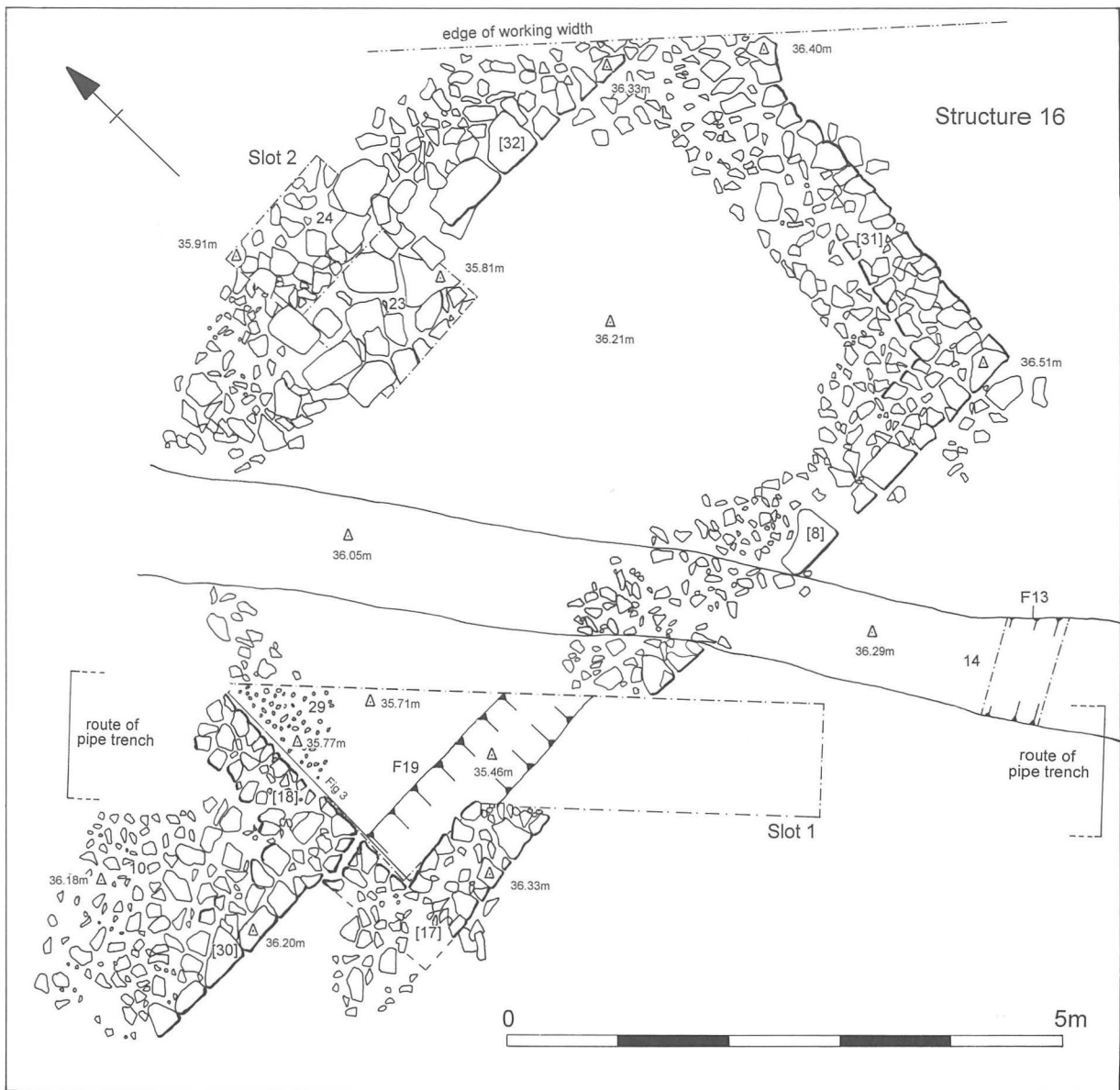


Figure 4: Detailed plan of Structure 16

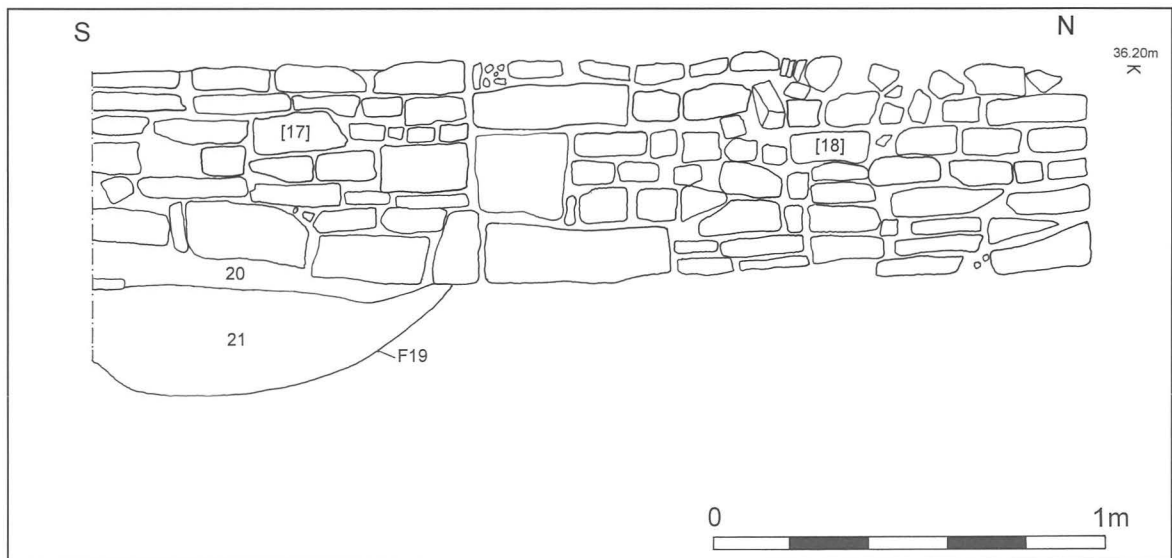


Figure 5: Internal elevation of west wall of building showing ditch F19



Plate 1. Structure 16, view from south (scales are 2m)

rated from wall [17] by a straight joint and appears to be an addition. Many of the limestone blocks forming the oven were heat-scorched. A further wall to the oven [30] extended to the west and immediately north of this was a rough cobbled surface (10).

Slot 2 was located across the north wall [32] and was excavated in order to establish whether an entrance to the building was present where there appeared to be a break along the wall footing. Although evidence for an entrance was not revealed, the excavation identified an internal floor [23] composed of flat limestone slabs. A quantity of medieval pottery was recovered from a rubble foundation for the floor (context 25). The floor level lay beneath a thick deposit of demolition rubble containing limestone fragments, some of which may have been fragmented roofing stone. These were not retained. It was not possible to establish a relationship between floors 23 and 29.

#### Other features

There was no evidence within the immediate area for a property boundary ditch associated with the medieval building, although two ditches were noted in the course of excavating the structure. The earliest (F19 on Figs 4 and 5) was present in Slot 1 and was directly overlain by wall [17]. The ditch was aligned east to west, was 1m wide, 350mm deep and had a rounded profile. Two fills were present (context 20 and 21), both composed of yellowish-brown sandy clays. Early medieval pottery was recovered from the lower fill.

The second ditch (F13 on Fig. 4) was aligned approximately north-west to south-east and cut through the south wall of the building. The fill of the ditch contained 19th-century pottery.

#### Finds

##### Pottery

A small pottery assemblage was recovered (87 sherds weighing 873g). The pottery consists of one Roman samian sherd (3g), 56 medieval sherds (268g), 18 post-medieval glazed earthenwares (315g) and 12 modern industrial wares (287g). The condition of the pottery is generally poor and diagnostic vessel forms almost absent.

##### Medieval

The bulk of the medieval assemblage is composed of sandy wares which cover a wide variation in the frequency and size of inclusions. The majority (42 sherds) are attributed to a moderately coarse sandy fabric, with only eight sherds occurring in a very coarse sandy fabric and one in a fine sandy fabric. Only one small plain everted rim sherd in the coarse sandy fabric was recovered and, with the exception of a small quantity which are glazed or scratch-marked, the remainder are all small non-diagnostic body sherds. Sherds in other fabric types are limited to three that are limestone-tempered and two that are flint-gritted.

This small medieval assemblage is comparable with pottery fabrics recorded from Wareham (Hinton and Hodges 1980; Harding *et al.* 1995) and at Ower Farm (Lancley and Mephram 1991). The earliest pottery group

was recovered from ditch F19 (context 21), which contained one limestone-tempered and six very coarse sandy sherds. Limestone-tempered sherds at Wareham (Hinton and Hodges 1980, Fabric B) are dated to the 10th and 11th century AD and are likely to have been produced on or near the Isle of Purbeck. The flint-gritted sherds were recovered from the cleaning layer 15 (*ibid.*, Fabric A) and may date to the 11th to early 12th centuries AD.

The majority of coarse sandy wares (including the scratch-marked sherds) were recovered from layer 25 beneath the internal stone floor. These are similar to Fabric C from Wareham, with the small quantity of scratch-marked sherds falling within Fabric type E. Fabric C, the main ware used in Wareham, was probably produced locally from the 11th to the 14th century. The scratch-marked sherds are apparently not derived from the same clays as Fabric C and Spoerry (1990) suggests that they may have come from the kilns at Laverstock, which is known to have been producing similar fabrics throughout the 12th and 13th centuries AD. It is noteworthy that the fine pale-firing fabrics dated to the 13th to 14th century at Ower Farm (Lancley and Mephram 1991) and Howard's Lane, Wareham (Harding *et al.* 1995) are absent in the Kimmeridge assemblage, which may suggest that the construction of the building is unlikely to date much beyond the end of the 13th century AD.

#### Post-medieval

The post-medieval pottery comprises mainly glazed earthenwares, and includes local earthenwares probably from Verwood, red wares, possibly produced at Lyme Regis, and white wares from the kiln at East Holme, Stoborough (Mephram 1991). All these types may be broadly dated to between the 17th and 19th centuries. The remaining sherds include modern industrial whitewares and slipwares.

#### Other finds

A small quantity of other finds were recovered, consisting of six plain clay pipe stems, 20 shell fragments (limpets, oyster shell and scallop), one small fragment of fired clay, one drain pipe fragment, 12 animal bone fragments and 20 iron objects or fragments. The animal bone consists of small non-diagnostic fragments, and the only fragments identified to species include a sheep/goat horn-core and unfused humerus. The iron objects comprise two small blade fragments, two undiagnostic strips, one possible ferrule and 15 nails, which are mainly large general structural nails. With the exception of one possible stud with a large domed head from ditch fill context 21, the bulk of the objects and fragments were recovered from clearance layer 2.

#### Discussion

Within the objectives of the excavation, only limited hand-excavation was carried out which means that the majority of the building has been preserved *in situ*. This approach to the management of the site provides for its long-term curation, but limits the scope of analysis of the results. Consequently, the following discussion is based on the results from limited investigation only.

The building at Kimmeridge appears to be a single cell domestic dwelling, although it is possible that more flimsy internal walls were present beneath the soil and demolition levels inside the structure and consequently not revealed

by excavation. The building is likely to have had an oven attached to the west wall, but it is uncertain whether this is contemporaneous with the earliest use of the main structure or was a later addition. There is no evidence from the site for the type of upper wall construction and for the number of storeys the building may have had. Some of the stone present within the demolition levels may, however, indicate that the building was roofed with stone tile.

Pottery recovered from foundation levels beneath the internal floor indicates a date for construction of no later than the end of the 13th century AD. Published examples of excavated stone-walled rural buildings of medieval date in Dorset are relatively scarce, but includes those at Holworth (Rahtz 1960), Ower Farm (Cox and Hearne 1991; Dodd 1994) and at Chantry Fields, Gillingham (Valentin and Robinson 2001). What is apparent from all these sites, however, is that the stone-footed buildings are generally considered to be 13th or 14th century in date, perhaps 50 to 100 years later than the Kimmeridge example, while those identified which are comparable in date (e.g. Holworth and Ower) appear to have been constructed with timber slots and using upright posts. The nearest of these sites is at Holworth (Rahtz 1960), where individual buildings were set within their own tofts.

Because investigation was limited, it is not possible to provide an end date for the use of the building, as the pottery was generally recovered from structural levels or from initial site clearance.

The ditch identified beneath the walls of the building (F19) contained pottery dating to the 11th/12th century AD. The function of this feature is not certain but, based on profile and alignment, a drainage or boundary function is most likely. The relatively large size of individual pottery sherds recovered from the ditch may indicate that settlement of this date was close by.

Archaeological monitoring across the remainder of the scheme provided largely negative results, despite the pipeline crossing within 50m of a known Romano-British cemetery site (RCHM 1970, 608).

#### Acknowledgements

The watching brief, excavation and subsequent report was funded by Wessex Water and we are grateful for the co-operation of Dave Jones and John Brickell, as well as Doug Goodacre of the site contractors T.J. Brent. The excavation team was led by Joe Whelan, assisted by Neil Adam, Tim Callister and Phil Roberts. Drawings for this report were prepared by Sarah Cottam. Steven Wallis, Senior Archaeologist, Dorset County Council, provided advice and guidance during the course of the project.

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#### THE GREAT EASTERN NUMBER 1 FUNNEL REVEALED AT SUTTON POYNTZ

During preliminary field investigations on behalf of Wessex Water at the site of a proposed new Water Treatment Works at Sutton Poyntz, Dorset (NGR SY 707 844), the author was invited to inspect a section of funnel from Brunel's *Great Eastern* Steam Ship.

Sutton Poyntz lies c. 5.8km to the north-east of Weymouth in an area with a rich archaeological heritage. The immediate vicinity contains prehistoric, Roman and medieval remains while the basal geology comprises extensive drift deposits of Kimmeridge Clay (Geological Survey of Great Britain, 1:50 000 Drift Series, Sheet 341 and 342). The clay deposits form the central part of the Sutton Poyntz Pericline (Arkell 1953, 266–71). The site lies immediately south of a major east–west fault zone that delineates the northern edge of the pericline and related dip faults are ultimately responsible for the existence of fresh-water springs at Sutton Poyntz that feed the River Jordan. Development of Weymouth's new public water supply scheme began here by the Weymouth Waterworks Company in 1856 to exploit the spring water to drive turbine ram pumps.

Also known as the *Leviathan*, the *Great Eastern* was built for the Eastern Steam Navigation Company to establish a steamship route from Great Britain to the Far East and Australia around the Cape of Good Hope. However, following an on-board explosion off Hastings during sea-trials in September 1859, the *Great Eastern* put into Portland for repair. The explosion was attributed to the collapse of the feed-pipe casing of the foremost funnel. Each of the five funnels of the *Great Eastern* was 7 feet in diameter and 80 feet long. In order to economise the heat given off by them, and to keep the saloons through which they passed cool, the funnels were fitted with a 'feed-pipe' casing, or outer funnel. This casing rose from the boilers to about 8 feet above the upper deck. The inner funnel carried off smoke and flame and the space between the two was filled with water. The water was pumped in cold at the top of the casing and as it passed downwards it was heated

and discharged into the boilers through a valve. Fuel was saved by the supply of hot water to the boilers. Notably, the three aft funnels for the screw engine did not have a feed-pipe casing fitted — only the two forward funnels for the paddles were fitted with the casing. The pressure of the column of water upon the bases of the funnels often caused the bases to leak and extinguish the fires and in this instance, the water pressure caused the casing to collapse.

The explosion, reported in the *Dorset County Chronicle and Somersetshire Gazette* of September 15 1859, caused 'the forward part of the deck...to spring like a mine, blowing the funnel up into the air. There was a confused heavy roar, amid which came the awful crash of timber and iron mingled together with a frightful uproar, and then all was hidden in a rush of steam'. Some stokers were seriously scalded and three were known to have died as a result of their injuries. Although Brunel's bulkhead design limited the extent of the explosion, damage had been done to the Number 1 forward funnel. The arrival of the *Great Eastern* in Portland Roads, with both paddles functioning, was followed by an inquest in Weymouth.

Interest in the explosion and the vessel in Portland was high and as the top section of the Number 1 funnel was relatively undamaged it was later purchased by the Weymouth Waterworks Company. It was transported overland and installed at the Sutton Poyntz springhead to act as a crude strainer of the spring water utilised by the plant. The length of salvaged funnel is circular in section and comprises two halves of ½" wrought iron plate riveted together and has holes drilled around the upper circumference to act as the strainer. Notably, the absence of rivets in one half of the section suggests that it may have been dismantled for transport to its present location. Most of the section of funnel is buried and remains underwater at all times, although up to 1.5m of it is exposed. Clearly, the former funnel has performed its task for over 150 years and remains a potentially interesting study for long-term submergence of iron plate in freshwater.

While modern machinery has replaced the former water turbines at the Sutton Poyntz pumping station, much of the 19th-century facility now comprises the Museum of Water Supply, maintained by a permanent Curator who, while aware of the funnel, believes that a mast from the *Great Eastern* ended its life as a flagpole at a northern football ground. Further elements of the ship survive, as there are apparently sections of panelling and a table from the vessel in the *Great Eastern* pub at New Ferry in Wirral.

The *Great Eastern* experienced further, less serious, accidents during her twenty-nine years afloat and was eventually scrapped at Birkenhead in 1889.

#### Acknowledgements

The author would like to thank John Willows, Curator of the Museum of Water Supply, for allowing access to the site.

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## TWELVE MEN WAY DORCHESTER — A LOST PLACENAME FINALLY LOCATED

The oddly named Twelve Men Way has interested historians of Dorchester since it was first noted by Mayo in 1908. One of the many deeds published by Mayo is for a house in St Peter's parish in 1551 with houses to north and south, the King's Way on the east, and the Twelve Men Way on the west. (Mayo 1908, 341, no. 623). Mayo suggested very logically that 'perhaps the name may come from the twelve jurors sworn at the Court of the Town, who went by this way to their place of meeting' (*Ibid.*, xli-xlii).

Many Dorchester street names were being changed in the early 20th century, and Thomas Hardy was in correspondence with several people about this, defending the old names inevitably. In January 1911 he wrote to Captain Acland, curator of the Dorset County Museum,

'However, the thing more in my mind just now is this: could not the name "Twelve-Men Way" be revived? It is such an excellent and arresting designation that I think it would be justifiable to use it even though the precise spot of its origin should be obscure'. Hardy refers to Mayo, and points out that Twelve Men Way clearly ran north-south (Purdy and Millgate 1984, 136).

Mills (1977, 354) lists the 1551 reference, and another of 1594 where it is xij men Waye, but again with no location.

In February 1854 Dorchester Council discussed 'the condition of the ancient roadway or passage called "The Twelve Mens Way"' because an application had been sent to the Quarter Sessions to stop it up.<sup>1</sup> The path was described as 'running behind the houses in the High West Street' (DRO DC/DOB/38/1). *The Dorset County Chronicle* (9 February 1854) had a fuller report than the Council minutes and not only defines its position, but also the derivation of the name:

A question relative to what is styled the Twelve Men's Way (so called from the width of the thoroughfare being sufficient for twelve men to walk abreast) was then considered. This road or pathway commences in Colliton Row opposite the house now in the occupation of Mr James Spencer, and goes in a straight line to the North Walks, coming out by the gate leading into Colliton Field.

The land belonged to Colliton House, and Mr George Churchill, son of the owner, was asked to show title. He had a lease for 300 years dated 1583 from the Corporation which he showed the Council in April 1854, but he claimed full title of the land. The Council admitted 'the way is not of great general public advantage' but wanted to preserve the right of way.

James Spencer black- and bright-smith was at Grove Buildings, on the Grove at the 1846 and 1851 *Directories*,<sup>2</sup>

moving to Shirehall Lane by the 1852/3 *Directory*. He is still there in 1859, but he is then described as a bellhanger. The *Directories*, giving his address as Shirehall Lane, is helpful: in the mid 19th century what is now Glyde Path Lane had three names: Shirehall Lane at the High East Street end; Colliton Row in the middle and Glyde Path Hill at the northern (indeed steep) end. The Council say he was in Colliton Row, the *Directories* Shirehall Lane, which suggests he was close to the junction of the names.

The longer description of the route of the path shows that it ran north from somewhere around Colliton House up through Colliton Field (the grounds of Colliton House) straight to North Walk. The description specifies 'straight', and so this would be straight north up the side of Colliton Field, or diagonally across it. The shorter description 'behind the houses in High West Street' is a little misleading, although true in general terms.

There is virtually no detail inside Colliton Field in the several manuscript maps of Dorchester in the earlier 19th century.<sup>3</sup> Hutchins' map of 1772 shows no path, and only two maps do so. The 1854 Public Health Act map has a boundary running north parallel to the road, but this stops at the house in the north-east corner of the field and does not reach North Walks. The line is very similar to that shown in more detail on the Ordnance Survey 1888 1:500 survey, where a path clearly leads into the grounds of the house in the north-east corner of the field.

Puzzlingly, the earliest reference to Twelve Mens Way in 1551 places it in St Peter's parish, and the whole of Colliton Field is in Holy Trinity parish. However, the 1850s dispute makes it clear that at that time the path was across Colliton Field, and proves that the name derived from its width, not the twelve men of a jury.

## NOTES

1 The council were told 'that there was an order of Sessions to stop the road', meaning an application to the Quarter Sessions. A search through the indexed Quarter sessions records (DRO) for 1845-512; 1851-58; 1858-65 (QSM 1/11; 12; 13) shows many applications to 'stop up' highways and footpaths, but none of them are in Dorchester.

2 James Spencer had moved to Shirehall Lane by the time of the 1851 census: he is listed under Shirehall Lane, master blacksmith aged 43, having been born at Long Bredy, in the Bride valley. He lived with his wife Mary (41) and their two sons aged 14 and 3, both born in Fordington. The Grove was in Fordington parish.

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Jo Draper



## Dorset Archaeology in 2002

*The contributions for 2002 are arranged by project type, and within those types by place alphabetically. This year's notes include reports on some work carried out in 2001.*

*The collaborative role of the Local Planning Authorities and the Archaeological Office, Environmental Services, Dorset County Council, is acknowledged by all contributors in those projects arising from the planning process.*

### ARCHAEOLOGICAL SITES ADDED TO THE COUNTY SITES AND MONUMENTS RECORD

No report of previously unrecorded sites was received for 2002.

## EXCAVATIONS AND SURVEY

### BESTWALL QUARRY EXCAVATIONS 2002 – INTERIM REPORT

The eleventh phase of work at Bestwall Quarry continued throughout 2002. Approximately 25,874m<sup>2</sup> of topsoil was removed from two fields, which were close to the River Piddle and Poole Harbour (SY882940). In total 190 features were investigated comprising ditches, pits and post-holes and dated from the Early Bronze Age to the post-medieval period. In August 2002, excavations on a Roman pottery production site commenced; this work was a joint project with AC *archaeology*. Approximately 20,150m<sup>2</sup> of topsoil was removed from this area (SY880941), which lay directly north of the River Frome. The report from this site follows the main Bestwall excavation report.

#### Early Bronze Age

Discontinuous lengths of a 100m long ditch were investigated. Quantities of tooth-comb, geometric-decorated Beaker pottery and large amounts of worked flint were retrieved from the ditch fills. Among the 609 pieces of worked flint were ten thumb-nail scrapers. A large 'hollow' abutted this ditch, the fill of which contained five more thumb-nail scrapers and further amounts of Beaker pottery. Of note was a very small barbed and tanged arrowhead 10mm long.

#### Middle Bronze Age

Eleven ditches dated to this period, four of which formed a rectangular enclosure measuring 150 × 180m. Finds from these linear features included worked and burnt flint and pottery, much of which was in the Deveril-Rimbury style. There were few contemporaneous pits. A single urned cremation was located in the Roman pottery production area.

#### Late Bronze Age–Early Iron Age

Only one linear feature dated to this period. However, a cluster of pits yielded pottery, fired clay, burnt heathstone and perforated ceramic loom weights. Of the two complete loom weights recovered, one was cylindrical and the other triangular.

#### Late Iron Age and Roman period

Three ditches and four pits were of Late Iron Age date. There were, however, substantially more Roman features and some were of particular significance. A 'stepped' rectangular area approximately 20 × 25m was identified as a gravel quarry, which had silted up during the early to middle

Roman period. Part of the fill of this quarry consisted of a large spread of iron-working waste in the form of slag and furnace debris. Close by were the badly truncated remains of two iron working furnaces. There were far fewer charcoal-filled pits than in previous years; the reason for this may possibly be associated with the proximity of the pottery production site.

Two cremations were recorded. One had been disturbed by ploughing and consisted of a scatter of cremated bone and pottery. The second cremation was contained within a small pit 0.45m in diameter and 0.18m deep. A Black-Burnished ware cooking jar had been used as a container for the cremated bone. The jar, which dated to c. 175 AD, had been placed on its side within the pit. The jar was distorted and is likely to have been a pottery waster.

Two inhumations were excavated. They were sited next to each other and comprised an east–west grave and a north–south grave. Both graves were defined by partial, shallow gullies. The acidic soil had destroyed all skeletal evidence but 'body stains' were evident on the bases of both graves. Coffin nails and hobnails were retrieved from each grave.

#### Post-Roman period

A large pit overlay and cut one of the Roman graves. Sherds from a flat-based cooking pot with an upright rim were retrieved from its fill. The pottery is likely to date to the 6/7th century.

#### The Roman pottery production site

The majority of features were dated to the Roman period. There were, however, some significant features from earlier periods. The earliest dated to the Early Bronze Age and consisted of a small scoop containing substantial fragments of a tooth-comb decorated Beaker. Several Middle Bronze Age features were noted including a single urned cremation in an undecorated vessel.

A moderate amount of late Middle Iron Age pottery in the Maiden Castle-Marnhull style was retrieved from two merging ditches. The deposit was notable for the large size and high quality of the vessels.

Thirty kiln-type structures were excavated. These conformed to a general pattern of firing chamber, flue and ash pit and were of four principal types:

1. Single circular, thick, clay-walled firing chambers, which had often been re-lined.



Figure 1: Late 3rd century cooking pots in the firing chamber of an abandoned thick-walled kiln

2. Single, circular thin, clay-walled firing chambers.
3. Thin-walled multi-chambered structures.
4. Structures with elongated stone-walled chambers.

Kilns were located across much of the excavation area, some in distinct groups, but with little consistency in the direction that flues faced, suggesting that prevailing winds were not a factor. Most of the kilns were enclosed by ditches, which subsequently had been filled with dumps of pottery wasters. Large amounts of pottery were retrieved from the kiln complexes. Generally this was in the form of oxidised wasters but small quantities of reduced vessels were also present. The pottery generally dated to the 3–4th centuries AD and included a wide range of Black-Burnished ware forms. However, there seems to be a preponderance of cooking jars (Fig. 1).

Vestigial remains of structures were found across the site, generally of simple construction with clay floors, and clay and stone footings that probably supported cob or daub walls. While some were no doubt industrial structures, of note was a large rectangular area (6 × 5m), which had been used as a rubbish dump. Finds included large amounts of pottery, both Black-Burnished wares and Oxford and New Forest finewares. Among the Black-Burnished ware vessels were some unusual forms consisting of flagons, comb-decorated wares and pie-crust rim types. Of note were fourteen pottery burnishers in the form of polished pebbles, flint and reused ceramics. Also present were large pieces of limestone, heathstone, shale, ironwork and coins. The coins were minims of Constantine and dated to c. 325 AD.

Exceptionally heavy rainfall during the latter part of 2002 prevented the completion of work in this area. The excavations will be resumed in Spring 2003.

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## EAST HOLTON

Archaeological investigations at East Holton (NGR 396200 091300) commenced in 2000 (Wilkes and Hewitt 2000, 150–3) but no further work was carried out the following year as a precautionary measure against the widespread outbreak of Foot and Mouth Disease. The project was resurrected in the summer of 2002 as a coursework component of undergraduate students of Heritage Conservation at Bournemouth University.

## East Holton 2002

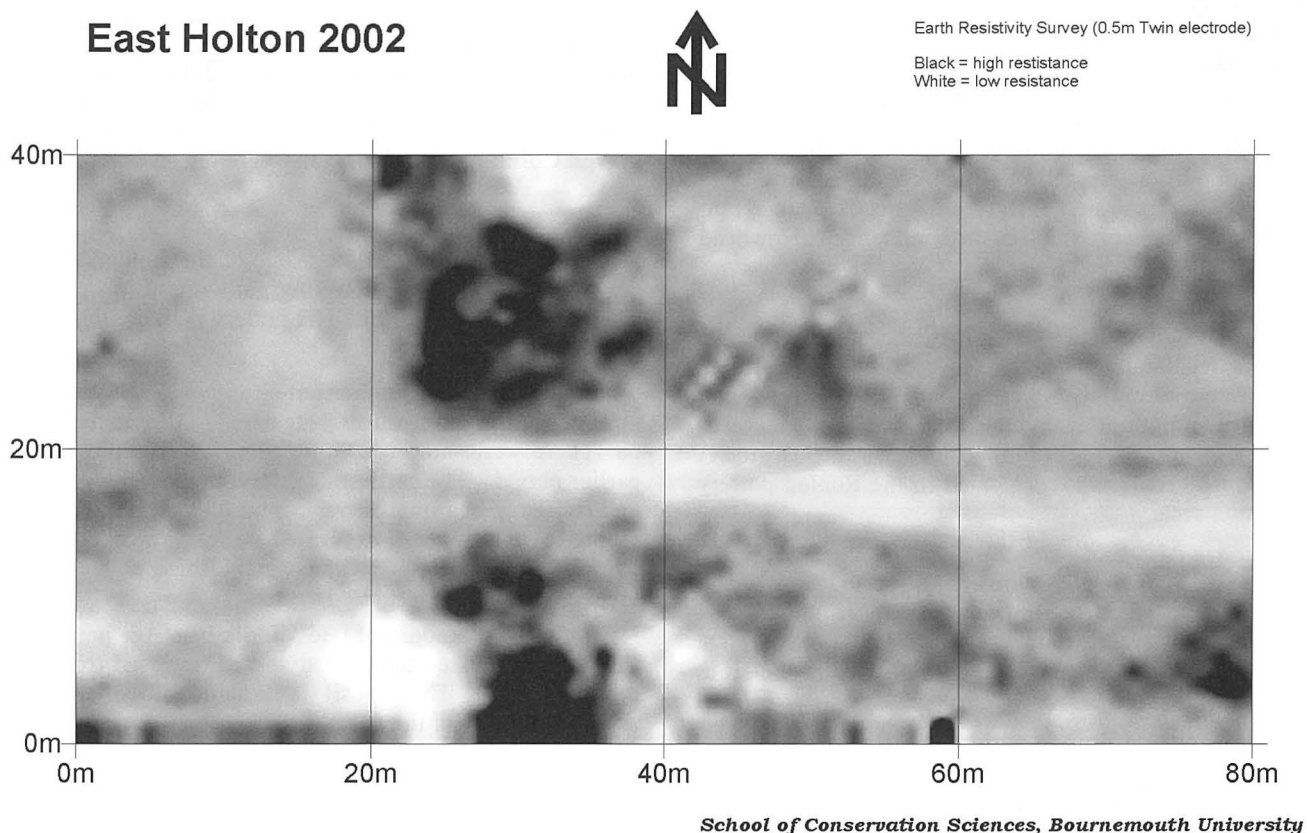


Figure 2: East Holton resistivity survey

East Holton is listed in the Domesday Book as *Holton*, a holding of William of Braose, one of a number of small Dorset heathland estates (probably farms) that were held by William. The Domesday entry for Holton reveals that it comprised a meagre half hide of arable land. In his survey of two putative Roman enclosures at East Holton, Norman Field argues that this half hide of land equated to c. 20 acres (Field 1992, 146–7). Field goes on to assert, with justification, that the Holton Domesday arable can be identified as a field system of 18 acres that extends north-east to south-west for a distance of c. 0.6km west of East Holton farmhouse. In 2001, alterations to the farmhouse revealed evidence of cob wall construction encased by later brickwork.

Field's research revealed that two additional boundaries had sub-divided the 18-acre field unit into at least three closes by 1564 (Field 1992, 147). The two sub-division boundaries of the closes have been removed but their north-west to south-east alignment is represented by low earthworks and occasional mature trees. The south-western close boundary (i.e. within 0.1km of the farmhouse) was the subject of a sample resistivity survey. The results of this survey suggest that the boundary was of bank and ditch construction, interrupted by patches of disturbance that might represent the former position of trees (Fig. 2). The date and nature of this boundary feature will need to be confirmed by limited excavation, and this is planned for the summer of 2003.

Small medieval heathland settlements are not well understood. Survey and excavations along the route of the British Petroleum pipeline (1987–90) included the Domesday estate of Ower, Dorset. The heathland location of Ower (399800 085500) together with its relatively small size, suggest that it bears reasonable comparison with East Holton. However, there are some important differences. First, the Domesday entry specifies no plough land for Ower; economically it was dependent upon salt production (Farwell 1991). Second, it is stated that Ower was paying tax before 1066, although no tenant is mentioned by name. Conversely, Holton was a small arable holding but, unusually, there is no Domesday reference to pre-Conquest taxation or tenure. Mills suggests that *holt*-, the first element of the place-name, could be a reference to a wood (Mills 1998, 89). If so, then it is conceivable that Holton was a post-Conquest foundation, created within a woodland assart (clearing) at some time between 1066 and the mid-1080s.

There is considerable scope for continuing research at East Holton and we are indebted to the Trustees and staff of the Holton Lee Estate for their encouragement, support and hospitality.

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Ian Hewitt, Paul Cheetham and Jeffrey Chartrand  
Bournemouth University

#### NATIONAL TRUST HEATHLAND RESTORATION PROJECT, HARTLAND MOOR AND MIDDLEBERE HEATH, CORFE CASTLE

During the summer of 2001, as part of the restoration of heathland and acid grassland on National Trust land at Hartland and Newline Farms, topsoil was stripped from sample plots in various parts of the restoration area. The plots were 15m by 15m in size and were adjacent to other areas to be treated with three different non-intrusive methods. The work was, and still is, being carried out by Bournemouth University. Part of the study area is very close to a known archaeological site identified from aerial photographs taken in 1946 (RAF CPE/UK/1821 4406). The site (centred SY960845) consists of a series of banks and ditches that form a number of enclosures on either side of the Snag Valley, and cover an area of 18 hectares. They are not shown on Woodward's map of 1775 (DRO D/BKL) or Ralph Treswell's 1586 map (D/BKL). The Snag Valley is used as a boundary between Arne and Corfe Castle parishes and Rowbarrow and Hasler hundreds. The focus of the site around the valley indicates that the now silted watercourse could have been navigable when the site was occupied. The evidence on the ground and from documentary sources suggests a Romano-British or prehistoric date for the enclosures (Papworth 1992, 18).

All the stripped plots were checked for visible features, but without further excavation unless something was observed that needed closer investigation. The plot at the eastern edge of the study area was very close to the site of the enclosures identified on the aerial photograph. At this site it was decided to clean back an area 4m × 14.5m along the side that was nearest to the banks and ditches. The site was cleaned back in two spits each 30mm deep, and features were planned and investigated. There were areas of colour change and texture, but only two of these areas could be said to be probable archaeological features. One was a possible ditch 0.7m wide, running east-west across the site. This was not fully excavated. The other was a post-hole with a 0.2m diameter and a depth of 0.28m.

Without full excavation it is difficult to say whether other changes in soil colour and texture were due to man-made features or were geological. The soil is an acid sandy soil known as humo-ferric podzol derived from the Bagshot beds, typical of heathland in the Poole Basin.

Finds from the excavated area consisted of four flint waste flakes, a flint scraper of indeterminate prehistoric age, three very small pottery sherds and a large (70mm by 40mm) rim sherd of probable Early Iron age date (Lorraine Mepham, pers. comm.). The finds and site archive are held at Castle View, the National Trust Visitor centre at Corfe Castle.

Thank you to Helen MacIntyre and Chris Moule who excavated the site, Lorraine Mepham for commenting on the finds and Bournemouth University for the information on their study areas.

Papworth, M., 1992 *Middlebere, Corfe Castle Estate, Archaeological Survey NT SMR No. 112252*, unpublished National Trust management report.

Dorset County Record Office, *Bankes of Kingston Lacy family archive* (DRO D/BKL).

Survey book of Ralph Treswell 1586.

Survey book of William Woodward 1775.

Nancy Grace  
The National Trust

### ADDITIONAL RING DITCHES ON THE KINGSTON LACY ESTATE, PAMPHILL

The Kingston Lacy Estate has been the subject of a National Trust archaeological survey (Papworth 1994; 1997) which describes the area around Badbury Rings in detail and recorded the available information on archaeological sites.

Since the survey, 21 additional ring ditch sites have been identified on aerial photographs and during geophysical survey and these are listed below, together with the National Trust sites and monuments record number given for each.

Seven ring ditches have been identified from the fluxgate gradiometer survey of Badbury Romano-Celtic temple. They are concentrated on the S and W sides of the temple. They lie close to the scheduled round barrow 122/g (ST96040300 NTSMR no. 112019).

ST96060296: visible as a faint swelling 12m diameter and 0.2m high (NT SMR no. 112818). It lies 20m SE of round barrow 112019.

ST96020302: ring ditch 10m diameter (112819) 15m NW of 112019. It is cut by the Badbury to Dorchester Roman road side ditch.

ST96030293 faint ring ditch 12m diameter (112842) lies 90m S of 112019.

ST96040294 faint ring ditch 10m diameter (112843) lies 80m S of 112019.

ST96010299 ring ditch 12m diameter (112844) lies 8m SW of 112019.

ST96060304 ring ditch 18m diameter (112845) lies 50m NE of 112019. It is cut by the Badbury to Dorchester Roman road side ditch.

ST96100300 ring ditch 12m in diameter and 15m E of 112019. It underlies the temple courtyard.

Group of three ring ditches visible on aerial photograph NMR (National Monuments Record) 9501/6 west of New Barn Farmhouse taken September 1995.

ST95040179 ring ditch about 15m in diameter (112822)

ST95050173 ring ditch about 10m in diameter (112823)

ST95070176 ring ditch about 15m in diameter (112824)

Ring ditch amongst linear crop marks S of Shapwick village OS/88055 13236 013 taken in April 1988.

ST93720123 ring ditch about 15m in diameter (112821)

Scatter of ring ditches N of Shapwick village. Four visible on aerial photograph

NMR ST9302/10 taken in September 1995.

ST93550241 ring ditch about 15m in diameter (112828).

ST93610244 ring ditch about 15m in diameter (112829).

ST93830230 ring ditch about 15m in diameter (112830).

ST94000238 ring ditch about 10m in diameter (112840).

Visible on aerial photograph ST9302/14 taken in September 1995.

ST94200250 ring ditch about 10m in diameter (112831).

ST94000285 soil mark of a ring ditch photographed by John Chapel of Bishops Court Farm in January 2001 about 15m in diameter (112841)

Group of three ring ditches within the Romano-British settlement SW of Crab Farmhouse discovered during the fluxgate gradiometer survey of the area.

ST94600230 ring ditch 15m in diameter (112846).

ST94610229 ring ditch 10m in diameter (112847).

ST94550224 ring ditch 15m in diameter (112848).

A ring ditch identified on aerial photograph BKS/3161 8048 629262 taken in February 1968. It is about 10m in diameter (112832)

This brings the total number of ring ditches and burial mounds known from the land around Badbury Rings to 117.

Papworth, M., 1994 *Shapwick, Kingston Lacy Estate, Archaeological Survey*, unpublished National Trust management report.

Papworth, M., 1997 *Pamphill, Kingston Lacy Estate, Archaeological Survey*, unpublished National Trust management report.

Martin Papworth  
The National Trust

### GEOPHYSICAL SURVEY ON BRADFORD DOWN, PAMPHILL

Bradford Down is the site of a large Iron Age and Romano-British settlement lying on a hilltop with clear views in all directions. Badbury Rings dominates the skyline 1.5km to the south-west. Norman Field excavated part of the site from 1968–72 (Field 1982, 71–92) after turf cutting and ploughing had revealed archaeological deposits. He found Iron Age storage pits and boundary ditches and the footings of several phases of Romano-British buildings.

Aerial photographs taken in July 1996 (NMR ST9704/4 and ST9704/5) have revealed that the site is extensive. Between August and October 2002 a fluxgate gradiometer survey was conducted across the centre of the field. A square block measuring 200m by 200m containing 100 20m grid squares was surveyed with readings taken every 0.5m along 1.0m wide traverses. The survey plot shows a complex of contiguous rectilinear enclosures linked by trackways and containing numerous pit-like anomalies. The arrangement of enclosures is similar to the Late Iron Age enclosures revealed by excavation and geophysical survey at Cleaval Point (Sunter and Woodward 1987, 46).

A small area of resistivity survey also took place using the same grid as the gradiometer survey. This was located over the area excavated by Norman Field. The survey showed the footings of the buildings Norman Field excavated and found additional structures in the vicinity. A small area of field-walking on the same grid revealed numerous struck flints with a high percentage of reworked examples, including a number of scrapers.

Further geophysical survey is planned to take place on Bradford Down during 2003. Many thanks to Geoffrey Brown for carrying out the geophysical survey across the site.

Field, N., 1982 'The Iron Age and Romano-British settlement on Bradford Down, Pamphill, Dorset, *Proceedings of the Dorset Natural History and Archaeological Society* 104

Sunter, N. and Woodward, P., 1987 *Romano-British Industries in Purbeck*, Dorset Natural History and Archaeological Society Monograph 6.

Martin Papworth  
The National Trust

## EXCAVATIONS AND BUILDING RECORDING AT PORTLAND CASTLE

Portland Castle (SY 684 743) has recently benefited from a three-year programme of works by English Heritage to improve visitor facilities at the site. The works took place from 1999 to 2002. At the same time, a redundant garden area lying immediately to the east of the castle was landscaped and newly planted in order to extend visitor access to the grounds. The works were preceded by archaeological recording of standing buildings and remains, and excavations on the line of new underground services as well as in the garden area.

### The Castle

Portland Castle was built by Henry VIII between 1539–1540 as part of his coastal defence system against the threat of invasion by France. It was one of a pair of artillery fortresses protecting the approach to Weymouth, the other being Sandsfoot Castle, which is now a ruin. In the Civil War, the castle was held by the Royalists for three years, but seized by Parliamentary troops in April 1646. Afterwards, the castle was used as an ordnance store and prison. In 1660 a new entrance gateway was erected. In 1816 the castle was granted to the Revd John Manning who was succeeded in 1834 by his son, Captain Charles Manning, as the last Governor of Portland Island. The Manning family remodelled and enlarged the residential quarters and surrounding grounds. They also improved the sea defences. Following the building of the Verne Citadel (1857–1870), the castle became the responsibility of the War Office. During the First World War it was used once more for storing ordnance. In 1949 it was taken into care as an Ancient Monument. The main part of the castle survives little altered and is an important example of a Tudor fortress.

Excavations within the castle yard exposed parts of the castle's construction levels, and uncovered the remains of two circular limekilns (intermittent flare kilns) used to make lime for the original building works, as well as mortar-mixing deposits. Two trenches opened across the infilled moat recovered a collection of finds dating largely from the time of the Civil War. These include a lead powder holder for a musket and an interesting group of clay tobacco pipe fragments that have proved of value in establishing and refining local bowl form typologies, as well as making national comparisons.

Eighteenth- and early 19th-century deposits produced three buttons from gunners' uniforms. The excavations also uncovered evidence associated with the extensive improvements made to the grounds by the Manning family in the 19th century. The Mannings infilled the moat and laid out the present gardens, extending the enclosed area within a new, outer, garden wall. They constructed an outer sea-defence, or stone apron, around the base of the castle 'keep', tying the large Portland stones at the foot of the apron together with butterfly-shaped pieces of *Lignum vitae*, a tropical hardwood renowned for its strength and water-resistance. In the later 19th century, much land was reclaimed from the sea to the west of the castle by depositing large quantities of beach cobbles and pebbles across formerly low-lying marsh. This was then protected by building the present sea wall.

Building recording concentrated on the 'Captain's House', a seemingly early 19th-century structure standing

to the south west of the main castle 'keep', now converted for use as tea-rooms, and on the high perimeter wall containing the main entrance gateway. The Captain's house, named after Captain Charles Manning who occupied it, was shown to have developed from two late 17th- or early 18th-century ancillary buildings appearing as 'brewhouse' and 'stable' on an historic plan dated 1716. These overlay the remains of the limekilns. The house also incorporates a remnant of another earlier building (now demolished) shown on the 1716 plan as the 'sutler's house', where provisions were stored. Notably for its time, this plan includes two thumbnail cross-sections of both the brewhouse and sutler's house. This latter building stood immediately behind the main entrance gateway, on the site of an original gatehouse or lodge, which was taken down soon after the Civil War. The high perimeter wall retains some masonry from this structure, as well as numerous features (now infilled with later masonry) dating from the late 17th-century sutler's house, such as a doorway and linear slots which once held timbers for floors and internal partitions. The present entrance gateway was inserted into the wall in 1660, and above there is still a cast-iron date plaque carrying that date, as well as the Royal Stuart arms and initials C.R. (Charles II). The plaque, however, has been re-set within a 19th-century stone surround, one of a number of embellishments added by the Mannings, who restored the gateway in the Romantic fashion of the time.

Minor improvement works were carried out within the castle 'keep', the main building of the castle. Tree-ring analysis of one of the large ceiling timbers over the octagonal hall produced a felling date range of AD 1503–35, confirming that it is almost certainly an original timber used in the castle's construction of 1539–1540.

### Prehistoric and Roman levels

Directly underlying the construction levels of the castle are deposits that probably date from prehistoric times. These were exposed by excavation but not investigated further, since the new service trenches were relatively shallow in depth. The surface of these levels produced a number of prehistoric Portland chert and flint objects but no other finds. In addition to these, many more flint and chert finds were recovered from the garden area to the east of the castle, where an initial evaluation trench was excavated, followed by a watching brief during the recent landscaping.

The initial evaluation showed that prehistoric levels survive in this area, and that these are associated with shallow, amorphous features that probably represent ancient tree-root disturbance in the surface of natural clay and gravel. No definite man-made prehistoric features were identified. The prehistoric levels were shown to have been extensively disturbed by Roman cultivation or ploughing dating from the late 3rd or 4th century. A cultivation soil or ploughsoil, on average 0.15m deep, survives immediately above the prehistoric levels. This soil produced nine abraded scraps of Roman pottery as well as the great majority of the prehistoric chert and flint finds.

In total, the excavations produced more than 500 prehistoric chert and flint finds. Specialist examination of this collection by John Newberry showed that almost one-third of these are tools, of which the majority are crude awls (including piercers and borers) and scrapers, whilst the remainder constitute waste fragments and a few cores. The ratio of tools to waste fragments is high, suggesting that many tools were

made on pieces to hand on site, rather than by preparing and flaking cores. The standard of knapping used to produce these objects is generally poor, a feature that is being increasingly recognised around the country as characteristic of flint-working dating from the Middle Bronze Age or later, when there appears to have been a decline in the knapping skills of earlier periods, and a rise in the proportion of awls and piercers (Edmonds 1995, 184–9; Pryor 1980, 121–5; Saville 1980; Healy 1983). Amongst this collection are small numbers of well-made cores and tools, including a Beaker-period barbed-and-tanged arrowhead made from Portland chert. These are probably earlier in date than the bulk of the material and constitute residual finds in this context. There are, however, no diagnostic finds of the Mesolithic period, a notable absence in view of the considerable Mesolithic activity evidenced elsewhere on Portland, nor of the Neolithic period, which is less surprising since S. Palmer has found very little evidence of Neolithic presence on the island (Palmer 1970; 1999, 155).

The only deposit surviving in the garden area between the Roman soil and post-medieval deposits was a sterile, thin, grey clay deposit interpreted as a turf horizon. This suggests that little or no activity took place at the site during the twelve hundred years that followed the Roman period, until the artillery castle was built in 1539–1540. Indeed, only one sherd of possible medieval date was recovered from the recent excavations, and even that could belong to the 16th century.

The archaeological programme was funded by English Heritage and carried out by Stewart Brown Associates. A copy of the full report is held by the Dorset SMR at County Hall, Dorchester. This includes five specialist reports: 'Inventory of all pottery, bricks and clay pipes' by John Allan; 'Chert and flint finds' by John Newberry; 'Clay tobacco pipes' by David Higgins; 'Animal bones' by Philip Armitage; and 'Tree-ring analysis of a ceiling beam in the "Keep"' by Martin Bridge.

#### Acknowledgements

I would like to acknowledge Aidan Matthews as the joint author of the full report, and thank all those involved with the works who gave assistance or support, including: Rob Harding, Kim Austin, Alan Cathersides, Tom Cromwell, Glynis Edwards, and Jenny Cheshire from English Heritage; Reg Ellis, architect; Stuart Longman, site foreman for J.V. Baker Ltd; Andy Delgarno, site foreman for Ellis and Co.; site archaeologists Julie Matthews, Tim Gent, Eddie Jones, and Neil Goodwin; and Jane Read, pottery illustrator.

John Newberry would like to thank Mrs Nancy Pearce for her help in analysing the prehistoric chert and flint finds.

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Stewart Brown  
Stewart Brown Associates

#### SHAFTESBURY, 8 LOVE LANE

Planning application 2/2002/0723 had been submitted to demolish no. 8 Love Lane, Shaftesbury (NGR 985920 122750) and to erect two residential buildings on the site.

It should be noted that the house and grounds of no. 8 lie within the supposed bounds of the ninth-century Saxon *burh* (defence) as defined by Penn (1980, 87).

A desk-based assessment of the site revealed that it had been part of a unit of land used as garden allotments as late as 1901. Visual inspection revealed that there had been a number of episodes of disturbance, not least by the creation of a building platform to support the cottage, and the construction of a tarmac car park adjacent to Love Lane. Service trenches included a gas pipeline.

The excavation cut into rich loamy soils that were consistent with the site's earlier use as nursery gardens. Artefact retrieval was limited to less than 10 sherds of 19th/early 20th-century Verwood wares and, predictably, flowerpot fabric. No archaeological features were revealed, although the underlying geology varied from a stony brash to a Greensand clay. There was no positive evidence from this site to support the general assumption that the Saxon *burh* of Shaftesbury was located in this area. In fact, Penn suggests that the course of Love Lane coincides with the southern line of the Saxon defences (1980, 87). However, *Love Lane* is a relatively common street-name of the 17th century. It was a name that was normally applied to dark, narrow lanes that negotiated the edge of a steep slope (Room 1992). The Shaftesbury Love Lane conforms to all of these criteria and it is therefore quite possible that it did not exist before c. 1600.

Penn K., 1980 *Historic Towns in Dorset*. Dorchester, Dorset Natural History and Archaeological Society, Monograph Series 1  
Room A., 1992 *The Street-names of England*. Stamford

Ian Hewitt  
Bournemouth University

#### TRIAL EXCAVATION AT STOKE ABBOTT

On 18 May 2002, a trial excavation was carried out by Rhodri Evans, Bill Putnam and others at Manor Farm, Stoke Abbott, by kind permission and with the assistance of the owner, David Prysor-Jones.

The aim was to test the possibility that a bank on the lower ground to the south of the Roman fort at Waddon represented part of a Roman temporary camp, perhaps a labour camp for the construction of the fort. The bank runs from ST4486 0093 to ST4490 0106 and appears more substantial than the hedge banks characteristic of the area. It has a smooth right-angled corner at its eastern end.

A machine section cut at right-angles to the bank at ST4489 0101 showed that, contrary to the surface appearance, the bank was in fact an abandoned hedge bank, with pottery in its primary fill dating to the 18th century AD.

Rhodri Evans and Bill Putnam

## WIMBORNE, THE PRIEST'S HOUSE, HIGH STREET

The Priest's House is situated on the east side of Wimborne High Street. It is given a detailed architectural description in volume 5 of the Royal Commission's Inventory of Historical Monuments in the County of Dorset (RCHME 1975, 88–9). The Commission has identified the house as being of early 17th-century origin, constructed with an east hall with north and south wings. A number of modifications have been made since that time. On the west side, between the wings, was a courtyard. At a later date, the courtyard was sealed in order to create additional High Street frontage. At present, the Priest's House serves as the museum for Wimborne and East Dorset District.

In May 2002, minor structural modifications to the building entailed the digging of a small pit (of approximately 0.5 of a cubic metre) beneath the paved floor of the former courtyard area. The work was not subject to any archaeological planning constraint but the Curator and

Trustees of the Priest's House Museum considered it prudent to arrange for a Watching Brief to be undertaken. The required dimensions of the pit were achieved at c. 0.5m (east–west) × 0.65m (north–south), and c. 0.4m deep as measured from ground level. By coincidence, the base of the pit was covered by a number of overlapping Purbeck limestone roof tiles that are similar to those laid along the eaves of the present roof of the Priest's House.

The excavated pit was too small to allow for a confident interpretation of the limestone tile feature but it is certain that the slabs were placed in position when the courtyard was an open feature. Conceivably, the tiles represent a disturbed area of pavement. Alternatively, they were part of a garden drain.

RCHME, 1975 Historical Monuments in the County of Dorset 5, London

Iain Hewitt  
Bournemouth University

## EVALUATIONS

## CHARMINSTER, WANCHARD LANE

An archaeological evaluation on land immediately to the north of the Dorset County Council maintenance and repair depot, Charminster (SY67559315), was carried out by AC *archaeology* during September 2002. Nine trenches totalling 150m in length were machine-excavated across the site, some targeting anomalies identified during an earlier geophysical survey, while others were positioned to provide representative coverage. No archaeological features were identified, although small quantities of prehistoric, Romano-British and post-medieval finds were recovered from topsoil and subsoil contexts.

N.J. Adam  
AC *archaeology*

## EAST STOKE, BINNEGAR QUARRY

An archaeological evaluation by means of trench excavation on land at Binnegar Quarry, near Wareham (centred on SY89268774), was carried out by AC *archaeology* during September 2002. Nine trenches were excavated, each 40m long and 2m wide and located throughout a proposed quarry extension area. Some of the trenches targeted anomalies recorded during an earlier geophysical survey, while a single trench was excavated across the recorded site of a Bronze Age bowl barrow, which is a Scheduled Ancient Monument (SAM Dorset 29061).

In most trenches no evidence for archaeological activity, in the form of features or finds, was identified. It was also established that the anomalies identified during the

geophysical survey were variations within the natural sands and gravels. The trench excavated across the Scheduled barrow has confirmed the presence of a ring ditch in this location, with the mound structure heavily damaged by recent ploughing, and the material from which seemingly only surviving within the ploughsoil.

N.J. Adam  
*AC archaeology*

#### OSMINGTON, OSMINGTON WHITE HORSE

An archaeological evaluation, by means of the hand-excavation of trial pits and background research, of the Osmington White Horse, White Horse Hill, Osmington (SY717845), was carried out by *AC archaeology* during the autumn of 2002. In total, eight trial pits were excavated within the scheduled area, six of which were on the monument itself and two just outside. The results from those on the monument indicate that the original exposed surface would have been the underlying weathered natural bedrock, now revealed to be Purbeck Limestone and not chalk as previously thought. In one trial pit there was evidence for localised repair or resurfacing and others contained layers of colluvial soils which have washed naturally downslope. In a trial pit located outside and upslope of the monument, a probable prehistoric feature of uncertain function was recorded.

The review of historic sources clearly indicate that the monument was constructed as a single event in 1808, with the only major modification being the new surface of Portland Limestone scalplings brought in 1989 as part of the BBC Challenge Anneka programme.

Stephen Robinson  
*AC archaeology*

#### PIMPERNE, MANOR FARM

An archaeological evaluation at Manor Farm, Pimperne (ST90350955), was carried out by *AC archaeology* during May 2002. The work comprised the machine excavation of six trenches covering a total area of 45m<sup>2</sup>, which identified a probable medieval ditch and evidence for two brick-built structures as shown on a map of 1923. In addition, a flint foundation for a boundary wall shown on a map of 1814 was also uncovered. The trenching also identified deep redeposited soils in some areas, while in others extensive modern truncation appears to have taken place.

N.J. Adam  
*AC archaeology*

#### SHAFTESBURY, SALISBURY ROAD

An archaeological evaluation of a proposed residential development on land adjacent to 'Greenacres' Salisbury Road, Shaftesbury (ST87462260), was carried out by *AC archaeology* during November 2002. The evaluation comprised the machine excavation of trenches totalling 394m in length and each trench was 2.2m wide. A consistent sequence of layers was identified in the majority of trenches and no archaeological features or deposits were present. Also, only a small quantity of artefacts was recovered which are of prehistoric through to modern date.

Stephen Robinson  
*AC archaeology*

#### SHERBORNE, DIGBY ROAD

In June 2002, on behalf of Sherborne Castle Estates, Niall Oakey, Heritage Consultant, carried out an archaeological evaluation of the premises formerly occupied by Saunders' Garage, Digby Road, Sherborne, Dorset (centred on NGR ST6384 1630). The site, covering an area of c. 3000m<sup>2</sup> lies to the south of the Saxon and medieval core of Sherborne. Four trenches, each measuring 4 × 1.50m and located in areas where below-ground deposits were likely to be affected by the development proposals, were excavated mechanically before further excavation by hand and recording. Much of the site was occupied by converted stables built in the late 1860s and evidence of either activity or structures from an earlier date was limited. No material of a date earlier than the 13th century was found and the limited quantity of medieval artefacts was all found redeposited within later material. A concentration of redeposited late 17th–18th-century pottery may be domestic refuse deriving from activity in a surviving 16th–17th-century building immediately adjacent to the site's northern boundary (the 'Digby Tap'). The earliest structure on site known from documentary and cartographic evidence was the Parish Workhouse, created by building two south wings onto the 'Digby Tap' building. The Workhouse was in use from the late 18th century to 1839 (maximum) and had been demolished by the late 1860s. Partially robbed wall foundations of one wing of the Workhouse were found at a depth of 0.81m, but no associated surfaces or activity had survived. Few artefacts that may have derived from use of the Workhouse were found and all were redeposited in modern contexts. Elsewhere on site a thick (0.50–0.80m) deposit of topsoil directly overlaying natural gravels suggested a long period of agricultural and horticultural activity. A functioning stone culvert, presumed to date from the second half of the 19th century, was recorded, but modern ground disturbance was deep and extensive.

Niall Oakey  
Heritage Consultant

#### SOUTH PERROTT, MOHUN HOUSE

In March 2002 Niall Oakey carried out a small archaeological evaluation within the footprint of a proposed extension to Mohun House, Church Hill, South Perrott, Dorset (NGR: ST 47185 06692) on behalf of Mr A de la Poer. The site lies immediately north of extant earthworks associated with Mohun Castle, which was demolished in the middle of the 17th century. Excavation of a small trench measuring 1 × 2m revealed an undated bank of loose irregular limestone rubble running north-south. To the west of the bank the natural limestone had been cut into, presumably for quarrying. This cut had been back-filled with material, which, on the basis of the ceramics, had been deposited in the later 18th century.

Niall Oakey  
Heritage Consultant

#### WAREHAM, SOUTH STREET

An archaeological evaluation on land to the rear of 10–10a South Street, Wareham (SY92328725) was carried out by *AC archaeology* during September 2002. The evaluation consisted of two machine-excavated trenches, each 2m long and 1m wide located in the north-west and north-east corners of land currently used as a car park. There was

a variable sequence and depth of deposits in each trench, despite their close proximity. In Trench 2 (north-east corner) occupation soils were present with a depth of c. 900mm, whereas in Trench 1 (north-west corner) this layer was only 400mm thick. Post-medieval and later finds only were recovered. A layer of demolition rubble in Trench 1 and a probable external surface in Trench 2 are likely to relate to a brick building of 19th or 20th-century date formerly present in this location, the northern wall of which still stands as a boundary wall to the site.

Stephen Robinson  
*AC archaeology*

#### WAREHAM, WEST WALLS

An archaeological evaluation of a proposed residential development on land at 22 West Walls, Wareham (SY92078742) was carried out by *AC archaeology* during November 2002. The evaluation consisted of the machine excavation of two trenches, each 5m long and 1.4m wide and located within the garden of an existing house. Both trenches contained a depth of occupation soils up to 1m thick, but a trench located in the eastern portion of the site revealed an additional layer immediately above the natural subsoil, the finds from which may indicate that medieval

settlement or industrial-type activity is present on or close to the site. There were, however, no associated features or structures present.

Stephen Robinson  
*AC archaeology*

#### WIMBORNE, LAKE FARM

An archaeological evaluation was carried out by *AC archaeology* during June 2002 on the site of a proposed new barn on land immediately to the east of Lake Farm, Wimborne (SZ00129895). The site lies within the scheduled area of the 1st century Roman military site at Lake Farm (County Monument No. 736), but outside the fort's defensive ditch circuit.

The evaluation consisted of the hand excavation of four trial pits, each 1m × 1m in plan, located in the positions of four support stanchions for the proposed new barn. Two of these pits (nos 2 and 4) located features or deposits of probable Romano-British date which, based on results of previous work, may be quarry pits to obtain aggregate for use in the construction of roads within the fort.

N.J. Adam  
*AC archaeology*

### WATCHING BRIEFS

#### CERNE ABBAS, THE OLD FORGE

In April 2002 Niall Oakey carried out an archaeological watching brief on groundworks associated with the construction of a house on land formerly occupied by The Old Forge, Mill Lane, Cerne Abbas, Dorset (NGR ST6647 0120). No artefacts or features were observed that predated the construction of the forge in the mid-19th-century. A ridge of Upper Greensand outcropped on the site and any traces of earlier activity are likely to have been destroyed by the construction of the forge and later modifications and additions to the structure. Archaeological evidence of activity during the lifetime of the forge was limited to a tethering bar and rings on an upstanding wall. The work was funded by Duck Developments.

Niall Oakey  
Heritage Consultant

#### GUSSAGE ST MICHAEL, DORSET: ROMAN OCCUPATION NEAR DRIVE PLANTATION

Cultivation in the period 1996 to 2002 of a field on the east side of the parish, 1km east of the Gussage Down settlement and dyke complex and within 100m of the Ackling Dyke has revealed evidence of Roman occupation, including possible traces of building foundations. I am grateful to the landowner, Michael Green, for drawing attention to the finds. The site is centred at SU005141 and lies on the south-western side of the known enclosure (Gussage St Michael 8) a site recognised in the 1960s from air photographs, which show a large banked and ditched oval enclosure containing areas of darker soil suggestive of interior occupation (RCHM 1975, 24, pl. 54). Two partly

ploughed-out round barrows (monuments Gussage St Michael 34 and 35) coincide with the eastern side of the enclosure and presumably pre-date it but their mounds are not obviously incorporated in its bank, the trace of which can elsewhere be traced around the circuit (Bowen 1990, 49, fig. 1 and area plan 2). The eastern side of barrow 35 and the eastern side of the enclosure beyond are obscured by the present belt of trees along the line of Ackling Dyke but there can be little doubt that here the site was levelled for the construction of the Roman road. The line of a dyke on the south of Down Farm (part of Gussage St Michael 7) terminates close to the north-western side and traces of a field system extend from a slight combe on the west towards the centre of the site on Gussage Down.

The initial find on the uphill, south-western, side of the enclosure was of a large slab of iron stone 0.4 × 0.5 × 0.16m thick which was disturbed by the plough at a point in the eastern corner of the field, close to the line of Ackling Dyke and in an area estimated to lie just outside the boundary of the enclosure. In this area only dark ploughsoil was present, varying little in colour and containing few finds. The block was unworked but traces of a sandy chalk silt on one side of the block may have been remnants of a chalky mortar bedding. A second, smaller, block subsequently found in the same area bore traces of a similar deposit and both could derive from the foundation or substantial floor surface of a building.

Subsequent examination of the cultivated or stubble surface further into the field showed areas of chalky and darker soil and an uneven ground surface, corresponding with the south-western interior of the enclosure, as plotted from the air photograph. This area yielded a scatter of

Roman pottery and stone fragments, the pottery comprising mainly small and abraded sherds of grey sandy ware, a smaller quantity of Black Burnished ware and fragments of a coarse orange, possibly grogged, ware from a vessel of large circumference. There were also rare fragments of amphora. The few dateable sherds would fall in the 2nd or 3rd century AD. The stone comprised rare blocks of ironstone or limestone and small fragments of Greensand, many of which derived from parts of rotary querns. One part of an upper stone bore part of rim from the central hopper hole. Scatters of calcined flint were also noted.

This site is of some interest as an extension of, or part of a possible ribbon development from, the known settlement area on the higher ground 800m to the south-west, parts of which can now be plotted in greater detail from recent air photographs taken by John Boyden. These suggest the presence of a rectangular central enclosure surrounded by smaller plots, the whole linked to Ackling dyke by a track. It is this area that has produced metal finds of

the late Roman period including objects from a cult site of some form (Corney and Green 1987, 134).

Bowen, H.C., 1990 *The Archaeology of Bokerley Dyke*, HMSO, London.

Corney, M. and Green, M., 1987 'Recent Romano-British discoveries in the Gussage Valley', *Proceedings of the Dorset Natural History and Archaeological Society* 109, 133-4.

RCHME, 1975 *An Inventory of Historical Monuments in the County of Dorset Volume 5, East Dorset*, HMSO, London

Christopher Sparey-Green

#### PIMPERNE, NEW WATER MAIN

Archaeological monitoring of the construction of a new water main at ST90650892 was undertaken by AC *archaeology* on behalf of Wessex Water. Three pits and a shallow linear feature were recorded. All features contained worked flint and one contained pottery of Late Bronze Age date.

Joe Whelan  
AC *archaeology*

### WATCHING BRIEFS WITH NEGATIVE RESULTS

Blandford, East Street (ST886062) — monitoring of groundworks for extension to rugby club (AC *archaeology*)

Chideock (centred on SY425928) — monitoring during resurfacing and associated works along a stretch of the A35T road through the village (AC *archaeology*)

Durweston, St Nicholas Church (ST858085) — monitoring of repair to churchyard wall (AC *archaeology*)

Gussage St Michael (ST97841300) — monitoring during construction of a new outbuilding located along the projected lie of the Dorset Cursus (AC *archaeology*)

Maiden Newton (SY596976) — monitoring during works

associated with flood alleviation scheme (AC *archaeology*)

Portland, Chiswell (SY683736) — monitoring during housing development (AC *archaeology*)

Shaftesbury, Castle Hill (ST856229) — monitoring during construction of new footpath (AC *archaeology*)

Thornicombe, Blandford St Mary (SU386103) — monitoring during the construction of a telecommunications mast (AC *archaeology*)

Wareham, North Street (SY92358746) — monitoring of geotechnical pits associated with redevelopment of the Post Office site (AC *archaeology*)

## FINDS AND OBSERVATIONS

### EAST STOKE

St Mary's old church stands above the banks of the River Frome and is situated upon a low knoll within a sub-rectangular churchyard. The church and churchyard together comprise a Scheduled Ancient Monument (SAM) (NGR 386780 086750). The building is much reduced. The church was replaced in 1828 and it is probable that the process of partial demolition began at this time. A substantial portion of the south porch remains and parts of the south wall still stand. A substantial quarry trench represents the site of the nave and chancel and it is clear that much of the structural material has been removed from the site; indeed it is feasible that it has been re-used in the construction of other buildings in the locality. A local tradition asserts that stone from the old church was used in the walls of the new St Mary's that stands alongside the Turnpike road to the north. This hypothesis has not been verified.

The removal of stone from the old church has left little in the way of worked architectural fragments and this makes it difficult to date the development of the church with certainty. The standing remains suggest a date range of 13th to 16th centuries, but the foundations could be earlier and it would be surprising if there had not been some later modifications.

Evidence from other abandoned medieval parish churches (e.g. Otterbourne, Hampshire) indicates that the use of their churchyards continued for some years after the demise of the church. In such cases, the chancel frequently continued in use as a cemetery chapel after the rest of the building had been reduced to ground level (Hinton 1990). The thorough destruction of the East Stoke chancel argues that the use of the graveyard ceased with the de-consecration of the church in 1828. Unfortunately, many of the tombstones have sustained severe damage and it is not possible to conduct a serious study of the dates of their history.

East Stoke Old Church and its landscape will continue as a research project of Bournemouth University and in this regard we are pleased to acknowledge the invaluable support of Sara Grayson who prompted the initial interest in the site.

Hinton, D.A., 1990 'Excavations at Otterbourne Old Church, Hampshire', *Proceedings of the Hampshire Field Club and Archaeological Society* **46**, 73–89.

Ian Hewitt, Kate Welham, John Gale and Leila Whittle  
Bournemouth University

### A NEW MESOLITHIC SITE IN POOLE

This site is located within the Branksome Dean Chine public gardens on an area of former heathland (SZ 069900), on the 30m contour at the top of a narrow neck of land between two dry valleys, and faces south.

The following flints have been recovered: two microliths, one core trimming fragment and seven flakes.

The flints are similar to material recovered from a Mesolithic site on Canford Heath.

Standing, K. and Smith, J., 1988 'Two new prehistoric sites on Canford Heath', *Proceedings of the Dorset Natural History and Archaeology Society* **109**, 123.

Ken Standing

### ROMAN COIN FROM THE SEA OFF LULWORTH COVE

In, or before, 1983 Ian Finlay, a scallop diver, found two Roman coins (one broken) on the sea bed off Lulworth Cove. He reported the find to Mike Markey of the Poole Bay Archaeological Research Group who arranged for the site, as identified by Mr Finlay, to be investigated. Divers searched the area (50°36.53'N 2°15.44'W WGS84 datum) without finding any further archaeological material; additional searches in 1993 proved to be similarly negative.

In the autumn of 2002 one coin was passed to the author (the half coin has apparently been lost) This was subsequently identified as a Billon Tetradrachm which had been minted in Alexandria in the late 2nd or early 3rd century. The distribution of this type of coin was apparently generally confined to the eastern regions of the Empire and is not commonly found in the west.

This coin is not the only Roman object to have been found off Lulworth Cove, an anchor and bottle having been found in 1966 (Farrar 1970). As with the coin the area was searched in 1967 and again in 1985, with negative results (Southampton University 1985).

Despite the lack of additional finds, the existence of one or more Roman shipwrecks off Lulworth Cove remains a possibility. The presence of the finds certainly lends credence to the idea that Lulworth Cove served as a small port during the Roman period, as it almost certainly did during the Iron Age (Farrar 1950; Wheeler 1953; Markey *et al.* 2002)

The coin has been passed to the Dorset County Museum with the consent of the Receiver of Wreck.

### Acknowledgements

I would like to thank Mike Markey of the Poole Bay Archaeological Research Group for information on earlier surveys in the Lulworth Cove area, Ed Cumming of the Weymouth Underwater Archaeology Group who passed the coin to me and Elaine Howard-Jones, Finds Liaison Officer for Dorset, who identified the coin.

Farrar, R.A.H., 1950 'An early Iron Age Beach-head at Bindon Hill, West Lulworth', *Proceedings of the Dorset Natural History and Archaeological Society* **72**, 80-2.

Farrar, R.A.H., 1970 'A stone anchor from Lulworth Cove', *Proceedings of the Dorset Natural History and Archaeological Society* **92**, 158.

Markey, M., Wilkes, E. and Darvill, T., 2002 'Poole Harbour, an Iron Age Port', *Current Archaeology* **181**, 7–9.

Wheeler, Sir Mortimer, 1953 'An Early Iron Age beach-head at Lulworth, Dorset', *Archaeological Journal* **33**(1–2), 1–13.

Southampton University, 1985 'Lulworth Cove Reef, a survey carried out by members of Southampton University and Bracknell Sub-aqua Clubs'.

Gordon Le Pard

## A ROMAN TOMBSTONE FROM WOOL

A fragment of a Roman tombstone was found in the 1980s at New Buildings, Wool, at approximately SY 838 856. The finder was Mark Vine of Weymouth. The location is about 1km south-west of the village of Wool, in an area rich in Roman finds, first located at the time of the building of the nuclear power station at Winfrith, and in particular its pipeline to the sea. (Fowler 1962). The deposits of Roman material are over 1m deep in places, suggesting a long-lived settlement site, whether villa, farm or even religious complex. Pottery at present on the surface dates from all centuries of the Roman period in Britain.

The stone from which the tombstone was made is a 'shelly upper Jurassic limestone, probably Portland rather than Purbeck, and perhaps from the Lulworth/Worbarrow area south of the find-spot' (Alan Holiday, quoted in Tomlin and Hassall 2000).

The fragment represents approximately one-quarter of the original stone, cut square from the top right-hand corner. The present fragment measures *c.* 210mm wide by *c.* 400mm high, and the full stone will have been at least 0.4m by 0.8m, perhaps a little more. In thickness it tapers from *c.* 50mm at the top to *c.* 60mm at the bottom. It has been deliberately cut to its present shape presumably for use in building work, and there will have been three other similarly sized pieces. Although the stone has been tumbled in ploughing, the inscription is well preserved.

An ivy leaf decoration lies in the surviving corner, presumably matched by three at the other corners. These are joined by a wavy line enclosing the inscription. There is no direct parallel to this pattern in tombstones from Roman Britain. The letters are 80–90mm high, and are not in the formal style usual in inscriptions, but closer to the cursive style of handwritten letters. They are written along carefully drawn setting out lines.

There are parts of three lines visible. The first line has the last part of an M, and undoubtedly read DM (Dis Manibus), showing that we are dealing with a tombstone. Although there is a wide gap between the lines, there is no evidence of further lines of letters in between.

The second line ends –VNDVS. This must be a cognomen, or nickname, and SECVNDVS, IVCVNDVS and VERECVNDVS are all possible. Tomlin and Hassall prefer VERECVNDVS as they suggest this may have a Celtic name element within it (Tomlin and Hassall 2000). This identification is possible, as SECVNDVS and IVCVNDVS are probably too short to fill the full width of the stone. It is tempting to see this as evidence for a Romanised member of the Durotrigian upper classes, but this is far from certain. Verecundus simply means 'bashful', while Iucundus is 'delightful'. Secundus means 'fortunate' or perhaps just 'born second'.

The third line is more difficult. It certainly ends –RALIS. Before this there appears to be a letter I. However, in view of the cursive style of the lettering it might be an E, which is often written as II. If this is so, then there is only one real possibility, namely LIBERALIS. This is also a cognomen (meaning 'gracious' or possibly 'freeborn') and would mean that two individuals are commemorated, Verecundus and Liberalis, without the addition of their family and personal names. If this is the case, they might well be children, as Tomlin and Hassall suggest.

There is one other possibility for the third line, that the word is DUOVIRALIS, which would fit in length and accept the first surviving letter as I. This would mean that Verecundus had the rank of Duovir, i.e. he had at some time been Chief Magistrate of a town, presumably in this case Dorchester (Durnovaria). It is tempting to think that we have the tomb of one of the chief magistrates of Roman Dorchester, but this may be taking the evidence too far.

The missing lower part of the stone will probably have given his/their age and date of death.

The stone is the property of the Weld Estate, who have kindly allowed it to be displayed in Dorset County Museum.

Fowler, P.J., 1962 'Note on Archaeological Finds from the A.E.A. Effluent Pipeline, Winfrith Heath to Arish Mell' *Proceedings of the Dorset Natural History and Archaeological Society* 84, 125–31.

Tomlin, R.S.O. and Hassall, M.W.C., 2000 'Roman Britain in 1999, ii Inscriptions', *Britannia* 31, 433–4.

Bill Putnam

## NATURAL HISTORY REPORTS

## DORSET GEOLOGICAL REPORTS

It has not proved possible to publish any geological reports this year, following the unexpected death of Michael House (see obituary).

## DORSET RAINFALL 2002

John Oliver

## THE WETTEST YEAR SINCE 1960

The general rainfall over Dorset in 2002 amounted to 1230mm and it represents 135% of the 1971–2000 average (Table 1). Over the county as a whole it was the wettest year since 1960, but for several stations 2000 was wetter by up to 80mm.

The highest total recorded for the year was 1603.8mm at Frome St Quinton and the lowest was just 767.1mm at Portland Bill (Old Higher Lighthouse). The most rain in one day was registered at Swanage where 88.0mm fell in an intense thunderstorm lasting two hours, just after dawn on 9 September. All of this rain fell before 0900hrs GMT and was therefore credited to the 8th. This was the highest daily rainfall total in Dorset since 5 August 1997 when 96mm was reported at Forde Abbey.

## GENERAL REPORT

*January*

The year dawned with the lowest temperatures recorded across Dorset since February 1986. (Dorchester  $-9.7^{\circ}\text{C}$ ; Winfrith Newburgh  $-9.5^{\circ}\text{C}$ ). Snow lay on the ground for the first four days of the month at Shaftesbury — a legacy of the snowfall of 29 December 2001. The weather

**Table 1:** Monthly rainfall and raindays

| Month       | Raindays*<br>>0.2mm | Rainfall*<br>(mm) | % of<br>average | 1971–2000<br>av. (mm) |
|-------------|---------------------|-------------------|-----------------|-----------------------|
| January     | 23                  | 103.5             | 103             | 100.1                 |
| February    | 23                  | 117.8             | 157             | 75.2                  |
| March       | 15                  | 61.9              | 82              | 74.9                  |
| April       | 11                  | 58.1              | 100             | 58.2                  |
| May         | 18                  | 115.2             | 210             | 54.8                  |
| June        | 14                  | 42.9              | 75              | 57.5                  |
| July        | 12                  | 73.0              | 169             | 43.1                  |
| August      | 10                  | 51.2              | 81              | 63.2                  |
| September   | 6                   | 52.1              | 65              | 80.4                  |
| October     | 19                  | 149.5             | 159             | 93.8                  |
| November    | 27                  | 250.3             | 259             | 96.7                  |
| December    | 22                  | 154.2             | 138             | 111.7                 |
| <b>Year</b> | <b>200</b>          | <b>1229.7</b>     | <b>135</b>      | <b>909.6</b>          |

\* Rainfall and Rainday averages have been calculated from the stations that record rainfall to an accuracy of 0.1mm.

remained cold for several days until the north-easterly wind backed into the south-west on the 11th. This signalled a change to mild and unsettled conditions that were to last for the remainder of the month. (Extremes of rainfall: Frome St Quinton/Chetnole 158.0mm; Wareham 61.5mm.)

*February*

This was a mild and changeable month with periods of rain. It was just cold enough at times in the north-westerly airstream behind some of the depressions for a little snow to be reported from Shaftesbury but it did not settle. Across the county it was the wettest February since 1995. (Blandford St Mary 150.5mm; Portland Bill 71.6mm.)

*March*

A drier and sunnier month than usual with many pleasantly warm days. Rain was mainly confined to the period between the 10th and 20th, and on the 14th a little sleet or snow was seen falling, nearly to sea level. (Winfrith Newburgh 97.5mm; Holwell 43.5mm.)

*April*

A sunny and mild month. Most stations reported no rain from the 3rd–13th and locally it remained dry until the 16th. The last few days of the month were generally cool and wet. (Chetnole 93.0mm; Portland Bill 32.4mm.)

*May*

The wettest over Dorset as a whole since 1979. Rainfalls were frequent and often heavy, with thunder reported on nine days. It was briefly warm in mid-month with temperatures up to  $24^{\circ}\text{C}$  inland. (Blandford St Mary 176.6mm; Wyke Regis 68.0mm.)

*June*

A disappointingly cool month with south-west winds and a top temperature close to  $21^{\circ}\text{C}$ . Although rain fell quite frequently, amounts were generally small. No thunder was reported for the first time since records began in 1983. (Rampisham 64.0mm; Portland Bill 20.2mm.)

*July*

It was cool and unsettled for the first twelve days of the month. Rainfall was heavy at times, notably on the 2nd and 8th when totals of more than 25mm were widespread. The weather became dry and warm from the 14th with most stations recording no further rain until the 31st. This was a period of 17 consecutive dry days, and in a few places in the north of the county the dry spell commenced up to four days earlier. The temperature reached  $27^{\circ}\text{C}$ – $30^{\circ}\text{C}$  on the 29th — the hottest day of the year. (Winfrith 101.0mm; West Woodyates 46.0mm.)

*August*

A warm month but with no heatwave. There was widespread heavy rain on the 9th and thunderstorms produced localised downpours on the 3rd, 5th, 7th, 8th and 23rd. Rainfall overall was about 20% below the average. (Melbury Sampford 103.6mm; Sturminster Newton (Rosecroft) 24.5mm.)

## RAINFALL IN DORSET 2002

Stations marked \* record to an accuracy of 0.1mm and are used to compile county averages.

Rain-day totals in parentheses are generally reading low as rainfall of less than 0.5mm, and in a few instances 1mm, are entered as a nil.

| STATION                           | OBSERVER OR AUTHORITY  | GREATEST FALL IN 24 HOURS |       | Days with 0.2mm or more | Days with 25mm or more | DEPTH OF RAINFALL IN MILLIMETRES |       |      |      |       |      |      |      |      |       |       |       | TOTAL FOR YEAR |
|-----------------------------------|------------------------|---------------------------|-------|-------------------------|------------------------|----------------------------------|-------|------|------|-------|------|------|------|------|-------|-------|-------|----------------|
|                                   |                        | Depth                     | Date  |                         |                        | Jan                              | Feb   | Mar  | Apr  | May   | Jun  | Jul  | Aug  | Sept | Oct   | Nov   | Dec   |                |
| STOUR BASIN                       |                        |                           |       |                         |                        |                                  |       |      |      |       |      |      |      |      |       |       |       |                |
| Blandford St Mary *               | Mr A. Fleet            | 42.3                      | 9/9   | 198                     | 7                      | 99.4                             | 116.8 | 60.4 | 57.5 | 108.9 | 41.0 | 62.2 | 39.2 | 57.8 | 172.6 | 238.3 | 156.8 | 1210.9         |
| Buckland Newton (Beaulieu Wood) * | Mr B. Newman           | 59.9                      | 9/8   | 194                     | 9                      | 148.7                            | 150.5 | 73.8 | 86.8 | 176.6 | 48.9 | 81.2 | 80.4 | 70.0 | 170.0 | 322.2 | 180.1 | 1589.2         |
| Child Okeford                     | Mr I.R. Moore          | 47.0                      | 9/9   | (185)                   | 5                      | 104.5                            | 109.0 | 62.5 | 71.0 | 118.5 | 38.1 | 54.2 | 43.9 | 56.8 | 158.5 | 253.1 | 135.5 | 1205.6         |
| Compton Abbas *                   | Mr H.J. Stirling       | 41.9                      | 9/9   | 214                     | 3                      | 102.9                            | 112.0 | 54.9 | 58.9 | 106.2 | 46.2 | 61.5 | 42.7 | 52.3 | 126.5 | 220.0 | 126.0 | 1110.1         |
| Cranborne (Pound Farm)            | Mr G. Blatchford       | 53.0                      | 9/9   | (196)                   | 7                      | 90.0                             | 137.0 | 84.0 | 65.0 | 121.0 | 53.0 | 70.0 | 64.0 | 60.0 | 155.0 | 297.0 | 149.0 | 1345.0         |
| East Stour *                      | Mr R. Brown            | 33.8                      | 13/11 | 208                     | 3                      | 80.5                             | 100.9 | 48.2 | 54.0 | 108.9 | 40.4 | 60.2 | 34.2 | 39.8 | 123.3 | 220.8 | 126.8 | 1038.0         |
| Fifehead Magdalen *               | Mr A.P. Custard        | 39.1                      | 13/10 | 212                     | 4                      | 84.8                             | 104.6 | 54.4 | 59.7 | 102.3 | 37.3 | 62.6 | 36.3 | 43.7 | 137.2 | 220.9 | 122.5 | 1066.3         |
| Fontmell Magna *                  | Mrs J. Westgate        | 45.3                      | 13/10 | 215                     | 5                      | 95.9                             | 107.7 | 51.6 | 59.1 | 124.2 | 37.5 | 57.4 | 49.8 | 52.6 | 157.6 | 235.1 | 137.2 | 1165.7         |
| Hazelbury Bryan                   | Mrs B. Russell-Attwood | 55.0                      | 9/9   | (187)                   | 8                      | 128.0                            | 136.5 | 71.5 | 63.5 | 136.5 | 41.5 | 65.5 | 65.0 | 61.0 | 179.0 | 298.0 | 152.0 | 1398.0         |
| Holwell (Vale View Farm)          | Mr P. Henshaw          | 48.5                      | 9/8   | (175)                   | 5                      | 95.5                             | 95.0  | 43.5 | 50.0 | 77.0  | 22.7 | 53.8 | 69.7 | 43.8 | 110.3 | 207.5 | 107.5 | 976.3          |
| Iwerne Minster                    | Mr R. Benfield         | 51.1                      | 9/9   | (185)                   | 5                      | 98.5                             | 106.4 | 53.0 | 48.3 | 133.9 | 35.7 | 54.2 | 55.9 | 61.5 | 177.8 | 245.0 | 148.7 | 1218.9         |
| Marnhull (Enderby) *              | Mr R.L. Baillie        | 42.7                      | 13/10 | 198                     | 3                      | 80.8                             | 111.9 | 49.1 | 57.8 | 113.1 | 32.8 | 69.9 | 26.1 | 46.2 | 144.9 | 228.0 | 122.1 | 1082.7         |
| Marnhull (Old Mill Lane) *        | Mr A. Bradbury         | 41.9                      | 13/10 | 203                     | 3                      | 78.2                             | 102.9 | 47.5 | 57.2 | 104.4 | 32.8 | 57.9 | 30.7 | 46.5 | 126.2 | 219.5 | 114.6 | 1018.4         |
| Motcombe                          | Mr M. Rawlins          | 42.0                      | 13/10 | 200                     | 7                      | 95.0                             | 123.0 | 61.0 | 62.0 | 111.0 | 50.0 | 67.0 | 43.0 | 51.0 | 149.0 | 252.0 | 166.0 | 1230.0         |
| Shaftesbury (Hilltop) *           | Mr M.G.F. Yorke        | 50.3                      | 9/9   | 217                     | 8                      | 90.0                             | 124.7 | 62.1 | 71.0 | 122.9 | 51.5 | 71.8 | 34.8 | 57.2 | 144.4 | 260.7 | 162.5 | 1253.6         |
| Sturminster Newton (Broad Oak)    | Mr E.G. Clarke         | 55.0                      | 13/10 | (190)                   | 9                      | 114.7                            | 136.7 | 61.0 | 69.3 | 125.7 | 35.8 | 59.7 | 42.0 | 54.7 | 180.5 | 267.0 | 137.0 | 1284.1         |
| Sturminster Newton (Rosecroft)    | Mr H.L. Dawes          | 42.5                      | 13/10 | 207                     | 4                      | 113.6                            | 98.9  | 51.1 | 62.1 | 114.5 | 30.1 | 54.3 | 24.5 | 47.4 | 126.4 | 229.5 | 112.5 | 1064.9         |
| Tarrant Monkton *                 | Mr B.G. Hart           | 40.0                      | 9/9   | 189                     | 8                      | 103.6                            | 113.2 | 58.0 | 58.2 | 101.1 | 42.2 | 52.0 | 63.8 | 47.6 | 165.2 | 244.9 | 147.9 | 1197.7         |
| Turnworth (Home Farm)             | Mr A. Yetman           | 57.5                      | 9/9   | (177)                   | 10                     | 151.0                            | 142.0 | 67.0 | 69.5 | 134.0 | 57.5 | 79.0 | 64.0 | 68.0 | 198.5 | 316.7 | 174.0 | 1521.2         |
| West Woodyates (Manor Farm)       | Mr J. Peach            | 59.0                      | 9/9   | 202                     | 8                      | 125.0                            | 138.0 | 67.0 | 71.0 | 113.0 | 52.0 | 46.0 | 79.0 | 70.0 | 177.0 | 289.0 | 199.0 | 1426.0         |
| Winterborne Zelston               | Miss B.E. Hooper       | 39.0                      | 13/10 | (140)                   | 10                     | 84.5                             | 127.5 | 53.5 | 54.0 | 114.5 | 53.0 | 82.5 | 63.5 | 58.5 | 140.0 | 209.0 | 161.0 | 1201.5         |
| Witchampton *                     | Mr A. Mitchell         | 52.0                      | 9/8   | 173                     | 8                      | 97.6                             | 119.4 | 58.8 | 52.7 | 104.4 | 38.9 | 57.1 | 76.7 | 48.5 | 160.4 | 222.4 | 161.7 | 1198.6         |

| STATION                                 | OBSERVER OR AUTHORITY | GREATEST FALL IN 24 HOURS |       | Days with 0.2mm or more | Days with 25mm or more | DEPTH OF RAINFALL IN MILLIMETRES |       |      |      |       |      |       |       |       |       |       | TOTAL FOR YEAR |        |
|---|-----------------------|---------------------------|-------|-------------------------|------------------------|----------------------------------|-------|------|------|-------|------|-------|-------|-------|-------|-------|----------------|--------|
|   |                       | Depth                     | Date  |                         |                        | Jan                              | Feb   | Mar  | Apr  | May   | Jun  | Jul   | Aug   | Sept  | Oct   | Nov   |                | Dec    |
| FROME BASIN                             |                       |                           |       |                         |                        |                                  |       |      |      |       |      |       |       |       |       |       |                |        |
| Ansty *                                 | Mrs A. Stevens        | 39.7                      | 9/9   | 211                     | 8                      | 122.6                            | 121.3 | 65.5 | 47.6 | 133.3 | 40.3 | 78.5  | 60.8  | 72.0  | 175.2 | 264.1 | 155.6          | 1336.8 |
| Bradford Peverell *                     | Mr D. Oliver          | 43.7                      | 31/12 | 199                     | 12                     | 120.8                            | 138.9 | 68.8 | 60.6 | 117.2 | 50.8 | 91.2  | 61.4  | 52.1  | 174.5 | 305.4 | 188.1          | 1429.8 |
| Cerne Abbas *                           | Mrs M. Boxwell        | 47.1                      | 9/8   | 210                     | 9                      | 139.2                            | 135.2 | 70.0 | 58.5 | 141.5 | 48.9 | 81.0  | 63.3  | 56.2  | 156.1 | 270.7 | 159.9          | 1380.5 |
| Charminster                             | Mrs P. Eveleigh       | 47.8                      | 9/9   | (174)                   | 11                     | 107.1                            | 129.4 | 66.5 | 56.6 | 116.9 | 42.8 | 83.1  | 62.2  | 53.5  | 179.7 | 279.1 | 186.2          | 1363.1 |
| Dewlish                                 | Mr C. Britton         | 52.0                      | 9/9   | (167)                   | 13                     | 140.0                            | 141.0 | 71.0 | 52.0 | 133.0 | 51.0 | 87.0  | 38.0  | 63.0  | 179.0 | 300.0 | 165.0          | 1420.0 |
| Dorchester *                            | Mr J.R. Oliver        | 42.5                      | 31/12 | 200                     | 9                      | 104.4                            | 134.8 | 78.9 | 63.3 | 119.6 | 49.4 | 87.1  | 56.3  | 56.7  | 160.7 | 302.1 | 197.1          | 1410.4 |
| Frome St Quintin *                      | Mr D. Pearman         | 50.3                      | 13/10 | 211                     | 15                     | 158.0                            | 141.7 | 72.1 | 84.3 | 153.7 | 62.5 | 96.3  | 100.8 | 42.2  | 211.3 | 308.9 | 172.0          | 1603.8 |
| Milborne St Andrew (Coles Farm) *       | Mr A.S. Maitland      | 55.5                      | 9/9   | 195                     | 11                     | 127.7                            | 141.2 | 68.9 | 56.3 | 122.1 | 45.3 | 76.9  | 40.9  | 62.5  | 175.8 | 284.6 | 174.6          | 1376.8 |
| Milborne St Andrew (Wetherby Close) *   | Mr R.E. Baylis        | 39.2                      | 9/9   | 186                     | 9                      | 111.3                            | 109.1 | 70.8 | 49.4 | 138.5 | 48.5 | 86.9  | 46.1  | 59.5  | 159.3 | 288.5 | 176.1          | 1344.0 |
| Milton Abbas                            | Mr K. Battrick        | 40.5                      | 13/10 | (184)                   | 12                     | 133.5                            | 149.5 | 73.5 | 60.5 | 120.0 | 49.0 | 76.0  | 37.0  | 67.0  | 182.5 | 298.5 | 191.0          | 1438.0 |
| Owermoigne *                            | Mr A. Hodge           | 39.8                      | 9/9   | 195                     | 6                      | 91.4                             | 117.8 | 75.3 | 52.5 | 110.8 | 43.7 | 81.1  | 48.7  | 52.3  | 125.2 | 244.2 | 168.4          | 1211.4 |
| Puddletown *                            | Mr H.G. Wood-Homer    | 41.0                      | 9/9   | 191                     | 10                     | 99.3                             | 126.8 | 65.2 | 49.4 | 111.1 | 44.5 | 84.1  | 46.1  | 45.6  | 167.0 | 269.3 | 175.2          | 1283.6 |
| Rampisham *                             | Mrs C.A. Parry        | 43.5                      | 13/10 | 199                     | 10                     | 139.2                            | 133.8 | 67.0 | 68.7 | 133.9 | 64.0 | 80.9  | 48.7  | 35.9  | 201.5 | 277.9 | 168.7          | 1420.2 |
| Stratton *                              | Mr W. Putnam          | 48.4                      | 13/10 | 202                     | 12                     | 130.8                            | 145.7 | 75.7 | 66.2 | 143.2 | 58.7 | 94.2  | 61.6  | 54.7  | 200.5 | 330.8 | 200.1          | 1562.2 |
| Wareham (Trigon House) *                | Mr G.P. Sturdy        | 32.6                      | 21/12 | 180                     | 2                      | 61.5                             | 105.4 | 47.9 | 42.8 | 70.1  | 32.7 | 67.4  | 47.3  | 47.3  | 128.0 | 210.9 | 149.6          | 1010.9 |
| Winfrith Technology Centre              | Mr B. Ware            | 45.0                      | 9/9   | (182)                   | 9                      | 106.3                            | 125.0 | 75.5 | 64.5 | 113.8 | 42.0 | 101.0 | 69.0  | 50.0  | 136.5 | 268.5 | 175.0          | 1327.1 |
| Winfrith Newburgh                       | Mr M. Ching           | 55.0                      | 9/9   | (134)                   | 10                     | 104.5                            | 98.5  | 97.5 | 50.0 | 97.5  | 39.0 | 80.5  | 64.0  | 59.0  | 150.0 | 297.5 | 129.0          | 1267.0 |
| PARRETT BASIN                           |                       |                           |       |                         |                        |                                  |       |      |      |       |      |       |       |       |       |       |                |        |
| Chetnole Farm                           | Mr P. Horsey          | 40.0                      | 30/10 | (161)                   | 13                     | 158.0                            | 126.5 | 63.5 | 93.0 | 72.5  | 43.0 | 77.5  | 42.0  | 38.5  | 181.0 | 262.0 | 205.0          | 1362.5 |
| Halstock (Marriotts Farm)               | Mr B. Marwood         | 37.5                      | 13/10 | (164)                   | 10                     | 142.0                            | 119.5 | 60.5 | 69.5 | 136.2 | 35.8 | 67.8  | 75.5  | 23.2  | 182.0 | 250.0 | 143.0          | 1305.0 |
| Melbury Sampford (Melbury House) *      | Head Gardener         | 50.4                      | 9/8   | 199                     | 14                     | 150.3                            | 126.4 | 65.2 | 87.3 | 139.0 | 56.2 | 77.0  | 103.6 | 35.5  | 195.6 | 270.1 | 156.8          | 1463.0 |
| Milborne Port                           | Mr E.B. Evans         | 31.0                      | 13/10 | (189)                   | 4                      | 87.9                             | 95.3  | 51.5 | 57.2 | 98.2  | 38.0 | 73.7  | 44.6  | 34.1  | 134.4 | 200.2 | 118.8          | 1033.9 |
| AXE BASIN                               |                       |                           |       |                         |                        |                                  |       |      |      |       |      |       |       |       |       |       |                |        |
| Forde Abbey *                           | Mr M. Roper           | 48.1                      | 13/10 | 186                     | 5                      | 119.5                            | 109.9 | 74.7 | 72.1 | 145.7 | 41.6 | 63.5  | 27.3  | 21.0  | 180.8 | 214.0 | 157.3          | 1227.4 |
| COASTAL STREAMS                         |                       |                           |       |                         |                        |                                  |       |      |      |       |      |       |       |       |       |       |                |        |
| Bradpole                                | Mr G.R. Smith         | 36.1                      | 13/10 | (147)                   | 5                      | 93.4                             | 103.1 | 59.6 | 42.8 | 107.4 | 51.3 | 65.3  | 54.4  | 33.8  | 145.0 | 232.0 | 155.7          | 1143.8 |
| Langton Matravers (Leeson House) *      | Mr B. Cullimore       | –                         | –     | 189                     | 6                      | 77.3                             | 113.2 | 45.8 | 42.6 | 86.6  | 39.0 | 81.5  | 40.5  | –     | 99.3  | 227.9 | 170.6          | –      |
| Lyme Regis (Pinhay) *                   | Mrs K.D. Allhusen     | 34.6                      | 2/7   | 193                     | 4                      | 98.4                             | 113.0 | 68.6 | 58.0 | 104.2 | 45.4 | 83.9  | 63.9  | 35.4  | 149.5 | 238.8 | 154.9          | 1214.0 |
| Osmington Mills (Coastguard House) *    | Mr J. Hadwin          | 49.0                      | 9/9   | 183                     | 3                      | 78.7                             | 115.9 | 71.1 | 46.2 | 104.9 | 36.7 | 81.5  | 49.0  | 56.8  | 123.1 | 216.9 | 155.9          | 1136.7 |
| Portland Bill (Old Higher Lighthouse) * | Mr F. Lockyer         | 33.9                      | 9/9   | 197                     | 2                      | 62.2                             | 71.6  | 55.0 | 32.4 | 69.0  | 20.2 | 52.4  | 35.6  | 43.2  | 58.3  | 162.4 | 104.8          | 767.1  |
| Swanage *                               | Mr K. Moore           | 88.0                      | 8/9   | 190                     | 7                      | 82.6                             | 118.7 | 45.7 | 44.5 | 84.7  | 38.8 | 75.5  | 41.8  | 129.3 | 91.2  | 255.9 | 157.7          | 1166.4 |
| Weymouth *                              | Mr R. Poots           | –                         | –     | 187                     | 2                      | 64.1                             | 89.4  | 60.6 | 39.0 | 72.5  | 34.5 | 67.7  | 59.7  | –     | 107.4 | 210.5 | 133.6          | –      |
| Wyke Regis *                            | Met. Office           | 36.1                      | 9/9   | 179                     | 3                      | 63.2                             | 84.1  | 57.6 | 42.7 | 68.0  | 26.7 | 66.7  | 58.1  | 45.6  | 94.9  | 204.0 | 121.0          | 932.6  |
| COUNTY AVERAGES                         |                       |                           |       | 200                     | 7                      | 103.5                            | 117.8 | 61.9 | 58.1 | 115.2 | 42.9 | 73.0  | 51.2  | 52.1  | 149.5 | 250.3 | 154.2          | 1229.7 |

*September*

Most of this month's rain fell within the calendar day of the 9th, and for half of the Dorset rainfall stations it was the wettest day of the year. At Swanage an exceptional 121mm fell in the period up to 1800hrs GMT. Most stations reported just 5–7 days with rain, and only 3 or 4 days along much of the coastal strip. September was a sunny month overall and the middle period became very warm with afternoon temperatures up to 23°C. Much of Dorset had a period of 21 consecutive days with no rain (10th–30th), except for the Frome Basin catchment area where many observers recorded up to 3mm on the 19th. (Swanage 129.3mm; Forde Abbey 21.0mm.)

*October*

An unsettled month with rain at times, particularly between the 11th and 15th. High five-day totals included 117.5mm at Stratton; 116.3mm at Frome St Quinton and 103.1mm at Bradford Peverell. As the low pressure systems responsible moved away to the east, the northerly wind eased and on the morning of the 19th the temperature dropped back to –3°C at Dorchester and –2.8°C at East Stour. The drier interlude was short-lived and for many stations rain fell every day from the 20th. The wind was strong at times and on the 27th peak gusts of 70mph and 61mph were measured at Weymouth and Dorchester respectively. (Frome St Quinton 211.3mm; Portland Bill 58.3mm.)

*November*

Over the county as a whole, rain fell on 27 days during the month and at Frome St Quinton and Compton Abbas the tally was 29 days. The average rainfall for Dorset was 250.3mm, making it the wettest November since 1951. Seven stations recorded more than 300mm of rain and in the Dorchester area the total of 302.1mm was the highest for this month since 1926 with 307.6mm. (Stratton 330.8mm; Portland Bill with 162.4mm was the only station to register less than 200mm.)

*December*

Yet another wet month, with the period from 5th–19th rather cold, especially by day. Sleet or wet snow was reported widely on the 10th but amounts were very small. The heaviest rain fell in the last 11 days, notably the 21st and 31st with falls of over 40mm locally. The Christmas period was exceptionally mild with daytime highs near 11°C and night temperatures not falling below 9°C. (Chetnole 205.0mm; Portland Bill 104.8mm.)

## THE WETTEST DAYS IN 2002

Rainfall totals exceeding 25mm were recorded on 24 days during the year compared to 16 days in 2001. The main 'heavy rainfall' events are detailed below:

*2 July*

At 0000hrs GMT on the 3rd, a depression was situated just off the tip of Cornwall (993 mbs) with a series of fronts lying across southern England. Moderately heavy rain commenced around 1500hrs GMT in the west of the county and extended steadily east and persisted for about 15 hours.

Most stations in the south of Dorset received more than 25mm of rain and at Lyme Regis (34.6mm) it was the wettest day of the year. (Winfrith 40.0mm; Dorchester 37.6mm; Owermoigne 36.5mm.)

*9 August*

A depression (1000 mbs) over Cornwall at 0000hrs GMT tracked slowly east across southern coastal counties during the day to be over Kent by midnight. Outbreaks of rain reached west Dorset before midday and spread quickly east. It became torrential in places during the evening before dying out by midnight. In a band lying west to east across mid-Dorset 18 stations reported more than 25mm. (Buckland Newton 59.9mm; Witchampton 52.2mm; Melbury Sampford 50.4mm.)

Waterspouts were observed off the coast at Bournemouth in the morning and from West Bay in the afternoon.

*8–9 September*

A warm front lying across the north coast of France at 0600hrs GMT pushed slowly north during the morning introducing periods of heavy rain. A two-hour thunderstorm ahead of this frontal system affected the Swanage area just after dawn. A number of shops, offices and houses were flooded as drains failed to cope with the deluge. Rainfall totals of 88.0mm at Swanage and 78.9mm at Durlston were measured and this was credited to the 8th.

The frontal system itself spread very heavy and persistent rain across the county that lasted all day and gave Swanage a further 38mm. For 21 stations this was the wettest day of the year and only a handful of observers, mainly in the west of the county, reported less than 25mm of rain. (West Woodyates 59.0mm; Turnworth 57.5mm; Milborne St Andrew 55.5mm.)

*13 October*

A low pressure system (991 mbs) over Cornwall at 0900hrs GMT tracked north-east across southern England during the day. Forty-one of our 50 reporting stations registered over 25mm and for 17 of them it was the wettest day of 2002. The highest totals occurred over mid and north Dorset where falls were generally over 40mm. (Sturminster Newton 55.0mm; Frome St Quinton 50.3mm.)

*13 November*

A low pressure centre (967 mbs) over Cornwall at 0000hrs GMT spread its fronts and associated rain across southern counties of England through the day. Away from the coast, most of Dorset collected more than 30mm of rain with the heaviest falls across central areas. (Hazelbury Bryan 43.5mm; Child Okeford 42.0mm; Buckland Newton 41.8mm.)

*21 December*

At 0000hrs GMT (22nd) a warm front was crossing Dorset from the west, and following hard on its heels was a waving cold front already into the west of Devon. Broad bands of rain associated with these systems, joined forces to produce around 15 hours of continuous precipitation. The heaviest rain fell across the south of the county and the Dorchester area received 30mm in the seven hours from 1600hrs GMT. (Stratton 43.8mm; Bradford Peverell 41.5mm; Dorchester 41.2mm.)

*31 December*

A frontal system over Cornwall at 0000hrs GMT (1 Jan) brought up to 40mm of rain in seven hours to parts of south Dorset. In the Dorchester area it was the wettest day of the year, with 28mm recorded in just three hours from 0430hrs GMT, causing some local flooding. (Charminster 46.0mm; Stratton 44.5mm; Bradford Peverell 43.7mm.)

**Table 2:** Thunder days in Dorset

| Year | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec | Year |
|------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|------|
| 1983 | 0   | 0   | 0   | 4   | 6   | 5   | 5   | 3   | 1    | 0   | 0   | 2   | 26   |
| 1984 | 3   | 0   | 0   | 0   | 2   | 1   | 4   | 5   | 4    | 3   | 2   | 1   | 25   |
| 1985 | 0   | 0   | 0   | 2   | 3   | 6   | 3   | 0   | 0    | 1   | 2   | 2   | 19   |
| 1986 | 1   | 0   | 0   | 2   | 4   | 5   | 2   | 4   | 0    | 0   | 2   | 0   | 20   |
| 1987 | 0   | 0   | 0   | 3   | 2   | 4   | 1   | 2   | 4    | 5   | 1   | 1   | 23   |
| 1988 | 2   | 2   | 0   | 1   | 1   | 2   | 2   | 0   | 0    | 3   | 0   | 0   | 13   |
| 1989 | 0   | 1   | 0   | 3   | 4   | 3   | 3   | 3   | 3    | 0   | 0   | 4   | 24   |
| 1990 | 1   | 3   | 0   | 2   | 3   | 2   | 0   | 3   | 4    | 5   | 0   | 1   | 24   |
| 1991 | 2   | 0   | 0   | 3   | 2   | 2   | 4   | 1   | 2    | 0   | 1   | 1   | 18   |
| 1992 | 0   | 0   | 4   | 1   | 2   | 1   | 3   | 8   | 3    | 6   | 3   | 1   | 32   |
| 1993 | 0   | 1   | 0   | 3   | 11  | 6   | 2   | 3   | 5    | 9   | 0   | 2   | 42   |
| 1994 | 6   | 0   | 1   | 4   | 6   | 5   | 5   | 5   | 10   | 2   | 1   | 2   | 47   |
| 1995 | 7   | 5   | 3   | 4   | 0   | 2   | 11  | 3   | 12   | 0   | 4   | 0   | 51   |
| 1996 | 2   | 2   | 3   | 1   | 0   | 4   | 4   | 11  | 3    | 5   | 3   | 0   | 38   |
| 1997 | 0   | 3   | 0   | 3   | 7   | 9   | 2   | 10  | 1    | 4   | 11  | 0   | 50   |
| 1998 | 6   | 0   | 0   | 8   | 6   | 6   | 1   | 1   | 2    | 3   | 1   | 0   | 34   |
| 1999 | 5   | 0   | 1   | 3   | 7   | 5   | 5   | 11  | 10   | 2   | 1   | 2   | 52   |
| 2000 | 0   | 2   | 2   | 1   | 9   | 4   | 2   | 9   | 4    | 5   | 5   | 8   | 51   |
| 2001 | 4   | 2   | 2   | 0   | 4   | 3   | 7   | 9   | 2    | 5   | 0   | 0   | 38   |
| 2002 | 1   | 7   | 0   | 2   | 9   | 0   | 2   | 7   | 1    | 6   | 10  | 2   | 47   |
| Av.  | 2   | 1   | 1   | 2   | 4   | 4   | 3   | 5   | 4    | 3   | 2   | 1   | 32   |

## THUNDERSTORMS

The incidence of thunder was first included in the Dorset Rainfall Report for 1983. This year 32 observers supplied dates and details of storms in their locality, and the monthly totals of thunder days for the 20 years to 2002 are given in Table 2.

Thunder was reported on 47 days in 2002 and on five days it was heard at more than half of the contributing stations.

### 2 May (thunder heard at 20 stations)

An active thunderstorm drifted south across central Dorset during the mid-afternoon period and at its height lightning occurred at intervals of less than one minute. In the Broadmayne, Owermoigne, Winfrith and Ringstead areas it was accompanied by a 15-minute hailstorm that was so heavy that the local landscape was transformed into a winter 'snow' scene. The hail was reported as being up to 50mm deep in places and traffic was forced to stop at the side of the road. In sheltered places some hail survived until the following morning.

### 17 May (23 stations)

Most stations reported at least one of several thunderstorms that crossed Dorset during the day. These storms were of generally short duration but lightning strikes on the National Grid caused some brief interruptions to the power supply.

### 20 May (24 stations)

Nearly all of Dorset was affected by a band of thundery rain that drifted north during the evening. Although the totals were not remarkable (generally 10mm–20mm in a 3hr period) there were pockets of very heavy rainfall including 12.8mm in 35 minutes at Dorchester. The wettest station was Hazelbury Bryan with 23.5mm.

### 23 August (20 stations)

A warm day (23°C inland) with periods of sunshine and a gentle northerly wind. Clouds built up by midday in response to surface heating, and during the afternoon heavy showers and thunderstorms became quite widespread and slow moving. The highest rainfall totals were in the west of the county but even here some observers recorded very little or none. (Melbury House 26.3mm; Frome St Quinton 25.7mm; Lyme Regis 15.0mm.)

### 14 November (17 stations)

An intense depression crossed Dorset in the early hours with a barometer reading of 967 mbs at 0400hrs GMT. In the very tight pressure gradient behind the low pressure centre, the wind gusted to 74mph at Portland Bill, 60mph at Weymouth and 53mph at Dorchester. The associated rain cleared around dawn, but late in the day a trough brought an increase in shower activity with reports of thunder in many places.

## DORSET BOTANY 2002

David Pearman

2002 was a very successful year, with some significant finds in what we, rashly perhaps, think of as a well-botanised county. Part of the impetus has come from the preparatory work for a new register of rare plants in the county, but some of the best finds arose from a survey to look for all possible sites of the rare Large Marsh Grasshopper and from old-fashioned keenness in promising areas.

In no particular order, the best finds for the year were the discovery of *Drosera longifolia* and *Carex limosa* in two

new sites (one a National Nature Reserve). Both are really rare (under 10 sites) in the whole of lowland England. *Ophrys sphegodes* was found, for the first time, away from the Purbeck limestone, and *Centaureum tenuiflorum* to the west of Golden Cap, for the first time for nearly 40 years. *Orobanche rapum-genistae*, a frequent parasite of Gorse and Broom up to about 1970, was refound on Golden Cap, the first record in the county for 20 years, other than a single plant near Champenhayes.

Following the theme of a well-worked county, I think it is significant when a new 10km square record is found for a plant, and into that category came records for *Carex dioica*, *Gagea lutea*, *Cicendia filiformis*, and *Moenchia erecta*. The finding of the *Drosera* hybrid from Godlingston, and the confirmation of the *Pyrola* record from Studland, round off a good summer.

I would like to thank all those who sent in records, including those named below. The abbreviations are as follows:

AJB – Mr A.J. Byfield  
 AVP – Mrs A.V. Pearman  
 BE – Mr B. Edwards  
 DAP – Mr D.A. Pearman  
 DCL – Mr D.C. Leadbetter  
 EAP – Revd E.A. Pratt  
 JHC – Dr J.H.S. Cox  
 PAC – Mr P.A. Cramb

***Alopecurus × plettkei***

9692 Lytchett Bay BE, DAP  
 A few years ago the species was found throughout here, but now the habitat is coarser, and only the hybrid was found, other than in one small area.

***Anagallis minima***

0706 Crab Orchard AJB, BE, DAP  
 0911 Gotham AJB, BE, DAP  
 8392 Turners Puddle Heath BE

***Anthemis cotula***

0203 Pig Oak AJB, DAP  
 Two plants in a field of maize of this rare arable weed.  
 0405 Holt Lodge Farm BE

***Arum italicum ssp. neglectum***

Two surveys, in Purbeck by EAP, and on Portland by AJB, BE and DAP, have, for the first time, established the limits of this rare subspecies. In Purbeck it is quite widespread, normally on the east side of walls. On Portland it is much rarer than published maps suggest, only other than occasional in the area north of the Bill.

***Atriplex longipes***

0185 Brands Bay EAP  
 A very welcome re-finding of this rare and critical species. The records from Bridport and Abbotsbury need to be refound.

***Botrychium lunaria***

5509 Kingcombe AVP  
 One plant only.

***Bromus hordeaceus ssp. thominei***

6774 Ferrybridge S.J. Leach, DAP  
 A few plants of this under-recorded coastal species.

***Bupleurum tenuissimum***

6081 Langton Hive JHC  
 A few plants still surviving here, and a very few at the Portland Bill site (DAP)

***Calystegia soldanella***

3693 Charmouth PAC  
 4789 Burton Freshwater PAC  
 Welcome records from the west of the county.

***Carex dioica***

8983, 9083 Grange Heath BE  
 0182, 0282 Godlingston Heath BE, DAP

*C. dioica* is very uncommon now in lowland Britain, so these are very welcome records. The Grange Heath site is new. There was a record fifteen years ago from the Agglestone but the other Godlingston record is of a substantial colony to the west.

***Carex lasiocarpa***

9190 Morden BE

The well-known site in Morden Bog has proved to be much larger than expected, extending over a kilometre downstream.

***Carex limosa***

8792 Lower Hyde Heath BE  
 0182 Godlingston Heath BE

Two completely new sites. Although frequent in upland Britain, *C. limosa* is now restricted in lowland England to Dorset (two sites before this year), the New Forest, and Cheshire (one site). Both of these new sites are relatively small, but grazing by deer or cattle will help to keep the sites open.

***Centaureum tenuiflorum***

3892 West of Golden Cap PAC

This is the first record here for nearly 40 years, but judging from the size of the populations (1000s) and the habitat (slumping grassy terraces) it has probably been present in the intervening years.

4590 East of Eype DAP, KAW\*

A new site, on a landslip that was formed about eight years ago.

***Cerastium pumilum***

0080 Nine Barrow Down EAP

This site is new, and a very welcome extension of range, and only the second recent record off the limestones of Portland and Purbeck.

***Cicendia filiformis***

0706 Crab Orchard AJB, BE, DAP

A new site (and a first record for this 10km square since the 1930s) in a horse-poached paddock, growing with *Radiola* and *Anagallis minima*. It was a good year for *Cicendia*, with very large populations found at the sites at Gotham and Thrasher's Heath.

***Deschampsia setacea***

8883 Povington BE

A second site here, but only the fourth extant Dorset site for this grass, now very rare in lowland Britain.

***Drosera × belzeiana***

0182, 0282 Godlingston BE, DAP

First found in 1999, further field-work found two more sites, including one where all three British *Drosera* grew with both their hybrids. Research has shown that all the other British records appear to be erroneous, leaving this as the sole site.

***Drosera anglica***

8792 Lower Hyde Heath BE DAP, AVP

A new 10km<sup>2</sup> record for this species which is now very rare in lowland English sites. BE and DAP found three new sites on Godlingston Heath as well, together with the hybrid *D. × obovata*.

***Epipactis phyllanthes***

8290 Bovington P.H. Sterling

One plant, on a roadside bank, under pines and bracken.

***Euphorbia platyphyllos***

9675, 0077 DCL, EAP

Four sites for this rare arable weed.

***Euphrasia micrantha***

9390 Sandford Heath BE

***Gagea lutea***

7211, 7311 Kings Stag AJB, BE, DAP

A thorough search revealed good patches of this on both sides of the R. Lydden over about 300 metres.

6205 Wriggle Copse DAP, AVP

A few leaves in a bluebell wood — a new area.

***Gastridium ventricosum***

5387, 5486 Labour-in-Vain Farm SME

Two areas 2km to the east of the well-known site at Cogden, where only a few plants survive, now the area is no longer disturbed for arable.

***Illecebrum verticillatum***

8489 Woolbridge Heath BE

This was the new site reported by RSPB, a year or two ago. Quite a good quantity here, presumably brought in by army vehicles.

***Lathyrus sylvestris***

3992 St Gabriels PAC

Not uncommon on the cliffs in West Dorset, but reported here because of the huge quantities in this slumped cliff top site.

***Moenchia erecta***

0182 Godlingston B. Laney

100 or so plants on the golf course — only the fourth extant Dorset site for this fast-declining annual.

***Ophrys sphegodes***

0081 Nine Barrow Down EAP

A very exciting record — the first record off the limestone.

***Ornithopus perpusillus***

5586 Abbotsbury Castle DAP

Uncommon in the west of Dorset, and the first record for this 10km square.

***Orobanche purpurea***

6775 Ferrybridge DCL

A few plants in the site rediscovered in 1992.

***Orobanche rapum-genistae***

4092 Golden Cap D. Patrick

Another very welcome and significant rediscovery. It was last recorded here in 1981, yet, judging from the extent of the colony (about 300 sq.m) and the number of plants (over 120), plus some dead heads from last year, it has probably been overlooked — or perhaps the gorse-cutting regime has assisted.

***Persicaria minor***

9092 Morden Lake JHC

9187 Wareham Common BE

***Puccinellia fasciculata***

West Bay DAP, P. Marren

The colonies on the cliff at the west end have greatly increased, and there are now substantial numbers growing with the alien *Limonium hyblaenum* and *Frankenia laevis*.

***Pyrola rotundifolia ssp maritima***

0384 Studland J. Rees Cox

This is a record from 1973, which has only just come to light, and been confirmed by the Natural History Museum. The plant appeared in a dune slack, was examined and photographed, was last seen in 1974, and then wrongly dismissed by DAP *et al!*

***Ranunculus arvensis***

0203 Pig Oak AJB, DAP

0077 E of Spyway EAP

Two very welcome records, the first of only a single plant in a rape field, but the other in its *locus classicus* in Dorset.

***Salsola kali***

0383 Studland, Knoll Beach EAP

Probably from the large and growing site in Shell Bay, 0386.

***Scleranthus annuus***

6003 Frome St Quintin DAP

Last recorded here 11 years ago, there are now *very few* recent records.

***Trifolium squamosum***

6871 Reforne, Portland AJB, DAP

In vast quantity on a school playing field and adjoining bank, with *Vicia bithynica*, *Vicia parvilflora*, *Medicago polymorpha* and *M. arabica*. A superb collection of legumes!

***Utricularia stygia***

9485 Hartland Moor BE

9685 Hartland Moor BE

The first confirmed record (by Dr F. Rumsey, NHM) of this critical and difficult segregate.

***Valerianella dentata***

0077 E of Spyway EAP

***Valerianella eriocarpa***

9676–0178 EAP

At least six new sites for this RDB annual, which seems to be native on the Dorset limestone and hard chalks. EAP also found it on Corfe Castle Mound, 9682.

***Viola lactea***

8086 Winfrith DAP, AVP

A huge colony by the road in cleared ground.

***Wahlenbergia hederacea***

0806 Crab Orchard AJB, BE, DAP

When DAP last visited the site in 1995, there were only 6 plants but this year there were hundreds, along a fenced-out ditch, following successful management work.

**MARINE REVIEW 2002**

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The year 2002 provided us with a number of interesting records of marine invertebrates and algae from sites along the Dorset coast. With the Dorset Marine Database now well established there is a central repository for records on Dorset's marine fauna and flora. Information on how to submit marine records for inclusion on the database can be obtained through the link on the Dorset Environmental Records Centre web site ([www.derc.org.uk](http://www.derc.org.uk)). Information submitted must include the date and location of the record and details of the person making the observation. What follows are the highlights of our year whilst making observations mainly subtidally at sites along the Dorset coast from Portland east to Christchurch Bay. Nomenclature follows Picton and Howson (1999) where those species are listed.

**Cnidaria**

***Caryophyllia inornata*** Southern cup coral — Picton and Howson (1999) give isolated records for this species (the largest about the size of a thimble) extending from the west coast of Scotland south to Lundy Island. It differs from *Caryophyllia smithii* the Devonshire cup coral, which is widely distributed around the British Isles, in a number of ways. *C. inornata* is circular rather than oval; smaller (up to 12mm in diameter) and it tends to occur in clumps rather than singly. It should be noted that small specimens can be difficult if not impossible to distinguish from juvenile *C. smithii*.

In Dorset it was recorded in the summer of 2002 by Peter Tinsley (Marine Officer, Dorset Wildlife Trust) from the wreck of the Black Hawk in Worbarrow Bay and by Mike Markey (Poole Bay Archaeological Research Group) from a site to the east of Durlston Head. Previously there have been occasional records of this species from the Dorset coast over the years. It was reported during the AMOCO survey at a site to the west of Durdle Door in 1994 (ERT 1995). We have found it in Weymouth Bay near the wreck of the *British Inventor* in 1984 growing on the underside of slightly overhanging, rocky ledges and Mike Markey reported it in November 1999 on an isolated reef in Poole Bay. The species seems to have a preference for overhangs out of direct light but exposed at times to moderate to strong currents.

***Hoplanguia durotrix*** Carpet Coral. This species of colonial stony coral was found in caves to the east of Kimmeridge by Peter Tinsley and Mike Markey in August 2002 in small colonies up to the size of a tangerine. Following that find it was reported by Sheila Openshaw (Newbury Sub-Aqua Club) in August from the Black Hawk and confirmed by Peter Tinsley. The AMOCO report (ERT 1995) records *H.*

*durotrix* from a site to the west of Durdle Door and there are a number of reports published in the Underwater Conservation Society Newsletter (Winter 1982; Winter 1984/85) for Durdle Door, Kimmeridge and Worbarrow Bay. The MarLIN web site (Peckett, 2002) shows a British distribution from Pembrokeshire to West Sussex where it has been reported from the remains of a Mulberry Harbour caisson lost while awaiting deployment for the D-Day landings in Normandy in 1944. This small, colonial coral was originally described by Gosse from Weymouth Bay where it was dredged by a dealer from Torquay in 1858. Gosse explains the derivation of the English and specific names as follows: '*The English name commemorates the manner of gemmation (i.e. budding); and the specific, the locality in which it was found; the Durotriges having, according to Ptolemy, anciently inhabited the coast of Dorset*' (Gosse 1860).

***Eunicella verrucosa*** — Pink sea-fan. This attractive species is common in places on the southwest coasts of the British Isles but reaches its easternmost limit in the English Channel off the Dorset coast. This species is currently the subject of intensive study around Britain, both in a survey coordinated by Chris Wood on behalf of the Marine Conservation Society and as a species selected as part of the UK Biodiversity Action Plan (BAP). So far Dorset has the most easterly modern record in the English Channel for this species, where a single individual was found on an isolated sandstone reef in Poole Bay by Mike Markey in August 2000. This colony has been monitored every year since and appears to thrive. There are old records that indicate the species once extended further east along the English south coast as far as Margate in Kent (Manuel 1981).

There are flourishing populations of these sea fans on deep limestone reefs in Worbarrow Bay to the west of Kimmeridge with individuals covering a whole range of sizes from 20–30mm in height to fully developed fans over 200mm across. Peter Tinsley has plans to set up permanent monitoring stations here to look at growth and survival, similar to work currently being carried out in Lyme Bay on populations of *Eunicella*. It is hoped to get funding from a variety of sources to support this work which will enable volunteer divers to participate in the study.

***Cataphellia brodrickii***. This small, inconspicuous anemone was found by Lin Baldock at a site to the east of Durlston Head in August 2002. It was hidden in a sample taken from a wonderfully colourful, tide-swept habitat dominated by yellow and orange encrusting sponges. Picton and Howson (1999) report occurrences of *C. brodrickii* in Devon, Cornwall and along the south coast of Ireland. This Dorset record extends its distribution east along the English Channel coast. However it is an inconspicuous, beautifully camouflaged species and is therefore probably under recorded. Furthermore, its cryptic behaviour described by Gosse (1860) as follows: '*generally closed by day or if open the column is contracted... it elongates in darkness. It is very timid...*' makes it even more likely that it will go unnoticed. The specific name was given in honour of Gosse's acquaintance William Brodrick, Esq., of Ilfracombe who sent him the type specimen in November 1858 having collected the material some sixteen months previously and kept it alive in his aquarium for this time.

***Verella verella*** — By-the-wind sailor. Unusually large numbers of this small pelagic colonial hydroid were reported stranded along the coast of England including Dorset in May 2002 after a prolonged period of strong westerly winds. The first mass strandings were reported in Cornwall in early May by which time there were records from Dorset (Kimmeridge, Ringstead Bay). By mid-June there were reports from Anglesey, the Isle of Man and (unusually) as far north as Dumfries and Galloway; by the end of June a few individuals were seen on Sussex beaches. The dark blue floats, often not more than 30mm in length, appeared again in considerable numbers in November 2002, notably on Studland Beach. These mass strandings are an irregular but noteworthy feature of the biology of this pelagic species.

***Rhizostoma octopus*** Dustbin Jellyfish. Unusually large numbers of this conspicuous white jellyfish, some up to the size of a dustbin, were reported around Portland and Chesil in May 2002 with many stranded. News of thousands also on the Cornish and Devon coasts indicated that this was an exceptional year for the species. This southern warm water jellyfish occurs regularly in small numbers in British waters but large aggregations are noteworthy.

#### Annelida

The 'Dorset Worm Reefs' currently being studied by Dr Ken Collins, based at the School of Ocean and Earth Science at the University of Southampton, found their way into the national press in 2002 described as Dorset's answer to the Great Barrier Reef in Australia. The low rather undramatic structures up to about 0.5m high are made up of the sandy tubes of a polychaete, the Ross Worm *Sabellaria spinulosa*, another BAP species. In Swanage Bay the reefs are found in a very restricted area in water depths of 22–23m where they appear periodically to be inundated by mobile sand waves. The work carried out in 2002 formed part of Karen Anderson's MSc dissertation (University of Southampton) and has involved volunteer divers assisting with the mapping in Swanage Bay.

#### Mollusca

##### Nudibranchs

***Hancockia uncinata***. Two specimens of this small sea slug were found by Lin Baldock on an isolated rock in Poole Bay among a tangle of red algae together with large quantities of their prey, the hydroid *Clytia hemisphaerica*. There have been few English records for this nudibranch, the nearest of which we are aware is from an intertidal rocky reef at Sidmouth in Devon in 1977 (Seaward 1983). Since then there have been a number of reports from north-west Ireland.

***Catriona gymnota***. This nudibranch was found in the Fleet in August 2002 on a clump of its prey, the hydroid *Tubularia indivisa*, which its delicate pink colour matched perfectly. This was a new record for the Fleet although it is widely distributed around the British Isles. Jan Light of the Conchological Society of Great Britain and Ireland is currently coordinating records for marine molluscs with a special emphasis on the English Channel with a view to producing a Channel Atlas and these records have been passed on to her.

***Eubranchus* sp 'C'**. This small olive-green nudibranch, not more than 5mm long and still un-named (Picton and

Morrow 1994), was originally recorded from the western end of the Fleet by Seaward (1980). So far it is only known from this site and was found there again by Lin Baldock in September 2002 spawning and feeding voraciously on its prey the hydroid *Gonothyrea loveni*.

#### Alien species

A number of new records of alien species have been made along the Dorset coast recently.

***Caprella mutica***. This large, hairy spiny skeleton or ghost shrimp was found in huge numbers on pontoons in Poole Harbour by Lin Baldock in May and July 2002. It clearly did not fit any British species described in the literature and was identified by Matias Lazano-Fernandez (Dunstaffnage Marine Laboratory) where it had appeared on experimental biofilters and in natural habitats in the area (Willis *et al.* in prep.). The worldwide distribution and recent rapid dispersal of *C. mutica* is currently being studied; it is thought to be native to the Far East and Siberia and there are now records from the Dutch, Norwegian and North American coasts.

***Tricellaria inopinata***, a small bryozoan, was first reported by Dyrinda *et al.* (2000) from a number of sites along the south coast of England including Poole Harbour and Swanage Bay. It has now appeared in the Fleet (Dr Peter Dyrinda, School of Biological Sciences, University of Wales Swansea, 2002; pers. comm.) and Jenny Mallinson has collected material from sites in Poole Bay. The species is widely distributed in the Pacific and has been recorded as invasive in New Zealand.

***Perophora japonica***. This inconspicuous sea squirt originally described from Japan was recorded in the Fleet, Dorset in 2000 by Lin Baldock where it was found again in huge numbers (up to 10% cover) in 2001 and 2002 growing particularly on the red seaweed *Solieria chordalis* and the large tunicate *Phallusia mammillata* both Fleet specialities. *P. japonica* was first recorded from the south coast of England by Nishikawa *et al.* (2000) from a marina in Plymouth, Devon in 1999 with previous reports from the French coast in the 1980s. This tunicate, which is only about 3mm in diameter at the most, produces distinctive, bright yellow, star-shaped terminal buds in June and July which detach and allow it to spread asexually.

***Dasysiphonia* sp.** This delicate red alga was found along the Dorset coast by Lin Baldock in Studland Bay in 2001 and again in 2002 from subtidal sites ranging from Swanage Bay east to Christchurch Bay. It has been provisionally identified as belonging to the genus *Dasysiphonia* by Dr Christine Maggs (Queens University, Belfast) who has recorded it from other sites in the UK recently and is currently studying its taxonomy and distribution. It was first reported in the Netherlands in 1994 with subsequent records from Brittany and the north coast of Spain (Maggs and Stegenga, 1999). It is assumed that this is another species introduced from the Far East.

***Grateloupia doryphora***. This large red alga which grows as fronds up to 0.5m in length and 100mm wide, has appeared in shallow areas of the Fleet recorded by Lin Baldock and confirmed by Francis Bunker (MarineSeen) during a survey of the Fleet commissioned by English Nature in the summer of 2002. It is most conspicuous from July onwards

when the broad, flat, reddish blades can be found in the shallows contrasting strikingly with the bright green of sea lettuce *Ulva*. This alga was first reported in England from sites around the Solent in 1969 (Farnham, 1980) where it slowly extended its range over the next 20 years. This conspicuous species was not recorded in the Fleet by either Dr Elsie Burrows or Dr Bill Farnham (both eminent algologists) when they were working there extensively in the late 1970s and early 1980s, so it would appear that it is a relatively recent arrival. The latest discoveries in Europe have been near shellfish farms, suggesting that it has been introduced with commercial molluscs (Maggs and Stegenga 1999). Commercial culture of the Pacific oyster *Crassostrea gigas* started in the Fleet in 1987.

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## BUTTERFLY REPORT 2001

Bill Shreeves

The major national butterfly event of 2001 was the publication of Butterfly Conservation's *Millennium Atlas of Butterflies in Britain and Ireland* by Oxford University Press. Demand for copies was high and the first reprint has already been ordered. In Dorset the project to implement the first stage of the South Central Regional Action Plan, by improving the surveying of key sites and species not adequately covered by the Butterfly Transect Walks, got

under way. Armed with lists of the target sites and species the Regional Coordinators and their surveyors drew up plans for making sure each one was visited at least twice in the period 2001–5. Despite the handicap of Foot and Mouth which closed off many areas in April to June, a valuable start was made with 49 new km squares for 10 key species added to the 1995–99 survey. No less than 36 of these new squares came from the Central and Southern Chalk Regions to the south of the River Stour. This report has been compiled with the use of these data as well as the 52 Transect Walks completed this year and the vital casual and garden recording, which keep us informed about what is happening in the wider countryside outside the specialised sites. The partnership between the Dorset Environmental Record Centre and Dorset Butterfly Conservation in which records are sent to DERC, passed to DBC for verifying and data inputting, and finally sent to DERC for storage and use in responding to requests for local data, and to the central headquarters of Butterfly Conservation at Lulworth for updating the Millennium Atlas and handling national queries, is being continued. Both DERC and DBC would like to thank all coordinators, surveyors, walkers, recorders and data inputters for their invaluable help. It is requested that recorders who use Butterfly Line and Insect Line should remember also to send their records to DERC. It would be helpful if anyone seeing any of the rarer migrants phones or e-mails the county verifier as soon as possible at 01747 852587 or butterflies@nascr.net. In the report which follows, the term 'New Record' means that the location for that butterfly was not recorded in the 1995–99 Dorset Atlas.

## Migrants

As can be seen from Table 1, it was not a good year for our normal three migrants; as measured by the numbers counted on all the transect walks since 1996. Only 1997 was worse for Clouded Yellow and Red Admiral and only 1997 and 1999 for Painted Lady.

***Colias croceus* (CLOUDED YELLOW)**: The first record of Clouded Yellow in the year was seen by Michael Skelton on the beach at Boscombe on April 19th. This and further records from the area from 2 May onwards have been shown by Michael to be descended from larvae which over-wintered on the Boscombe cliffs (see his article in *Atropos* no. 14.Aug. 2001). At roughly the same period between 29 April and 24 May, Clouded Yellows were recorded on Portland (Martin Cade) and it is possible that they also had descended from over-wintering larvae. A third area of interest was West Durlston, where 3 were recorded on the transect walk in week 8 (20–26 May). No records were received from any

**Table 1:** Migrants on Dorset walks

| Years | Clouded Yellow | Painted Lady | Red Admiral |
|-------|----------------|--------------|-------------|
| 1996  | 734            | 18311        | 6691        |
| 1997  | 4              | 57           | 1086        |
| 1998  | 164            | 277          | 1381        |
| 1999  | 21             | 197          | 1546        |
| 2000  | 1035           | 798          | 1562        |
| 2001  | 13             | 229          | 1105        |

other walk in Purbeck, or indeed anywhere else in Dorset in the April–May period, but M. Cade saw one on the West Cliffs at Portland Bill on 5 June and singletons were counted on the Ham Common Walk, also on 5 June and again on 19 June (Ian Rabjohn). Did this amount to evidence of a small migration? A second brood emerged at Boscombe on 1 July and the species continued to be seen right up to November when ovipositing was still taking place on the cliffs. Could the other July–August sightings in East Dorset (Badbury Walk and Broadstone Golf Course on 16 July, Holton Lea Walk on 28 July and Ham Walk 10 August) have their origins on the Boscombe Cliffs or were they part of a ‘foreign’ migration? More observations were coming from the Purbeck region in late summer with two more on the West Durlston Walk, Chapman’s Pool on 31 Aug. (Hull) and one on the Townsend Quarry Walk, 16 Sept. Portland was meanwhile continuing to log records up to 24 Sept. when two were seen on the Bill (Whitby). Finally, a clutch of late summer records came from further west at Muckleford Reserve on 15 Aug. (Allen), two on the Stones Common Walk at Kingcombe (28 Aug.), behind the Fleet at Herbury on 22 Sept. (Harris) and at Cogden on 23 Sept. (Durrant and Long). As on the Boscombe cliffs, late survivors were still around on Portland until 14 November (Cade) and Winspit, Purbeck, until 21 October (Gibbons). Is it possible that these have deposited offspring which will survive the winter?

*Lampides boeticus* (LONG-TAILED BLUE): An unverified report at Winspit on 20 October (Birdguides Website).

*Cacyreus marshalli* (GERANIUM BRONZE): An unverified report on 28 August from Portland assumed to have been imported from South Africa on Pelargonium (J. Lucas).

*Danaus plexippus* (MONARCH): Once again this year the usual invasion of Monarchs took place. A scout turned up well ahead of the main party at Littlemoor near Weymouth on 26 August (Ponting). However, the main invasion began in Portland on 1 October with an individual which stayed all day and into the next, recorded by Martin Cade at Culverwell. Purbeck became involved on 2 October with individuals seen at Durlston (Black), Langton Matravers (Grey) and as a welcome guest at the new BC HQ at Lulworth. The 4 October included Winspit (Williams) and at Sandpit, Swanage (Leadbetter) on 6 October. On 9 October one had gone inland to the Fleets Bridge Roundabout, Poole (Davey), on the 12th to Lulworth Cove (Campbell) and Warmwell (Rogers) and on the 13th to Swineham (Grey). Further records continued in Purbeck and Portland throughout October, with the last reports at Winspit on 21 October (Gibbons) and Portland Bill on 1 November (Fletcher and Vickery). Table 2 puts the year’s records into perspective.

**Table 2:** Monarchs on Dorset walks

| Years | Numbers seen | Km square numbers |
|-------|--------------|-------------------|
| 1995  | 50           | 24                |
| 1996  | 3            | 3                 |
| 1997  | 1            | 1                 |
| 1998  | 1            | 1                 |
| 1999  | 36           | 13                |
| 2000  | 4            | 4                 |
| 2001  | 22           | 14                |

*Vanessa atalanta* (RED ADMIRAL): Although the problems of to what extent this species manages to survive the winter and to what extent our summer numbers depend on these survivors, cannot be solved by the data alone it is always worth picking out the earliest and latest sightings. The first came from Southbourne on 7 February (Gibbon); surely not a migrant? This is followed by Portland Bill, 9 April (Cade) and on the same day, the first record on a transect walk, from Stour Valley (S. Clarke). It is interesting to note that by the week 20–26 May, when the first record from a Purbeck walk (Durlston West) comes in, no less than six have already been counted on East Dorset walks and even two in the north at Hod. Numbers then built up to reach a climax on all walks of 154 in the week 22–28. July. Numbers were still relatively high on the last walking week (23–29 September), with 61 counted on all walks. The species was still around throughout October and November, the last record coming from the Portland Observatory Garden on 5 December (Cade).

*Cynthia cardui* (PAINTED LADY): Very early, post hibernation, records came from Weymouth on 14–15 February (B. Young) and near Lyme Regis on 20 February (M. Oates). Individuals began to be seen from 15 April on Portland and small numbers were building up by 24 May (Cade). As in 2000 the first Painted Lady record on a transect walk did not come from the coast but well inland, this time on the Hod Hill Walk on 11 May. Amazingly, none were seen at any of the south coast walks until the second week in July on Ballard Down and Durlston East. Numbers built up a little in the late summer to reach a high point of 60 counted on all walks in the week 19–25 August. In the end, in spite of their late start, the southern walks recorded the highest total (87) followed by the north (56) the east (49) and the west (37). Townsend Quarry recorded the highest walk total with 46. The last sighting for the year came from Easton, Portland (Cade) on 26 November.

**Natives**

The weather for 2001, which would lay the foundations for the native butterfly year 2001, never gave much hope for optimism. The Fontmell Magna weather station showed only March with above average temperatures, sunshine and below average rainfall. The winter of 2000–2001 was unusually warm and wet. Fortunately, once a relatively wet, cold and sunless April had been endured, 2001 turned out much better. May and June were both slightly warmer, sunnier and dryer than average and August was at least relatively warm and dry even if it was not very sunny. Unfortunately, this was not enough to turn 2001 into one of those butterfly years to remember. Despite the Foot and Mouth epidemic which made walking impossible for most of April and May on many sites, 48 walks were completed with enough data to compile meaningful comparisons, and 4 others could at least be used to award abundance indices to some species. Six walks either failed to produce enough data or missed the deadlines for entering the Dorset scheme. Christchurch Borough Council’s walk in the Mude Valley appeared for the first time. Two species, Essex Skipper and Small Blue, recorded counts well above average and 2000 totals on a majority of walks. Another two species, Marsh and Silver Washed Fritillary, did better than 2000 on over 50% of the sites. However, the list of species which under-performed was a much longer one.

Most sites showed Dark Green Fritillary, Wall Brown, White Admiral and Chalkhill Blue well below 2000 and their average counts since walks began; Green Hairstreaks fell below the high peaks they reached in 2000 and five species, Silver Spotted Skipper, Duke of Burgundy, Purple Hairstreak, Grayling and Grizzled Skipper remained at depressingly low counts well down on their averages.

*Thymelicus lineola* (**ESSEX SKIPPER**): On 29 July four new km squares were added to the Dorset map at Stour Provost, East Stour, Higher Nyland and near Buckhorn Weston, right on the Dorset/Somerset border. The following day another km square was added when a more than slightly amazed Lawrie de Whalley found an Essex Skipper in his garden at Winterborne Stickland! Further survey work this year has added another 12 new km squares. Four came from Blackmoor Vale, including several on the Shaftesbury by-pass (Bill Shreeves). The Chalk Downland region north of the Stour produced three new records; a first on Fontmell Down (Lawrie de Whalley) and others around the Blandford by-pass (Bill Shreeves). The Heathland region north of the Stour notched up another 6 km squares thanks to David and Anna Barwick and Joyce and Edwin Gifford, as well as the walkers at Avon North and Mude Valley transects.

*Pyrgus malvae* (**GRIZZLED SKIPPER**): Despite languishing well below its average counts on most walks, 10 new km squares were added. Six of these were in the Central Chalk region (De Whalley and Harris), and two others were in the Southern Chalk at Combe Bottom and West Compton (Harris). Most important, in view of the decline of this species outside the Chalk Downs, were records from the heathland at Broadstone Golf Course (Hull) and Povington Heath (Fox).

*Erynnis tages* (**DINGY SKIPPER**): Although foot and mouth made searches for this species in May almost impossible, it was pleasing to receive five new km records. Three came from the Central Chalk at Lankham Bottom (De Whalley) and Sherin's Hill (Harris). Even better were records from the Central Heath region at Canford Heath (Durran) and Lower Hyde (Long).

*Leptidea sinapis* (**WOOD WHITE**): A new record from Black Ven on 23 May (Roger Smith) and a rather macabre recording of a dead specimen which had obviously been lured off its normal patrol along the under cliffs, together with many other unfortunate commoner species, in a Lyme Regis restaurant (Sam Ellis). Numbers in Powerstock Woods remain good but it has not been recorded on any of the Kingcombe walks since 1998.

*Strymonidia w-album* (**WHITE-LETTER HAIRSTREAK**): Pimperne Wood in the Cranborne Chase region was the site for the first ever known record in this area and the survival of many elms both in the wood and the adjoining hedgerow would suggest a colony (Shreeves). An unexpected record comes from the transect walk at Iford Landfill (Weeks).

*Cupido minimus* (**SMALL BLUE**): No new km records this year but good above average counts on seven out of the nine walks which usually record this species. Spectacular record counts came from Durlston East and Melbury Down. Cashmoor and Broadcroft went against the trend with below average counts.

*Plebejus argus* (**SILVER-STUDED BLUE**): One new

record from the Southern Heath area at Battery Bank, 16 August (Bristow). The slump, which has persisted at most walk sites, whether on heathland or on Portland, since 1998, was sustained on six out of the nine walks which regularly record the species. West Moors, which originally boasted the largest count in Dorset, has steadily reduced from a total of 1,490 in 1996 to 91 this year. More hopefully, Studland, Sopley, and Avon South Heaths, have all recovered substantially and perhaps they are the front runners for a more general recovery.

*Lysandra coridon* (**CHALKHILL BLUE**): The slump, which began to afflict most of the sites regularly recording this species in 2000, has now gathered momentum. Ten of the twelve sites were below their average counts. The worst cases were in the North Chalk Down Region; Fontmell has fallen from a count of 3,533 in 1998 to only 31 in 2001; Clubmens' Down from 223 to 10 and Melbury Down from 653 to 1 in the same period. Fontmell, where the walk has been running since 1980, has seen all this before. Back in 1983 the count reached a low of 40 before climbing back up to a high of 3,781 in 1996! The causes of these alarming booms and slumps have not been ascertained but there is at Fontmell a strong correlation between wet May/Junes, when the night-feeding larvae are struggling to reach maturity, and falling numbers in the following July–August. When this combines with diminution of grazing, sometimes a result of falling rabbit populations, and rising sward heights, a downward spiral results. It is perhaps not a coincidence that the two sites which have bucked the trend, Badbury Rings and Cerne Giant, are generally thought to have had much tighter grazing. It is some consolation that amidst the slumps seven new km square records, five in the Central Chalk Region and two in the South Chalk (Gray and Harris), were still discovered and a single male Chalkhill appeared on the Sovell Down walk after an absence of the species since 1993!

*Lysandra bellargus* (**ADONIS BLUE**): Most walks experienced poor first broods. In the north the second broods succeeded in recovering to above average levels. Fontmell, Hod, Cerne and especially the colony in Melbury Woods all did well, but in the south they remained poor, with low counts from the Durlstons and Townsend Quarry. Only Ballard bucked the trend with both first and second broods above average. No less than nine new km squares were recorded in the Chalk Down regions. One of these from Boyne Bottom came from the north (Shreeves), four were from the Central Region, Little Minterne and Bladeley Hills, Holcombe Down and Navy Shovel (Harris) and four more from the south of the Frome, at White Hill and Rocket (De Whalley and Harris).

*Celastrina argiolus* (**HOLLY BLUE**): As Table 3 shows, this species is slowly starting to begin another of its upward swings in its parasite-driven cycle. However, a more detailed analysis of the data, made possible by dividing the walks into rough Dorset regions, indicates a more complex pattern as shown in Table 4. Back in 1997–8 the east region numbers were falling when the total count of the other three regions was still rising. When all four regions fell in 1999–2000, the numbers in the east dropped more reluctantly so that in 2000 it held 45% of the Dorset count compared with only 10% in 1998. This year, in 2001, eastern Holly Blues have recovered rapidly to reach 58% of the count while the north has only made slow progress and the west and south none at all.

**Table 3:** Holly Blue on all Dorset walks

| Years | %*  | Total** |
|-------|-----|---------|
| 1995  | 44  | 67      |
| 1996  | 72  | 359     |
| 1997  | 100 | 749     |
| 1998  | 100 | 1322    |
| 1999  | 73  | 411     |
| 2000  | 57  | 177     |
| 2001  | 62  | 263     |

\* % of walks with at least 1 record  
 \*\* Total counted on all walks

**Table 4:** Regional distribution Of Holly Blues on Dorset walks

| Regions | Percentages of total count |      |      |      |      |
|---------|----------------------------|------|------|------|------|
|         | 1997                       | 1998 | 1999 | 2000 | 2001 |
| East    | 19                         | 10   | 29   | 45   | 58   |
| North   | 30                         | 41   | 19   | 13   | 18   |
| South   | 49                         | 43   | 48   | 36   | 23   |
| West    | 2                          | 6    | 4    | 6    | 1    |
|         | Total numbers counted      |      |      |      |      |
| East    | 141                        | 134  | 117  | 79   | 152  |
| North   | 225                        | 549  | 78   | 24   | 49   |
| South   | 366                        | 578  | 199  | 64   | 60   |
| West    | 17                         | 80   | 17   | 6    | 2    |

*Ladoga camilla* (**WHITE ADMIRAL**): Although the count on the walks at two of the Blackmoor Vale strongholds for this species, Piddles Wood and Duncliffe Hill, dropped to zero this year, three new km records still surfaced. One was in the Blackmoor Vale at Ryewater Nursery, 26 July (Roger Smith). At Highwood, in the South Heath region it turned up in a new km square, 11 July (Fox). Several were also recorded in that region on Brownsea Island where it had not been officially notified since the 1980–94 Dorset Atlas (Durrant and Long).

*Boloria selene* (**SMALL PEARL-BORDERED FRITILLARY**): Table 5 shows the situation for this species to be desperate. With the number of walks still recording the species having dropped to two, it would be nice to be able to say that there are other colonies still not covered by transects. Alas this is not the case. Apart from Stonebarrow Hill in the West Dorset Region and, just maybe, the inaccessible colony at Povington Heath there are no other definite survivors outside Powerstock and Deadmoor.

*Boloria euphrosyne* (**PEARL-BORDERED FRITILLARY**): There were no records for Dorset of this species in 2001 and we must face the strong probability that it is now extinct. Dorset Butterfly Conservation and the Forestry Commission are continuing their coppice restoration programme at Stubhampton Bottom on behalf of the many other species of butterflies and moths which will benefit.

*Argynnis aglaja* (**DARK GREEN FRITILLARY**): Table 6 shows only too well that the heady days of 1997 are well and truly over for this species. The fact that 52 of the year 2001 count come from the one site at Melbury Down serves to highlight the serious nature of the decline even more.

**Table 5:** Small Pearl-Bordered Fritillary on Dorset walks

| Years | %* | Total** |
|-------|----|---------|
| 1990  | 6  | 198     |
| 1991  | 4  | 65      |
| 1992  | 7  | 151     |
| 1993  | 6  | 62      |
| 1994  | 8  | 85      |
| 1995  | 8  | 94      |
| 1996  | 8  | 101     |
| 1997  | 8  | 138     |
| 1998  | 6  | 46      |
| 1999  | 5  | 36      |
| 2000  | 2  | 8       |
| 2001  | 2  | 23      |

\* % of walks with at least 1 record  
 \*\* Total counted on all walks

**Table 6:** Dark Green Fritillary on Dorset walks

| Years | %* | Total** |
|-------|----|---------|
| 1995  | 13 | 98      |
| 1996  | 17 | 244     |
| 1997  | 19 | 497     |
| 1998  | 13 | 104     |
| 1999  | 13 | 89      |
| 2000  | 14 | 84      |
| 2001  | 7  | 114     |

\* % of walks with at least 1 record  
 \*\* Total counted on all walks

*Euphydryas aurinia* (**MARSH FRITILLARY**): Until this year the walks have not shown any evidence of a common trend across the county. However, 2001 must definitely rank as a Marsh Fritillary year. If we ignore Kingcombe and Brackets, where the species has been more or less unrecorded since 1998, most of the walks, Deadmoor, Lydlinch, Cerne Giant and Powerstock, showed above average totals. Astronomical numbers were counted at Hogcliffe. Better still, new records turned up all over Dorset. Eight of these came from the Central Chalk region at Forston (Sterling), Burlston Down and Lankham Bottom (De Whalley), Blakeley Hill, Piddlewood Down, and Norden Hill (Harris) and Weam and Rowden Hills (Hounsell). Another calcareous record came from, of all places, the Purbeck region on Ballard Down near Studland Wood, 9 June (Dave Howard). Since the last record on Purbeck was in 1900–39 this poses problems! Checking a field at Bugden’s Copse near Verwood in the Northern Heath region on 5 June, Phil Baarda found a colony flourishing not far from where larvae were released when a site was destroyed by the construction of a Safeways supermarket back in 1982. Naturally, many of these records may turn out to have been wanderers rather than representatives of stable colonies and two sites, Hod Hill and Melbury Down, bucked the trend by recording below average totals. Nevertheless, this must go down as an excellent year for the Marsh Fritillary in Dorset.

**Table 7:** Wall Brown on Dorset walks

| Years | % <sup>1</sup> | Total inland <sup>2</sup> | Total coastal <sup>3</sup> |
|-------|----------------|---------------------------|----------------------------|
| 1995  | 66             | 63                        | 144                        |
| 1996  | 33             | 17                        | 123                        |
| 1997  | 42             | 8                         | 163                        |
| 1998  | 38             | 23                        | 309                        |
| 1999  | 33             | 17                        | 553                        |
| 2000  | 40             | 11                        | 201                        |
| 2001  | 29             | 18                        | 103                        |

<sup>1</sup> % of walks with at least 1 record

<sup>2</sup> Total count all inland walks

<sup>3</sup> Total count 6 coastal walks

*Lasiommata megera* (**WALL BROWN**): Table 7 shows a further decline for the Wall. Although the number counted on inland walks has risen slightly since 2000, the percentage of walks recording at least one Wall has fallen to an all-time low and even the coastal sites have begun to spiral downwards. The Regional Action Plan hoped that the coastal Walls might be able to re-colonise the interior via the belt of heathland which mostly lies to the north. Back in 1999 this seemed a real possibility with high counts on some of the heathland walks; Tadnoll – 38, Higher Hyde – 12, Oakers Wood – 29, and Ham Common – 4. But in 2001 the combined counts of these walks only totals 6. Urgent research is needed on the requirements of this species before it dwindles to coastal sites only.

In conclusion it is worth pointing out to recorders who do not belong to Dorset Butterfly Conservation and who might wonder whether their records have fallen into a black hole, that there are annual meetings for recorders at Kingcombe, Wareham, Wimborne and Shaftesbury. At these, all recorders or would-be recorders are welcome and the results of the walks and surveys are fully discussed. Details of times and exact locations can be obtained from the County Recorder, Bill Shreeves (01747 852587), e-mail: butterflies@nascr.net

## BUTTERFLY REPORT 2002

Bill Shreeves

Before reporting on the 2002 butterfly season I should like to take the opportunity of paying tribute to the recorders who make annual reports possible, also, of explaining the Byzantine complexity of the present recording system and apologising for its shortcomings. At present, there are four kinds of butterfly records coming in each year.

1. Those made in the recorders' gardens and filled in on special forms.
2. Casual' records of all species of butterflies recorded anywhere in Dorset. These are preferably recorded on special forms, but typed or handwritten lists are acceptable provided they give map references and, if possible, are arranged under sites visited rather than species.
3. Records on key rare species made by surveyors working with the Regional Coordinators, who are at present in their second year of a five-year project to visit all known sites at least twice.

4. The specialised walk records for over 50 regular walks put together by the walk coordinators.

Records usually come in on paper but it is possible for them to be sent in electronically to the Records Officer. Appropriate forms can be obtained from the Records Officer or downloaded from the Dorset Butterfly Conservation Web site. The Records Officer is happy to have sightings of rare species phoned in to him but requests those who send records to Butterfly or Insect line to also send them to him or the Dorset Environmental Records Centre.

Since DERC has sub-contracted the handling of the records to Dorset Butterfly Conservation, all data converges on the DBC Records Officer. It has to be verified, which involves checking on its reliability and, in the case of priority species, contacting the recorder to determine its accuracy. Since it is well known that most of us find it hard to read in straight lines, it often turns out that a rare species has been entered by mistake for a common species listed in an adjoining column. Two **apologies** need to be made by the Verifier at this point. The first for any inconvenience caused by phone calls at inappropriate times and the second for being unable, on account of time and cost, to acknowledge all the records sent in. Recorders are welcome to phone if they want to make certain that their records were received and, if they are interested in finding out about the whole picture for the year, which is based on their endeavours, there are open annual regional Dorset meetings at Kingcombe, Wareham, Wimborne, and Motcombe, near Shaftesbury, in February or March organised by Dorset Butterfly Conservation. In addition the DBC web site carries information about records and meetings.

After verification the records are passed on to the DBC computer officer who leads a group of data inputters. They enter them on to a special programme called Levana. Here it is appropriate to make another **apology**. The large quantity of data piling up to be entered often results in a considerable time lag between the receipt of the record and its final arrival in the data base. When interim maps are published this can often make it seem as if records have not been received or are 'lost'. We can only ask for recorders to have patience as the inputters all have other jobs to do and are working for free as and when they can find the time. It would help if recorders got into the habit of sending in records more frequently and refrain from saving them all up until the end of year, thereby creating a huge last minute avalanche! In addition, more volunteers to help with the computer entries are certainly needed. The next step is the complex task of validation. This consists mainly in examining the computer records for errors. Common problems include incorrect map references which have slipped through the system creating false colonies of butterflies (easy to spot when they have been put in the seal!) and the previously mentioned problem of mixing up lines which afflicts data-inputters as much as recorders. Very often this task requires going back to compare the computer maps with the paper records, which have to be kept on hand for this eventuality. At present validation is organised jointly by DERC and DBC. The end of the line comes when the 'Levana' data is connected up to the DERC

'Recorder' system and the records, paper as well as electronic, are housed with DERC as their local custodian. Here they are made available for research and will ultimately form a part of the National Biodiversity Network, an ambitious scheme, whereby all records will be made available nationwide.

Naturally our Dorset records of butterflies are already available for use outside the county. The km square records have been used for the Millennium Atlas and are now being put into a supplement to cover the years 2000–2004. The butterfly walk data forms part of a huge computer database, which is helping DEFRA to assess how effective its agri-environmental schemes like Countryside Stewardship are in promoting improved biodiversity. With other countries such as Belgium and the Netherlands joining the walk network, the database is well on the way to playing a role in Europe. The garden records from Dorset are sent on to Dr Margaret Vickery of Butterfly Conservation who is running a national research scheme, the results of which are published annually. The records sent in by the regional surveyors are collated annually and used by Butterfly Conservation to assess progress in their plans to help biodiversity through conserving the species of butterflies known to be at risk. Last, but by no means least, as was shown at the September 2002 International Butterfly Symposium held at Lancaster University, students are using the data collected, especially from the butterfly walks, to do original research. Of special note at Lancaster were papers that used the data to point out the reality of global warming with sufficient logic to convince all but the most stubborn sceptics. A list of key contacts is provided below for any readers who would like to help with the recording.

1) **Dorset Environmental Records Centre:** Library HQ, Colliton Park, Dorchester DT1 1XJ. Tel: 01305 225081. E-mail: [derc@dorset-cc.gov.uk](mailto:derc@dorset-cc.gov.uk)

2) **Dorset Butterfly Conservation Records Officer:** Bill Shreeves, 5 Butt's Mead, Shaftesbury SP7 8NS. Tel: 01747 852587. E-mail: [butterflies@nascr.net](mailto:butterflies@nascr.net)

3) **Dorset Butterfly Conservation Computer Officer:** Bernard Franklin, 63 Chickerell Road, Weymouth DT4 0BU. Tel: 01305 786201. E-mail: [Bernard\\_Franklin\\_H@msn.com](mailto:Bernard_Franklin_H@msn.com)

4) **Dorset Butterfly Conservation Web Site:** [www.dorset-butterflies.com](http://www.dorset-butterflies.com)

### Migrants

As Table 1 shows, Clouded Yellow and Painted Lady had their second best year since the exceptional 1996 if measured by the numbers counted on all Dorset Transect walks. In contrast, the Red Admiral count was the lowest since the 1996 miracle year. The first Clouded Yellow to appear on a walk was at Ballard Down in week 6 (6–12 May). Altogether 11 were seen on walks between weeks 6 and 13 (24–30 June) spreading north to Duncliffe Hill and Deadmoor Common and west to Cerne and Powerstock. There were then no further records on walks until week 18 (29 July 29–4 Aug.), when 23 were counted on Ballard Down and 3 in the Winspit valley. From this point, numbers built up to a peak of 56 in week 22 (26 Aug.– 1 Sept.), of which just under half were in the north of the county. By

**Table 1:** Migrants on Dorset walks

| Years | Clouded Yellow | Painted Lady | Red Admiral |
|-------|----------------|--------------|-------------|
| 1996  | 734            | 1,8311       | 6691        |
| 1997  | 4              | 57           | 1086        |
| 1998  | 164            | 277          | 1381        |
| 1999  | 21             | 197          | 1545        |
| 2000  | 1035           | 798          | 1562        |
| 2001  | 13             | 229          | 1105        |
| 2002  | 252            | 588          | 986         |

the end of the walking week at the end of September the species was still flying with a total Dorset count of 25. A late record came from Lodmoor on 18 November (J. Reeve). The Painted Lady pattern was very similar with the first record at Hethfelton Wood in week 7 (13–19 May) and the first peak reached with a count of 44 in week 11 (10–16 June) and a second in week 21 (19–25 Aug.) with 149. The experience of the Red Admiral was totally different with no less than 6 walks recording it in week 1 (1–7 April) and 16 by the end of week 4 on 28 April. It is noticeable that most of these early records came from the north of the county (Cashmoor, Lydlinch) and hardly any from coastal areas. It is tempting to speculate that at least some of these were not migrants but hibernation survivors, though it is still possible that an early wave of migrants could have swept inland without being recorded.

### Natives

The weather for 2001, which underpinned 2002, was chiefly notable for an exceptionally warm, dry and sunny May and June followed by a dry July–September, which unfortunately was not especially sunny or, except for part of August, very warm. A reasonable prediction, provided that the weather in late April and early May 2002 was not bad enough to preclude emergence, would be that single brooded species emerging in May 2001 should have had excellent egg-laying conditions and therefore do well in May 2002. This did in fact prove to be the case with Dingy and Grizzled Skippers, Holly Blue and Orange Tip all performing well on a majority of the walks. The rest of 2002, with a cool and wet late May to July repeating the poor weather of 2001, was exceptionally bad for butterflies and the dry warm August and September was, frustratingly, not matched by good numbers.

Surveyors for the Regional Action Plan benefited from the absence of Foot and Mouth this year to catch up on the back log of site visits for May species. With 56% of Dingy Skipper sites and 64% of Grizzled Skippers surveyed, the five-year 2001–5 project got back on target. The news on the transect walks front was not so good. Although 47 walks produced enough data to provide meaningful indices, 5 had too many weeks missed to enable more than general abundance grades to be allocated and 11 failed, for various reasons, to register at all. Two new walks, organised by the National Trust at Winspit Valley and Langton Westwood, both in Purbeck, entered the scheme for the first time. The km square survey work for the 2000–04 supplement to the Millennium Atlas is, as anticipated, running into problems, because it is proving difficult to cover all the squares

visited in the survey of 1995–99 yet again in such a short time span. The key species are well researched by the RAP surveyors but unless more of the less interesting squares can be looked at before 2004 ends, many of the commoner species may seem, unjustly, to be collapsing. As usual more recorders are needed. The ‘empty’ squares can be viewed on the DBC web site. The single species chosen for comment below are those where ‘new’ sites (meaning not recorded in the last 1995–99 atlas) were recorded or for which interesting trends have been found

*Thymelicus lineola* (**ESSEX SKIPPER**): New records for this species came from young woodland plantations still dominated by tall grasses at Brooklands Wood, Fontmell Magna and various coppices in the Manswood area (B. Shreeves). Another of the typical roadside verge colonies was uncovered near Kingstag (B. Shreeves), and DBC survey teams found that very small numbers had penetrated the sites at Badbury Rings and Pamphill. There is still little evidence of any colonisation of west and south Dorset but visitors from outside the county (B. and S. Roberts) reported the species on Broadcroft Quarry, Portland. This sighting will need further investigation but if confirmed will mean that Broadcroft may be the first site in the county to have Small, Lulworth and Essex Skippers! We still need some intrepid surveyor to look on the Wareham and Dorchester by-passes but two surveys carried out independently by members of the Kingcombe butterfly course and Lawrie de Whalley prove conclusively that it has not yet reached the new Butterfly Conservation reserve at Lankham Bottom north of Maiden Newton.

*Pyrgus malvae* (**GRIZZLED SKIPPER**): Altogether 15 new sites have been uncovered: 6 in the Cranborne Chase region (P. and R. Farrant, D. Taylor and B. Shreeves); 4 on the Central Chalk (L. de Whalley and J. Harris); 2 on Southern Chalk (S. Phelp); 1 in the Northern Chalk region (B. Raymond) and 1 unusual little colony at the Five Bridges Picnic area on a roadside verge beside the A30 (B. Shreeves). If only more such colonies exist and can be sustained!

*Erynnis tages* (**DINGY SKIPPER**): Three new sites were found in the North Chalk region (B. Shreeves, J. Westgate and B. Raymond); 3 more in the Central Chalk (S. Anderson, and L. de Whalley and 2 in the South Chalk (S. Phelp). Cranborne Chase yielded a further 3 (D. Taylor, P. and R. Farrant) and 2 more from Purbeck (P. Grey and C. Nunn), making a total of 13.

*Cupido minimus* (**SMALL BLUE**): What looks like a substantial colony, with 8 counted, turned up in a km square in the North Chalk region where the species has not been recorded on any of the post 1970 Dorset atlases (B. Raymond).

*Plebejus argus* (**SILVER-STUDED BLUE**): Although the total transect walk count of 192 was an improvement on the 91 of 2001 numbers still trail well below the 1,490 of 1996. Only Studland with its second highest total since 1976 can be said to have really recovered. Better news came from the North and Central Heath regions where new records were added from Parley Common (B. and E. Knowles) and Canford Heath (J. Argent).

*Lysandra coridon* (**CHALKHILL BLUE**): The perplexing slump reported in 2001 still continues with 80% of the walks showing over 50% declines on their average annual counts since each walk began. This year Hod Hill joins

Badbury Rings in going against the downward trend. This pessimism is supported by the reports from the Regional surveyors who recorded zero counts from 36 out of the 73 sites, which were formerly occupied by the species (nearly 50%). This gloomy picture is only very partially softened by the 2 new sites in the Cranborne Chase region (N. Butt and D. Taylor) and 2 from the Central Chalk (K. Blease). At present only 3 sites each are recorded positive from Purbeck and South Chalk.

*Lysandra bellargus* (**ADONIS BLUE**): In contrast to the Chalkhill, the Adonis Blue continues to flourish. Good numbers were counted on the walks, especially at Fontmell, Hod, Cerne and Ballard Down. The regional surveyors have so far found 63 sites with only 14 zero counts (20%) compared to the 50% zero rate for the Chalkhill. In addition 10 new sites have been found, 4 on South Chalk (J. Harris, L. de Whalley and S. Phelp), 3 on Central Chalk (J. Harris and L. de Whalley), and one each on, North Chalk (B. Shreeves), Cranborne Chase (D. Taylor) and Purbeck (J. Harris). One site had until recently been cloaked by a Beech plantation until it was cleared under a Countryside Stewardship scheme.

*Celastrina argiolus* (**HOLLY BLUE**): As can be seen from Table 2, the upswing in the Holly Blue’s parasite-driven cycle, predicted in the 2001 report, has been sustained with the percentage of walks recording it and the totals counted both rising.

However once again, as pointed out in 2001, there is a contrast in the performance of the Dorset regions. Table 3 shows that the East Dorset Region’s leadership of the upswing has been surrendered to the south, which now leads in both total numbers and percentage of the whole count. Will the upswing continue to match the 1998 record of 100% appearance on walks and over 1,000 counted? Probably only the parasites know but it may be relevant that this year’s second brood was well down on the first (only 37% of the total counted) for all regions except the west. Does this mean that the upswing is running out of steam?

*Ladoga Camilla* (**WHITE ADMIRAL**): At present this species is experiencing a general slump having 88% of its walk sites with counts well below their averages. The regional action plan surveyors have also recorded zero counts at 18 of the 30 sites they have checked (60%). Better news is the discovery of colonies in many of the coppices in the Manswood area of Cranborne Chase, some in km squares where it has not been recorded in any of the post 1970 Dorset atlases (Bill Shreeves).

*Boloria selene* (**SMALL PEARL-BORDERED FRITILLARY**): The serious situation described in 2001 has now deteriorated further, with none recorded on any of the Powerstock walks thus leaving Deadmoor and two sites in the West Dorset coast region as the only colonies where it has recently been recorded. Possible sightings on Hardown Hill need to be checked (C. Burnett).

*Boloria euphrosyne* (**PEARL-BORDERED FRITILLARY**): Hopes were raised by the record of one in the Cranborne Chase Region (J. McGill). Coppice work continues in the area but the prospects do not seem hopeful.

*Euphydryas aurinia* (**MARSH FRITILLARY**): At least two of last year’s records of the butterfly (Lankham Bottom in Central Chalk and Bugden’s Copse in North Heath regions) have been confirmed by the discovery of larval

**Table 2:** Holly Blue on all Dorset walks

| Years | %*  | Total** |
|-------|-----|---------|
| 1995  | 44  | 67      |
| 1996  | 72  | 359     |
| 1997  | 100 | 749     |
| 1998  | 100 | 1322    |
| 1999  | 73  | 411     |
| 2000  | 57  | 177     |
| 2001  | 62  | 263     |
| 2002  | 87  | 648     |

% of walks with at least 1 record

\*\* Total counted on all walks

**Table 3:** Regional distribution of Holly Blues on Dorset walks

| Regions | Percentages of total count |      |      |      |      |      |
|---------|----------------------------|------|------|------|------|------|
|         | 1997                       | 1998 | 1999 | 2000 | 2001 | 2002 |
| East    | 19                         | 10   | 29   | 45   | 58   | 26   |
| North   | 30                         | 41   | 19   | 13   | 18   | 21   |
| South   | 49                         | 43   | 48   | 36   | 23   | 52   |
| West    | 2                          | 6    | 4    | 6    | 1    | 1    |
|         | Total numbers counted      |      |      |      |      |      |
| East    | 141                        | 134  | 117  | 79   | 152  | 168  |
| North   | 225                        | 549  | 78   | 24   | 49   | 138  |
| South   | 366                        | 578  | 199  | 64   | 60   | 336  |
| West    | 17                         | 80   | 17   | 6    | 2    | 6    |

webs this winter. Another colony has been located near Stratton Bottom in South Chalk (RSPB) and a DBC work party cleared ragwort from the site so that it would be possible to graze it with cattle. Another 5 random sightings including, New Barn in South Chalk (R. Wheeler) and East Field Hill in Central Chalk (J. Harris), will need to be followed up in 2003. Good news came from the Kingcombe Stones transect walk where 5 were counted after a zero count in 2001. The colonies in the Blackmore Vale triangle of Deadmoor, Rooksmoor and Lydlinch continue to do well and the Lydlinch Conservation team, mainly comprising DBC members, won an English Nature award for outstanding management.

*Lasiommata megera* (WALL BROWN): The hoped for upswing in the fortunes of this species has yet to come if the results of the walks are relevant. Although 36% of the walks recorded at least one, compared to 29% in 2001, this was still far short of the 66% in 1995. The total count on inland walks even fell from 18 to 11 and is still alarming compared to the 63 of 1995. Slightly better news is that the regional surveyors in Central Chalk have found 16 sites, two of them new.

### MICROLEPIDOPTERA REPORT 2002

Phil Sterling

Records of nationally rare and nationally scarce species (mostly provisional statuses only) have been included, together with records of other interesting

species such as immigrants and those not recently recorded in the county. Nomenclature is taken from Bradley, J.D. (2000) *Checklist of Lepidoptera recorded from the British Isles*. Second edition (revised).

Records were gratefully received from:

|                         |                     |
|-------------------------|---------------------|
| CE – Christine Endecott | MJ – Mike Jeffes    |
| CMM – Chris Manley      | MSP – Mark Parsons  |
| CP – Claire Palmer      | PAD – Peter Davey   |
| DF – Dave Foot          | PH – Paul Harris    |
| DG – David Gibbs        | PK – Peter Knight   |
| DGG – Dave Green        | PHS – Phil Sterling |
| EP – Ted Pratt          | RF – Richard Fox    |
| JA – Jack Astley        | SB – Steve Barrett  |
| JH – John Hunnisett     | RL – Ricky Lambert  |
| JMG – James McGill      | RP – Bob Palmer     |
| JMM – Jamie MacMillan   | SMP – Steve Palmer  |
| HWH – Hugo Wood Homer   | SN – Steve Nash     |
| MC – Martin Cade        | WT – Bunny Teagle   |
| MF – Mark Forster       |                     |

Other abbreviations:

gen. det. – genitalia determined by; conf. – confirmed by  
vc = vice-county

*Eriocrania salopiella* Hengistbury Head (vc11), 2 on 20.4 (MJ)

*Ectoedemia decentella* Verwood, on 25.7 (SMP)

*Lampronia luzella* Stubbampton Bottom, 1 on 19.5 by day (PAD) & 1 on 27.5 (MSP)

*Lampronia morose* Lodmoor, 6 larvae & 1 pupa on *Rosa* spp. on 26.4 (PHS)

*Nemophora cupriacella* Portland Bird Observatory, 1 on 13.7 by day (MC)

*Pachythelia villosella* Poole, 3 cases between 30.3 & 4.4 (PAD), Stoborough Heath, 3 cases between 27.5 & 11.6 (PAD)

*Nemopogon ruricolella* Weymouth, 1 on 12.7 by day (PHS)

*Roeslerstammia exlebelli* Boys Wood, 1 on 30.5 by day (PHS); Hurn (vc11), 1 on 10.5 (MJ)

*Caloptilia cuculipennella* Cheyne Weare, Portland, on 1.7 (JH, PHS)

*Parornix scoticella* Verwood, 1 on 27.7 (SMP)

*Phyllonorycter leucographella* Trigon, 1 on 5.6 at MV (CMM); Swanage, mine on *Pyracantha* on 17.7 (RP); Wareham, mines on *Pyracantha* on 19.12 (DGG)

*Prochoreutis sehestediana* Boys Wood, 1 on 23.5 by day (PAD)

*Glyphipterix forsterella* Briars Wood, 2 on 30.5 (JA)

*Yponomeuta rorella* Walditch, on 12.8 (MSP)

*Metriotes lutarea* Piddles Wood, 14 on 12.5 & 5 on 15.5 by day (PAD)

*Coleophora genistae* East Lulworth, 1 on 13.6 at MV, gen. det. (DGG, MSP)

*Coleophora lassella* Canford Heath, 2 on 25.7 (SMP, CP); Holt Heath, 1 on 28.7 (SMP)

*Alabonia geoffrella* West Bexington, 1 larva in dead twig *Prunus spinosa* on 15.2 (PHS); Puddletown, few larvae in dead sticks of *Rubus fruticosus* agg. on 19.2 (PHS)

*Tachystola acroxantha* Branksome Dean Chine, 1 on 24.10 at MV (PAD); Trigon, 1 on 19.9 at MV (CMM)

*Pseudatemilia flavifrontella* Walditch, 1 on each of 20.5 & 1.6 (MSP); Boys Wood, 2 on 30.5 by day (PHS)

*Semioscopis steinkellneriana* Hammoon, 1 on 23.4 at MV (SB, PAD)

*Luquetia lobella* Freshwater Bay, Portland, 2 on 15.6 at light (MSP)

*Depressaria ultimella* Walditch, 1 on 16.5 (MSP); Lorton, 4 pupae in stems *Apium nodiflorum* on 23.8 (PHS)

*Agonopterix purpurea* Seacombe, 1 on 17.8 at MV (CMM)

- Monochroa lucidella* Higher Hyde, 3 on 15.7 at MV (PAD); Binnegar, on 15.6 by day (DG)
- Carpatolechia decorella* Froxen Copse, Arne, 1 on 15.10 by day (PHS)
- Platyedra subcinerea* Walditch, 1 on 16.5 (MSP)
- Scythris empetrella* Stokeford Heaths, 1 larval tube under *Calluna vulgaris* on 24.4 (PHS)
- Gymnidomorpha luridana* Badbury Rings, 8 on 27.7 at MV (PAD)
- Cochylis molliculana* West Bexington, on 18 occasions between 31.5 & 1.10 at MV (RE); Lodmoor, on 16.7, 30.7 & 30.8 at MV (PHS, CMM, DF, MF *et al.*); Walditch, 1 on each of 9.9 & 10.10 (MSP); Freshwater Bay, Portland, 1 on 15.6 at light (MSP); Chickereil Downs, on 8.6 at MV (PHS)
- Cnephasia genitalana* Weymouth, 1 on 26.7.01 at MV, gen. det. (PHS)
- Acleris logiana* Merritown Heath (vc11), 1 on 5.7 (MJ, conf. PHS)
- Acleris lorquiniana* Radipole Lake Nature Reserve, 1 on 2.8 at MV (DF, conf. PHS) & 1 larva on *Lythrum salicaria* flowers on 20.9, adult emerged 15.10 (PHS)
- Olethreutes arcuella* Stubhampton Bottom, 1 on 20.5 by day (MSP)
- Apotomis semifasciana* Holt Heath, 1 on 28.7 at MV (PAD); Upton Heath, 1 on 24.7 at MV (JMG, PAD)
- Endothenia ustulana* Walditch, 1 on 16.7, 2 on 29.7 (MSP)
- Ancylis upupana* Milborne Wood, 1 on 17.5 at MV (HWH)
- Ancylis obtusana* Boys Wood, 1 on 23.5 by day (PAD); Stubhampton Bottom, 1 on 20.5 by day (MSP)
- Ancylis apicella* Arne, 1 on 26.7 at MV (JMG); Holt Heath, 1 on 28.7 at MV (PAD); Upton Heath, 2 on 24.7 at MV (JMG, PAD)
- Epinotia demarniana* Holt Heath, 16 on 16.6 at MV (PAD); Turners Puddle Heath, on 6.6 at MV (PHS); Merritown Heath (vc11), 4 on 14.6 (MJ); Sopley Common (vc11), 1 on 15.6 (MJ)
- Epinotia maculana* Boys Wood, few larvae on *Populus tremula* on 30.5 (PHS)
- Crociosema plebejana* West Bexington, 1 on 7.1 & on 12 occasions between 12.9 & 2.12 at MV (RE); Walditch, on 4 occasions between 18.8 & 4.11 (MSP); Weymouth, 1 on each of 30.10 & 2.11 at MV (PHS); Puddletown, 1 on 16.6 at MV (HWH)
- Rhopobota stagnana* Badbury Rings, 5 on 27.7 at MV (PAD)
- Eucosma conterminana* Portland Bird Observatory, 1 on each of 24.7 & 29.7 at MV (MC)
- Selania leplastriana* Winspit, 1 on 1.7 by day (PAD)
- Pammene giganteana* Warre Wood, 1 on 1.4 at UV (PHS)
- Pammene trauniana* Caswell Farm, Ryme Intrinseca, 1 on 26.7 at MV (JA, gen det. PHS)
- Pammene germmiana* Milborne Wood, 1 on 6.6 at MV (HWH)
- Grapholita lathyрана* Burton Bradstock, 2 on 29.3 by day (PHS)
- Epermenia insecurella* Seacombe, 1 on 17.8 at MV (CMM)
- Epermenia aequidentellus* Walditch, 1 on 29.8 (MSP)
- Calamotropha paludella* Higher Hyde, 1 on 15.7 & 4 on 23.7 at MV (PAD); Holt Heath, 1 on 28.7 at MV (PAD); Portland Bird Observatory, 1 on 9.8 at MV (MC)
- Crambus silvella* Arne Nature Reserve (Salterns), 1 on 25.7 at MV (CMM); East Lulworth, 1 on 19.8 at MV (DGG, MSP)
- Crambus hamella* Arne Nature Reserve (Patchins), 2 on 3.9 at MV (CMM); Studland, 1 on 14.9 at MV (CMM)
- Pediasia contaminella* Arne, 1 on 26.7 at MV (JMG); Holt Heath, 1 on 28.7 at MV (PAD); Stoborough Heath, 5 on 26.7 at MV (PAD); Portland Bird Observatory, 1 on 6.8 at MV (MC)
- Pediasia aridella* Arne Nature Reserve (Patchins), 1 on 29.7 at MV (CMM)
- Eudonia pallida* Shapwick, 1 on 20.5 at MV (PAD); West Bexington, 1 on each of 2.6 & 18.8 at MV (RE); Upwey, 1 on 2.6 at MV (PH); Arne Nature Reserve (Salterns), 5 on 8.6 at MV (CMM); Langton West Wood, 1 on 2.6 at MV (CMM); Down Farm, Cashmoor, 1 on 17.5 (MJ); Weymouth, 1 on 19.5 at MV (PHS); Portland Bird Observatory, 21 between 18.5 & 5.7 at MV (MC)
- Eudonia delunella* Trigon, 1 on 29.6 at MV (CMM); Froxen Copse, 1 on 13.6 at MV (CMM); Two Mile Coppice, 1 on 17.7 at MV (PHS, DF, MF *et al.*); Puddletown, 1 on 7.7 at MV (HWH)
- Eudonia lineola* West Bexington, 1 on each of 5.7, 30.7, 6.8, 29.8 & 3.9 at MV (RE)
- Evergestis limbata* Trigon, 1 on 18.7 at MV (CMM); East Lulworth, 1 on 12.8 at MV (RF)
- Evergestis extimalis* Portland Bird Observatory, 4 between 30.7 & 2.9 at MV; Fortuneswell, 1 on 27.8 at MV (MC); West Bexington, 8 between 4.6 & 16.9 at MV (RE)
- Evergestis pallidata* Melbury Park, 3 on 13.7 at MV (CMM); Langton Matravers, 16-19.7 (RP); East Lulworth, 1 on 19.8 at MV (DGG, MSP)
- Pyrausta cingulata* Fontmell Down, 1 on 27.4 beaten out by day (PAD)
- Sitochroa palealis* Portland Bird Observatory, 7 between 25.7 & 15.8 at MV (MC); West Bexington, 1 on 20.8 at MV (RE)
- Ostrinia nubilalis* East Lulworth, 1 on 25.7 at MV (DGG, MSP); Upwey, 1 on 17.8 at MV (PH); Hengistbury Head (vc11), 1 on each of 15.7 & 28.7 (MJ)
- Anania verbascalis* Portland Bird Observatory, 1 on 28.8 at MV (MC)
- Udea fulvalis* Weymouth, 1 on 30.7 by day (JMM); Swanage, 1 on each of 27.7 & 29.7 (EP); Hengistbury head (vc11), 7 between 25.7 & 6.8 (MJ)
- Mecyna asinalis* Durlston, 13.8 at MV (SN) & 12 on 30.9 at MV (PAD); West Bexington, 1 on each of 29.6 & 12.8 at MV (RE); Cheyne Weare, Portland, on 1.7 by day (JH, PHS)
- Dolicarthria punctalis* Durdle Door – Bat's Head, 3 on 12.7 at torch light (MF)
- Diasemiopsis ramburialis* Winfrith Heath, 1 on 4.6 by day (MF); Portland Bird Observatory, 1 on 6.10 at MV (MC)
- Palpita vitrealis* Portland Bird Observatory, 1 on each of 30.9 & 1.10 at MV (MC); West Bexington, 1 on each of 22.10, 29.10, 4.11 & 9.11 at MV (RE); Preston, 1 on each of 9.10 & 31.10 at MV (RL); Durlston, 1 on 31.10 at MV (SN); Highcliffe Castle (vc11), 1 on 29.10 at MV (PAD)
- Synaphe punctalis* Arne, 1 on 26.7 at MV (JMG); Poole, 1 on 25.7 at MV (PAD); Morden Bog, 1 on 16.7 at MV (PAD, CMM), 4 on 22.7 at MV (PAD, JMM, MSP); Binnegar, on 22.7 by day (DG); Stoborough Heath, 12 on 26.7 at MV (PAD); Talbot Heath, 7 on 29.7 at MV (PAD); Upton Heath, 1 on 24.7 at MV (JMG, PAD); West Bexington, 1 on each of 8.7 & 27.7 at MV (RE); Upwey, 1 on 30.7 at MV (PH); Preston, 1 on 3.7 at MV (PK); Coombe Valley Quarry, 1 on 15.7 by day (MF); Arne Nature Reserve (Patchins), 12 on 12.7, 3 on 29.7 at MV (CMM); Arne Nature Reserve (Salterns), 1 on 25.7 at MV (CMM); Durlston, on 18.7 at MV (RP) & 1 on 13.8 at MV (SN); Merritown Heath (vc11), 1 on 5.7, 9 on 28.7 (MJ); Hengistbury Head (vc11), 28 between 5.7 & 30.7 (MJ)
- Aglossa pinguinalis* Upwey, 1 on 6.8 at MV (PH)
- Galleria mellonella* Portland Bird Observatory, 1 on 28.9 at MV (MC); Seacombe Quarry, 1 on 30.9 at MV (CMM); Preston, 1 on 25.8 at MV (PK)
- Conobathra tumidana* Durlston, 1 on 3.9 at MV (SN)
- Oncocera semirubella* Higher Hyde, 1 on 23.7 at MV (PAD); Seacombe Quarry, 2 on 17.8 at MV (CMM); Durlston, on 13.8 at MV (SN); Black Venn, 1 on each of 2.7 & 30.7 at UV (CE)
- Pempelia genistella* Arne, 1 on 26.7 at MV (JMG); Poole, 5 on 19.7 & 7 on 25.7 at MV (PAD); Higher Hyde, 6 on 15.7, 11 on 23.7 at MV (PAD); Holt Heath, 3 on 28.7 at MV (PAD, SMP); Morden Bog, 4 on 22.7 at MV (PAD, JMM, MSP); Stoborough Heath, 2 on 26.7 at MV (PAD, JMG); Talbot

Heath, 17 on 29.7 at MV (PAD); Upton Heath, 1 on 24.7 at MV (JMG, PAD); Trigon, 1 on 1.8 at MV (CMM); Arne Nature Reserve (Salterns), 1 on 25.7 at MV (CMM); Canford Heath, 2 on 25.7 (SMP, CP); Hengistbury Head, 13 between 18.7 & 6.8 (MJ)

*Dioryctria sylvestrella* Higher Hyde, 1 on 23.7 at MV (PAD); East Lulworth, 1 on each of 29.7, 6.8 & 10.10 at MV (DGG, MSP); Puddletown, 1 on each of 4.8, 8.8 & 30.8 at MV (HWH)

*Epischmia banksiella* Durlston, 1 on 13.8 at MV (SN)

*Apomyelois bistriatella* Hengistbury Head (vc11), 1 on 4.6 (MJ)

*Nephoterix angustella* Portland Bird Observatory, 1 on 30.8 at MV (MC); Weymouth, 1 on 5.9 at MV (PHS); Puddletown, 1 on 24.7 at MV (HWH); Hengistbury Head (vc11), 1 on each of 5.7 & 13.7 (MJ)

*Amblyptilia punctidactyla* Walditch, 1 on 2.10 (MSP); Puddletown, 1 on 9.7 at MV (HWH)

*Platyptilia isodactylus* Puddletown, 2 on 14.8 at MV (HWH)  
*Merrifieldia baliodactylus* Powerstock Common, 1 on 20.6 by day (PAD)

*Pterophorus galactodactyla* Stubhampton Bottom, larvae on 19.5 (PAD) & 20.5 (MSP)

## MACROLEPIDOPTERA REPORT 2002

Peter Davey

Records were gratefully received from:

|                                     |                                |
|-------------------------------------|--------------------------------|
| BP – Bob Palmer                     | MPI – Michael Plaxton          |
| BU – Bill Urwin                     | MSP – Mark Parsons             |
| CE – Christine Endecott             | Pbe – Paul Benham              |
| CM – Chris Manley                   | Pbu – Paul Butter              |
| DCx – Darragh Croxson               | PD – Peter Davey               |
| DAH – Don Humphreys                 | PG – Phil Grey                 |
| DBC – Dorset Butterfly Conservation | PH – Paul Harris               |
| DC – Duncan Cooper                  | PHS – Phil Sterling            |
| DF – Dave Foot                      | PK – Peter Knight              |
| DG – David Green                    | PP – Philip Prestidge          |
| DP – David Pearman                  | PT – Peggy Taylor              |
| DW – David Webb                     | Ret – Ron Elliott              |
| GH – Gordon Hopkins                 | RC – Rees Cox                  |
| HW – Hugo Wood Homer                | RE – Roy Eden                  |
| JB – Jeremy Burge                   | RL – Ricky Lambert             |
| JD – John Down                      | RRC – Ray Cook                 |
| JF – Jim Fradgley                   | RF – Richard Fox               |
| Jha – John Hammick                  | SFP – Speckled Footman Project |
| JMc – James McGill                  | SN – Steve Nash                |
| LdW – Lawrie de Whalley             | SP – Steve Palmer              |
| MC – Martin Cade                    | TP – Ted Pratt                 |
| MF – Mark Forster                   | WGT – Bunny Teagle             |
| MG – Margaret Godfrey               | WS – Bill Shreeves             |
| MJ – Mike Jeffes                    |                                |

*Hepialus hecta* **GOLD SWIFT** north-east Dorset, 2 on 13.6 (PD); Merritown Heath, 14.6 (MJ); 3 on 15.6 (RRC, DAH, PD)

*Phragmataecia castaneae* **REED LEOPARD** near Wareham, 4 in mid-July

*Cossus cossus* **GOAT** Slepe Heath, 26.6, 4.7 (DC)

*Adscita statice* **FORESTER** Sixpenny Handley, Oakley Down, 19.6 (J. Tubb); Norden Hill, Cattistock, 2 on 26.6 (K Blease); Melbury Down, 2 in flight on 29.6 (PD); Fontmell Down, by day 10.7 (DBC)

*Adscita geryon* **CISTUS FORESTER** Stubhampton, by day 4.6, 24.6 (DBC); Giant Hill, 4 by day 11.6 (MSP), at rest 15.6 (PD); Folly Hill, 3 at rest 12.6 (PD); Lankham Bottom, by day 12.6 (MSP); Hog Cliff Bottom, 4 by day 13.6 (MSP); Black Hill, 4 disturbed on 17.6 (PD); Lyscombe, 2 in flight on 18.6 (PD)

*Zygaena trifolii* *Esp. ssp. decreta* **FIVE-SPOT BURNET** Arne, 7 larvae on trefoil 11.6 (PD); West Moors, Ringwood Forest, larva on trefoil 25.6 (PD); Stoborough, larva on trefoil 26.6 (PD); Friar's Fields, West Moors, 14 by day on 11.7 (DAH); Keyworth, 18.7 (HW)

*Zygaena trifolii* *Esp. ssp. palustrella* **FIVE-SPOT BURNET** Folly Hill, 50 larvae on trefoil on 12.6 (PD); Hod Hill, 4 on 13.6, 3 on 18.6 (JT); Black Hill, 50 larvae on trefoil 17.6 (PD); Lyscombe, 6 larvae on trefoil 8.6 (PD); Melbury Down, 18 by day 20.6, 20 by day 26.6 (DBC), 50 in flight on 29.6 (PD); Fontmell Down, 5 by day 26.6 (DBC); Lankham Bottom, 16 on 14.7 (LdW)

*Apoda limacodes* **FESTOON** Wimborne, 17.6 (MG); Higher Hyde, 6.7 (MF, DF, PH, JD, RL, DCx); Shapwick, female at rest on hedge 7.7 (PD); Morden Bog, 16.7 (CM, PD); Trigon, 2 on 18.7 (CM); Merley, 19.7 (JHa); Milborne Wood, 2 on 21.7, 28.7 (HW); Dorset heath, 3 on 25.7 (SFP); Badbury Rings, 2 on 27.7 (PD); Briantspuddle, 2 on 27.7 (JF); Studland Heath, larva on oak leaf 19.9 (RC)

*Sesia apiformis* **HORNET (not verified)** west of Poole, pair in cop on mature poplar trunk (per PD)

*Sesia bembeciformis* **LUNAR HORNET** Holt, 4 holes in stumps of cut willow 5.4 (PD); Preston, 9 adults found on trunk of garden willow: 3 on 6.7, 7.7, 11.7, 2 on 13.7, 15.7, 19.7 ... egg laying females observed on four occasions with many eggs on trunk ... 43 extruded pupa cases found on or below tree during July (MF)

*Synanthedon flaviventris* **SALLOW CLEARWING** Stokeford Heaths, 2 galls in willow on 22.3 (PHS)

*Synanthedon andreaeformis* **ORANGE-TAILED CLEARWING** Cogden Fields, several vacated mines in viburnum 29.3 (PHS)

*Synanthedon formicaeformis* **RED-TIPPED CLEARWING** Lodmoor, tenanted gall in willow, 26.4 (PHS)

*Synanthedon culiciformis* **LARGE RED-BELTED CLEARWING** Bovington, 7 pupae in birch stumps 27.4 (MF, DF), 31 extruded pupa cases during May (MF), adult at rest on birch stump 12.5 (MF, RRC, DAH, PD), 6 piles of frass on 3 birch stumps 11.7 (MF)

*Bembecia scopigera* **SIX-BELTED CLEARWING** Cheyne Weares, by day 1.7 (JH, PHS); Coombe Valley, 22 to pheromone lure in thirty minutes 14.7 (MF, DCx); Bovington, by day 16.7 (MF)

*Trichiura crataegi* **PALE EGGAR** West Bexington, 14 between 19.8 and 16.9 (RE); Preston, 27.8 (MF); Kingston, 30.8 (PBe); Woolland, 1.9, 7.9, 11.9, 18.9 (PBe); Kingcombe, 10.9, 11.9 (REt); Walditch, 14.9 (MSP); Dorchester, 15.9 (JD)

*Eriogaster lanestris* **SMALL EGGAR** West Bexington, 21.3, 22.3, 25.3, 27.3, 30.3, 1.4 (RE); Upwey, 4.4 (PH); Chalbury, nest with 5 third instar larvae on 25.5 (PD)

*Lasiocampa trifolii* **GRASS EGGAR** Studland, Shell Bay, 2.8 (CM); Portland Bird Observatory, 27.8 (MC)

*Gastropacha quercifolia* **LAPPET** Walditch, 7.7 (MSP); West Bexington, 10.7, 17.7, 19.7, 30.7 (RE); Puddletown, 18.7 (HW)

*Pavonia pavonia* **EMPEROR** Purewell Meadows, 3 second instar larvae on bramble 14.6 (RRC, PD); Slepe Heath, 24.4, 8.5, 9.5, 16.5, 21.5 (DC); Studland Heath, 2 larvae 10.7 (RC)

*Drepana cultraria* **BARRED HOOK-TIP** Melbury Down, in flight, disturbed 11.5 (PD); Blandford, 15.5 (PD); East Lulworth, 20.8 (DG, MSP)

*Tethea ocularis octogesimea* **FIGURE OF EIGHTY** Briantspuddle, 17.5 (JF); Dorchester, 16.5, 1.6, 28.6 (JD); Preston, 1.6 (MF); Walditch, 6.6 (MSP); Chickereil Downs, 8.6 (PHS); Wyke Regis, 13.6 (DF); Merritown Heath, 14.6 (MJ); Ware Wood, 22.6 (DF); Hengistbury Head, 26.6, 27.6 (MJ); Swanage, 6.6 (TP), 30.6 (RC); Wool, 3.7 (DC); Wimborne, 6.7 (MG)

*Achlya flavicornis* **YELLOW HORNED** Hurn, 64 between 19.2 and 21.3 (MJ); Merley, 67 between 20.2 and 4.4 (JHa);

Slepe Heath, 4.3, 5.3, 6.3, 7.3, 12.3 (DC); East Lulworth, 2 on 7.3 (DG, MSP)

*Polyploca ridens* **FROSTED GREEN** Powerstock Common, 4 on 30.3 (MF, PH, JD), 5 on 20.4 (MF, PH, DF, RL, PHS, JMc, BU); Milborne Wood, 31.3, 25.4 (HW); Shapwick, 2.4 (PD); Woolland, 5.4, 16.4 (PBe); Hurn, 9 between 7.4 and 25.4 (MJ); Yellowham Wood, 2 on 13.4 (MF, PH, JD, RL); Merley, 7 on 16.4, 2 on 17.4, 3 on 18.4 (JHa); Holt Heath, 22.4 (PD); East Lulworth, 22.4 (DG), 23.4, 24.4 (DG, MSP); Morden Bog, 25.4 (PD); Alner's Gorse, 9.5 (PD); Puddletown, 9.5 (HW)

*Archiearis parthenias* **ORANGE UNDERWING** Throop Heath, 6 by day 16.7 (MF); Holt Heath, 12 in flight 29.3 (JF, PD)

*Archiearis notha* **LIGHT ORANGE UNDERWING** Merritown Heath, 2 flying around aspens on 30.3 (RRC); Fifehead Wood, 8 in flight around aspen canopy on 4.4 (PD)

*Pseudoterpna pruinata* **GRASS EMERALD** West Bexington, 10.7 (RE); Wyke Regis, 16.8 (DF); Portland Bird Observatory, 27.8 (MC)

*Comibaena bajularia* **BLOTCHED EMERALD** north-east Dorset, 2 on 15.6 (RRC, DAH, PD); Holt Heath, 2 on 16.6 (PD); Wimborne, 17.6 (MG); Hurn, 17.6 (MJ); Merley, 2 on 21.6 (JHa)

*Chlorissa viridata* **SMALL GRASS EMERALD** Higher Hyde, 14.6 (JMc)

*Jodis lactearia* **LITTLE EMERALD** Stubhampton, 27.5 (MSP); Milborne Wood, 3 on 4.6, 6.6, 17.6 (HW); north-east Dorset, 15.6 (RRC, DAH, PD); Holt Heath, 3 on 16.6 (PD)

*Cyclophora pendularia* **DINGY MOCHA** Alner's Gorse, 16.5 (PD); Tadnoll, 19.7.2001 (JMc); Trigon, Dynamite 26.7 (CM); Portland Bird Observatory, 3.8 (MC); Rooksmoor, two larvae on 20.8 (MSP); Whitesheet, 2 larvae on sallow on 12.9 (DAH); Parley Heath, 2 larvae on sallow on 15.9 (DAH); Holt Heath, larva on sallow 22.9 (PD)

*Cyclophora annulata* **MOCHA** Langton Matravers, 2001 (PG); New Buildings, Langton West Wood, 11 on 2.6 (CM)

*Cyclophora albipunctata* **BIRCH MOCHA** Hengistbury Head, 20.4 (MJ); Hurn, 11 between 21.4 and 20.5, 23.7, 26.7, 27.7, 28.7, 1.8, 2.8 (MJ); Holt Heath, 3 on 22.4 (PD); Trigon, 9.5, 12.6, 27.7, 4.8, 13.8 (CM); Arne, Froxen, 5 on 11.5 (CM); Milton-on-Stour 14.5 (JB); Briantspuddle, 17.5 (JF); Holt Heath, 14 on 19.5 (PD), 28.7 (JMc); Merley, 31.5, 1.6 (JHa); Ashington, 4.6 (JF); Trigon, Dynamite 26.7, 3 on 31.7 (CM); Merritown Heath, 28.7 (MJ); Trigon, Adams Hill, 3 on 1.8 (CM); East Lulworth, 6.8 (DG, MSP); Wool, 13.8 (DC); Arne, Patchins, 3.9 (CM)

*Scopula rubiginata* **TAWNY WAVE** Portland Bird Observatory, 18.8 (MC)

*Scopula marginipunctata* **MULLEIN WAVE** Froxen, 11.5 (CM); Slepe Heath, 16.5, 20.5, 24.7, 29.7 (DC); Shapwick, 17.5 (PD); Wool, 19.5, 20.5 (DC); Boys Wood, by day 30.5 (PHS); West Bexington, 2.6, 27.8, 31.8, 7.9 (RE); Trigon, 5.6, 17.6, 20.6, 4.9 (CM); Talbot Heath, 29.7 (PD); Higher Hyde, 6.7 (MF, DF, PH, JD, RL, DCx); Charmouth, 3 on 30.7 (CE); Preston, 12.8 (PK); East Lulworth, 12.8, 13.8 (RF); Wyke Regis, 13.8 (DF); Seacombe, 2 on 17.8 (CM); Swanage, 24.8 (TP); Langton Matravers, 25.8.2001 (PG); Arne, Patchins, 2 on 3.9 (CM); Walditch, 10.9 (MSP)

*Scopula emutaria* **ROSY WAVE** Arne, Gold Point, 2 on 13.6 (CM); Morden Bog, 5 on 29.6 (PD), 6 on 16.7 (CM, PD); Arne, Patchins, 5 on 12.7 (CM); Arne, Salterns, 25.7 (CM); Arne, Patchins, 4 on 29.7, 3.9 (CM); Hengistbury Head, 30.7 (MJ)

*Scopula immutata* **LESSER CREAM WAVE** Keyworth, 18.7, 2 on 5.8 (HW); Trigon, 22.7 (CM); Gillingham, 22.7 (GH); Arne, 26.7 (JMc); Winterborne Stickland, 3.8 (LdW)

*Scopula floslactata* **CREAM WAVE** Piddles Wood, disturbed 15.5 (PD); Holt Heath, 2 on 19.5 (PD);

Stubhampton, disturbed 19.5 (PD); Sares Wood, 3 by day 23.5, by day 25.5, 2 by day 2.6 (MF); Merley, 3.6, 9.6, 22.6 (JHa); Puddletown, 3.6, 11.6 (HW); Milborne Wood, 4.6 (HW); Arne, Froxen, 13.6 (CM)

*Idaea muricata* **PURPLE-BORDERED GOLD** Morden Bog, 16.7 (CM, PD); Holt Heath, 28.7 (SP)

*Idaea rusticata atrosignaria* **LEAST CARPET** East Lulworth, 25.7 (DG, MSP); West Bexington, 27.7, 28.7 (RE)

*Idaea sylvestraria* **DOTTED BORDER WAVE** Higher Hyde, 2 on 6.7 (MF, DF, PH, JD, RL, DCx) 23.7 (PD); Morden Bog, 2 on 18.7 (DC, PD), 14 on 22.7 (MSP, DG, JMc, BU, PD); Trigon, 19.7 (CM); Winfrith, 20.7 (MF, DF, DCx); Upton Heath, 24.7 (JMc, PD); Dorset heath, 6 on 25.7 (SFP); Arne, 26.7 (JMc); Stoborough Heath, 2 on 26.7 (PD); Holt Heath, 4 on 28.7 (RRC, DAH, PD, JMc, SP); Ferndown, 2 on 28.7 (RRC); Trigon, Adams Hill, 2 on 1.8 (CM)

*Idaea fuscovenosa* **DWARF CREAM WAVE** Hurn, 2.7, 13.7 (MJ); Puddletown, 7.7 (HW); Wyke Regis, 12.7 (DF); Hengistbury Head, 9 between 13.7 and 10.8 (MJ); Studland, at rest 14.7 (PD); Preston, 15.7, 29.7, 7.8 (PK); Swanage, 15.7 (BP); Wool, 17.7, 21.7, 2.8 (DC); Slepe Heath, 17.7, 24.7 (DC); Trigon, Dynamite 20.7 (CM); Trigon, 21.7, 23.7, 27.7 (CM); Verwood, 25.7 (SP); Briantspuddle, 27.7 (JF); Trigon, Adams Hill, 6 on 1.8 (CM); Merley, 2 on 6.8, 3 on 29.8 (JHa); Langton Matravers, 2 on 7.8.2000 (PG)

*Idaea seriata* **SMALL DUSTY WAVE** Preston, 2.6, 11.6 (MF); Swanage, 6.6, 27.7, 14.8 (TP), 13 between 8.6 and 20.7, 7 between 11.8 and 20.9 (RC), 2.8, 2 on 2.9, 13.9 (WGT); West Bexington, 3.6, 17.6, 27.6, 26.8, 4.9, 6.9, 13.9 (RE); Hurn, 30.6 (MJ); Motcombe, 5.7 (PBu); Poole, 11.7 (PT); Dorchester, 13.7, 29.7 (JD); Higher Hyde, 15.7 (PD, CM); Shaftesbury, 16.7, 28.7 (WS); Wyke Regis, 27.7 (DF); Ballard Down, 7.8 (TP)

*Idaea trigeminata* **TREBLE BROWN SPOT** Merley, 49 between 19.5 and 30.8 (JHa); Preston, 5.6, 16.6, 17.6, 18.6, 19.6, 2 on 29.6 (MF), 30.6 (RL); Sares Wood, 6.6, 7.6 (MF); Garston Wood, 4 disturbed on 10.6 (PD); Trigon Ford, 12.6 (CM); Arne, Froxen, 2 on 13.6 (CM); north-east Dorset, 3 on 13.6 (PD), 2 on 15.6 (RRC, DAH, PD); Merritown Heath, 2 on 14.6, 5.7 (MJ); Swanage, 6.6, 25.7 (TP), 14.6 (RC); Holt Heath, 2 on 16.6 (PD); Milborne Wood, 2 on 17.6 (HW); Puddletown, 17.6, 20.6, 30.6, 2.7 (HW); Woolland, 21.6 (PBe); Kings Wood, 22.6 (CM); Wimborne, 25.6 (MG); East Lulworth, 25.6, 3 on 17.7 (DG, MSP); Slepe Heath, 9.7, 10.7, 11.7 (DC); Poole, 12.7 (PT); Winfrith, 20.7 (MF, DF, DCx); Portland, 17.8 (RRC, DAH, AP)

*Idaea emarginata* **SMALL SCALLOP** Slepe Heath, 24.7, 30.7 (DC); Studland, Shell Bay, 2.8 (CM)

*Idaea straminata* **PLAIN WAVE** Hurn, 2 on 4.7, 15.7, 2 on 2.8, 4.8 (MJ); Higher Hyde, 2 on 6.7 (MF, DF, PH, JD, RL, DCx) 3 on 15.7 (PD, CM), 2 on 23.7 (PD); Slepe Heath, 13 between 8.7 and 29.8 (DC); Wool, 16 between 9.7 and 12.8 (DC); Arne, Patchins, 12.7 (CM); Morden Bog, 7 on 18.7 (DC, PD), 13 on 22.7 (MSP, DG, JMc, BU, PD); Tadnoll, 19.7.2001 (JMc); Dorset heath, 7 on 19.7, 3 on 25.7 (SFP); Trigon, Dynamite 2 on 20.7, 26.7 (CM); West Bexington, 20.7, 22.7 (RE); Wimborne, 22.7 (MG); Upton Heath, 24.7 (JMc, PD); Arne, 26.7 (JMc); Holt Heath, 6 on 28.7 (PD, RRC, DAH, JMc); Keyworth, 5.8 (HW); Ferndown, 24.8 (DAH)

*Orthonama vittata* **OBLIQUE CARPET** Arne, Salterns, 18.5 (CM); Middlebere Heath, 30.5 (CM); Arne, Salterns, 8.6 (CM); Wool, 9.6, 19.6, 20.6, 25.6 (DC); Preston, 12.6 (PK); Lodmoor, 16.8 (PHS, DF, MF, M Clarke, DCx)

*Xanthorhoe designata* **FLAME CARPET** Preston, 16.5 (MF); West Bexington, 2.6, 17.8, 28.8 (RE); Langton Matravers, 14.6.2000 (PG); Bothenhampton, 12.8 (DW);

- Trigon, 13.8, 14.8 (CM); Portland Bird Observatory, 30.8 (MC)
- Xanthorhoe ferrugata* **DARK-BARRED TWIN-SPOT CARPET** Bothenhampton 22.4 (DW); Hurn, 8.5 (MJ); Hengistbury Head, 25.7 (MJ); Hurn, 25.7 (MJ); Preston, 29.7 (PK)
- Scotopteryx bipunctaria cretata* **CHALK CARPET** Swyre Head/Bat's Head, 3 netted by torchlight 12.7 (MF); Charmouth, 25.7 (CE); Preston, 26.7 (MF), 7.8 (RL); Fontmell Down, by day 29.7 (WS); Durlston, 13.8 (SN); Portland, 17.8 (RRC, DAH, AP); Seacombe, 9 on 17.8 (CM)
- Scotopteryx luridata* **JULY BELLE** Higher Hyde, 5 on 15.7 (PD, CM), 23.7 (PD); Dorset heath, 16 on 19.7, 5 on 25.7 (SFP); Morden Bog, 8 on 22.7 (MSP, DG, JMc, BU, PD); Hurn, 24.7, 26.7 (MJ); Upton Heath, 3 on 24.7 (JMc, PD); Holt Heath, 28.7 (PD); Talbot Heath, 5 on 29.7 (PD)
- Catarhoe rubidata* **RUDDY CARPET** Preston, 7.7 (RL); Puddletown, 23.7 (HW); Walditch, 28.7 (MSP); Woolland, 1.8 (PBe)
- Catarhoe cuculata* **ROYAL MANTLE** West Bexington, 29.6 (RE); Winterborne Stickland, 9.7 (LdW); Bothenhampton, 23.7 (DW)
- Epirrhoe rivata* **WOOD CARPET** Puddletown, 29.6, 6 on 4.7, 12.7, 3 on 17.7 (HW); Milborne Wood, 13.7 (HW); Frome St Quintin, 14.7 (PHS, DP); West Bexington, 6.8 (RE)
- Epirrhoe galiata* **GALIAM CARPET** Cheyne Weare, 17.5 (MF, RL); Preston, 19.5 (MF); Freshwater Bay, 15.6 (MSP); Swyre Head/Bat's Head, 2 netted by torchlight 12.7 (MF); Durlston, 18.7 (BP), 2 on 31.8 (JMc); Wyke Regis, 6.8 (DF); West Bexington, 13.8 (RE); Durlston, 13.8 (SN); Upwey, 15.8 (PH); Seacombe, 2 on 17.8 (CM); Portland, 9 on 17.8 (RRC, DAH, AP); Swanage, 30.8 (RC)
- Larentia clavaria* **MALLOW** West Bexington, 18 nights between 1.10 and 29.10 (RE); Walditch, 15.10 (MSP)
- Mesoleuca albicillata* **BEAUTIFUL CARPET** Sares Wood, 6.6 (MF); Merley, 27.7 (JHa)
- Pelurga comitata* **DARK SPINACH** Keysworth, 5.8 (HW); Ferndown, 8.8 (RRC)
- Lampropteryx suffumata* **WATER CARPET** Warre Wood, 2 on 17.3 (DF, PHS); Fontmell Down, 3 at torch light and tilley on 21.3 (MSP, GH, JF, WS, PD); Powerstock Common, 30.3 (MF, PH, JD), 20.4 (MF, PH, DF, RL, PHS, JMc, BU); Bagmore Wood, nr Bourton, 14.5 (MPI); East Lulworth, 18.4 (DG); Walditch, 9.5 (MSP); Hengistbury Head, 10.5 (MJ)
- Lampropteryx otreigiata* **DEVON CARPET** Morden Bog, 8.5 (PD)
- Eulithis prunata* **PHOENIX** Preston, 2.6, 3.7, 2 on 5.7, 28.7 (MF), 6.7, 15.7 (RL), 29.7, 1.8 (PK); north-east Dorset, 15.6 (RRC, DAH, PD); Melbury Park, 2 on 16.6 (CM); Holt Heath, 16.6 (PD); Milborne Wood, 5 on 17.6, 4.7, 4 on 13.7, 21.7 (HW); Dorchester, 24.6, 25.6, 8.7 (JD); Swanage, 27.6, 17.7, 22.7, 30.7 (RC), 2 on 14.7 (WGT), 29.7 (TP); Bothenhampton, 30.6 (DW); West Bexington, 3.7, 28.7 (RE); Puddletown, 4.7, 11.7, 12.7, 15.7, 15.8 (HW); Langton Matravers, 28.6.2000, 6.7.2000, 21.7.2000, 9.7.2001 (PG); Poole, 14.7, 21.7 (PT); Wool, 14.7 (DC); Two Mile Coppice, 17.7 (PHS, MF, DF, M Clarke); Wyke Regis, 19.7 (DF); Walditch, 23.7 (MSP); Merritown Heath, 28.7 (MJ); Shaftesbury, 10.8 (WS); Portland, 17.8 (RRC, DAH, AP); East Lulworth, 19.8 (DG, MSP)
- Eulithis mellinata* **SPINACH** Keysworth, 4 on 5.8, 2 on 15.8 (HW)
- Chloroclysta citrata* **DARK MARBLED CARPET** Puddletown, 28.8 (HW)
- Plemyria rubiginata* **BLUE-BORDERED CARPET** West Bexington, 14 nights between 17.6 and 28.7 (RE); Swanage, 28.6, 30.6, 17.7, 20.7 (RC), 6.7 (WGT); Bothenhampton, 30.6 (DW); Hurn, 4.7, 15.7 (MJ); Merley, 6 between 9.7 and 24.7 (JHa); Woolland, 15.7 (PBe); Ferndown, 15.7 (RRC); Hengistbury Head, 16.7 (MJ); Weymouth, 16.7 (PHS); Puddletown, 17.7, 23.7, 31.7, 4.8 (HW); Preston, 18.7 (MF); Tadnoll, 19.7.2001 (JMc); Wyke Regis, 27.7 (DF); Merritown Heath, 28.7 (MJ)
- Thera cupressata* **CYPRESS CARPET** Weymouth, 12.5, 3 on 30.10, 2 on 31.10, 2.11 (PHS); Upwey, 30.5, 24.6, 25.6, 26.6, 7.10 (PH); West Bexington, 16 between 31.5 and 13.7, 22.8, 25 between 3.10 and 28.11 (RE); Preston, 6.6 (PK), 17.7, 19.10 (MF), 13.9 (RL); Chickerell Downs, 8.6 (PHS); Hengistbury Head, 17.6, 26.6 (MJ); Walditch, 17.6, 14.11 (MSP); Hurn, 10.7, 25.7 (MJ); Merley, 19.7, 30.10 (JHa); Swanage, 6.6 (TP), 1.10 (RC); Ballard Down, 7.10 (TP); Langton Matravers, 13.10.2001, 29.10 (PG); Trigon, 28.10 (CM); Highcliffe, 7 on 29.10 (PD)
- Electrophaes corylata* **BROKEN-BARRED CARPET** Upwey, 9.5, 11.5, 2.6 (PH); Hurn, 14.5, 23.5 (MJ); Blandford, 15.5 (PD); Alner's Gorse, 3 on 16.5 (PD); Gillingham, 16.5 (GH); Holt Heath, 8 on 19.5, 16.6 (PD); East Lulworth, 20.5 (DG, MSP); New Buildings, Langton West Wood, 2.6 (CM); Merley, 3.6, 2 on 9.6, 22.6 (JHa); north-east Dorset, 15.6 (RRC, DAH, PD)
- Colostygia multistrigaria* **MOTTLED GREY** Langton Matravers, 10.3.2000 (PG); Wyke Regis, 17.3 (DF); East Lulworth, to lighted window 18.3 (MSP); Fontmell Down, 2 at torch light and tilley on 21.3 (MSP, GH, JF, WS, PD); Puddletown, 21.3 (HW); Compton Down, 2 at torch light and tilley on 23.3 (PD, HW, PHS)
- Hydriomena ruberata* **RUDDY HIGHFLYER** Hurn, 9.5 (MJ); Holt Heath, 19.5 (PD)
- Melanthia procellata* **PRETTY CHALK CARPET** Blandford, nectaring 6.5 (PD); Puddletown, 27 between 17.5 and 13.9 (HW); New Buildings, Langton West Wood, 2 on 2.6 (CM); Langton Matravers, 7.8.2000, 9.7.2001 (PG); Swanage, 20.7, 14.8 (RC), 15.8 (WGT); Ballard Down, 7.8 (TP); Milborne Wood, 7.8, 13.8, 2 on 28.8, 2 on 4.9 (HW); Durlston, 13.8 (SN)
- Rheumaptera hastata* **ARGENT AND SABLE** Stubhampton, by day 12.5 (WS), in flight 19.5 (PD), in flight 31.5 (MSP), by day 9.6 (DBC)
- Philereme vetulata* **BROWN SCALLOP** Hurn, 4.7, 10.7, 14.7 (MJ); Merritown Heath, 5.7, 28.7 (MJ); Puddletown, 2 on 20.7 (HW); Badbury Rings, 27.7 (PD)
- Philereme transversata* **DARK UMBER** Milborne Wood, 13.7 (HW); West Bexington, 24.7, 2.8 (RE); Shapwick, 26.7 (PD); Shaftesbury, 28.7, 30.7 (WS)
- Euphyia biangulata* **CLOAKED CARPET** Milborne Wood, 13.7, 28.7 (HW); Trigon, 18.7, 23.7, 27.7, 7.8 (CM); Holt Heath, 28.7 (JMc); Langton Matravers, 3.8 (Nick Pomiankowski); East Lulworth, 6.8 (DG, MSP)
- Euphyia unangulata* **SHARP-ANGLED CARPET** north-east Dorset, 13.6 (PD); Slepe Heath, 26.6 (DC); Tadnoll, 19.7.2001 (JMc); Winfrith, 20.7 (MF, DF, DCx); Stoborough Heath, 26.7 (PD)
- Perizoma albulata* **GRASS RIVULET** Stubhampton, by day 17.5, by day 20.5 (MSP)
- Perizoma didymata* **TWIN-SPOT CARPET** Milborne Wood, 17.6, 6 on 25.6, 2 on 4.7, 13.7, 21.7 (HW); Milton-on-Stour 7.7 (JB); Hengistbury Head, 28.7 (MJ)
- Eupithecia tenuiata* **SLENDER PUG** West Bexington, 5.7, 6.8 (RE); Turners Puddle Heath, 6.7 (PHS); Ware Wood, 12.7 (DF); Lodmoor, 16.7 (PHS, DCx); Two Mile Coppice, 17.7 (PHS, MF, DF, M Clarke); Winfrith, 2 on 20.7 (MF, DF, DCx); Morden Bog, 2 on 22.7 (MSP, DG, JMc, BU, PD); Woolland, 23.7 (PBe); Preston, 23.7 (MF); Higher Hyde, 2 on 23.7 (PD); Dorset heath, 2 on 25.7 (SFP); Upwey, 27.7 (PH); Merley, 27.7, 5 on 28.7, 29.7 (JHa); Verwood, 27.7 (SP); Wyke Regis, 27.7 (DF)
- Eupithecia inturbata* **MAPLE PUG** Two Mile Coppice, 17.7 (PHS, MF, DF, M Clarke), 13.8 (PHS, J Newbould); Puddletown, 21 between 22.7 and 14.8 (HW); Badbury Rings, 3 on 27.7 (PD); West Bexington, 30.7, 10.8 (RE);

- Walditch, 6.8 (MSP); Preston, 6.8 (MF); East Lulworth, 6.8 (DG, MSP); Woolland, 18.8 (PBe)
- Eupithecia linariata* **TOADFLAX PUG** Wyke Regis, 24.7 (DF); Upwey, 2.8 (PH); Preston, 22.8 (PK)
- Eupithecia irriguata* **MARBLED PUG** Powerstock Common, 30.3 (MF, PH, JD), 7 on 20.4 (MF, PH, DF, RL, PHS, JMc, BU)
- Eupithecia valerianata* **VALERIAN PUG** Cheyne Weare, 3 on 17.5 (MF, RL)
- Eupithecia venosata* **NETTED PUG** Sutton Poyntz, netted around Bladder Campion after dusk 31.5 (MF); Langton Matravers, 3.6.2000 (PG); Swanage, 6.6 (TP)
- Eupithecia intricata* **FREYER'S PUG** Preston, 2.6, 3.6, 11.6, 13.6, 29.6 (MF); Walditch, 2.6, 15.6 (MSP); Swanage, 2.6, 5.6, 7.6, 8.6, 9.6 (RC); Merley, 3.6, 4.6, 5.6, 2 on 7.7 (JHa); Hengistbury Head, 4.6, 13.6, 28.6 (MJ); Wimborne, 6.6 (MG); Wyke Regis, 7.6 (DF); Bothenhampton, 2 on 9.6 (DW); Puddletown, 11.6, 18.6, 15.7 (HW); Upwey, 15.6, 16.6, 17.6, 19.6, 24.6, 27.6, 5.7 (PH); Dorchester, 20.6 (JD); Hurn, 20.6, 1.7 (MJ)
- Eupithecia assimolata* **CURRENT PUG** Trigon, at window 8.5, 9.5 (CM); Dorchester, 16.5, 17.5 (JD); Woolland, 1.6, 18.8 (PBe); New Buildings, Langton West Wood, 2.6 (CM); Shaftesbury, 2.6 (WS); Upwey, 2 on 2.6, 3.6, 16.8 (PH); Puddletown, 9.6 (HW); Preston, 18.6 (PK); East Lulworth, 19.6 (DG, MSP); Wyke Regis, 19.6, 27.7 (DF); Hurn, 1.8 (MJ)
- Eupithecia tripunctaria* **WHITE-SPOTTED PUG** Puddletown, 5 between 6.5 and 19.5, 5 between 31.7 and 26.8 (HW); Walditch, 1.8 (MSP); Preston, 2.8 (MF); Durlston, 13.8 (SN)
- Eupithecia icterata* **TAWNY-SPECKLED PUG** Shaftesbury, 2.6 (WS); West Bexington, 4.8 (RE); Durlston, 13.8 (SN); Puddletown, 13.8, 14.8, 15.8 (HW)
- Eupithecia succenturiata* **BORDERED PUG** Puddletown, 19.6, 30.6, 2.8 (HW); Hurn, 16.7 (MJ); Preston, 29.7 (MF); Walditch, 3.8 (MSP); West Bexington, 11.8 (RE)
- Eupithecia subumbrata* **SHADED PUG** Fontmell Down, beaten 27.4 (PD); Shapwick, 16.5 (PD); Puddletown, 3 on 2.6, 13.6, 2 on 19.6, 17.7, 27.7, 3.8 (HW); Preston, 20.6 (MF); Hengistbury Head, 28.6 (MJ); Hurn, 28.6 (MJ)
- Eupithecia simplicata* **PLAIN PUG** Wyke Regis, 18.6 (DF); Cheyne Weares, 1.7 (JH, PHS); Preston, 11.7, 22.7, 9.8 (MF); Woolland, 15.7 (PBe); Weymouth, 16.7 (PHS); Winfrith, 20.7 (MF, DF, DCx); West Bexington, 22.7, 2.8, 3.8, 7.8, 11.8, 16.8, 26.8 (RE); Upwey, 30.7, 3 on 7.8 (PH)
- Eupithecia distinctaria constricta* **THYME PUG** Duncroft Quarry, larva on Wild Thyme, 1.7 (JH, PHS)
- Eupithecia indigata* **OCHREOUS PUG** Hurn, 11.5, 12.6 (MJ); Puddletown, 15.5 (HW); Ware Wood, 17.5 (DF); Holt Heath, 19.5 (PD); Merley, 1.6, 2.6 (JHa); Trigon, 5.6 (CM)
- Eupithecia fraxinata* **ASH PUG** Puddletown, 19.6 (HW); Frome St Quintin, 14.7 (PHS, DP); West Bexington, 30.7, 17.8 (RE)
- Eupithecia phoeniceata* **CYPRESS PUG** West Bexington, 15 nights between 3.8 and 5.10 (RE); Preston, 7.8, 19.8, 2.9 (PK), 27.8 (MF); Wyke Regis, 13.8 (DF); Swanage, 14.8, 2 on 24.8 (TP); Lodmoor, 30.8 (MF, DF, PHS, CM, PH)
- Chloroclystis chloerata* **SLOE PUG** West Bexington, 2.6 (RE); Chickerell Downs, 8.6 (PHS)
- Anticollis sparsata* **DENTATED PUG** Holt Heath, 2 on 16.6 (PD); Hurn, 30.6, 3.7 (MJ); Merritown Heath, 12 larvae on yellow loosestrife on 31.8 (RRC)
- Chesias legatella* **STREAK** Merley, 6.10 (JHa); Highcliffe, 29.10 (PD); Portland Bird Observatory, 31.10 (MC)
- Odezia atrata* **CHIMNEY SWEEPER** Whiteway Fen, 35 disturbed on 15.6 (PD)
- Euchoeca nebulata* **DINGY SHELL** Purewell Meadows, beaten from alder 14.6 (RRC, PD); Puddletown, 4.7 (HW); Hurn, 2 on 15.7 (MJ); Merley, 29.7 (JHa)
- Minoa murinata* **DRAB LOOPER** Stubhampton, 2 by day 17.5, 2 by day 20.5, by day 31.5 (MSP), 3 by day 4.6 (DBC)
- Lobophora halterata* **SERAPHIM** Alner's Gorse, 16.5 (PD); Merley, 25.5 (JHa)
- Trichopteryx polycommata* **BARRED TOOTH-STRIPED** Fontmell Down, 2 at torch light and tilley on 21.3 (MSP, GH, JF, WS, PD)
- Pterapherapteryx sexalata* **SMALL SERAPHIM** Merley, 20.5, 22.6, 2 on 23.6, 5.7, 2 on 19.7, 3.8 (JHa); Turners Puddle Heath, 6.6 (PHS); Ashington, 16.6 (JF); East Lulworth, 25.6, 17.7, 19.8 (DG, MSP); Tadmoll, 19.7.2001 (JMc); Higher Hyde, 23.7 (PD); Verwood, 27.7 (SP); Holt Heath, 2 on 28.7 (RRC, DAH, SP); Trigon, Adams Hill, 1.8 (CM); Upwey, 12.8 (PH)
- Abraxas grossulariata* **MAGPIE** Preston, 13.6 (MF); Lodmoor, 16.7 (PHS, DCx), 16.8 (PHS, DF, MF, M Clarke, DCx); Two Mile Coppice, 17.7, (PHS, MF, DF, M Clarke), 13.8 (PHS, J Newbould); Hengistbury Head, 1.8, 2.8 (MJ); Ballard Down, 7.8 (TP); Swanage, 11.8 (TP); Seacombe, 2 on 17.8 (CM)
- Semiothisa notata* **PEACOCK** Arne, Froxen, 11.5 (CM); Upwey, 18.5 (PH); Hurn, 3.8 (MJ)
- Semiothisa liturata* **TAWNY-BARRED ANGLE** Portland Bird Observatory, 17.7 (MC)
- Cepphis advenaria* **LITTLE THORN** Milborne Wood, 17.5, 31.5 (HW); Merley, 21.5, 8.6 (JHa); Sares Wood, by day 23.5, 2 by day 25.5, 3 by day 2.6 (MF); Puddletown, 10.6 (HW)
- Plagodis pulveraria* **BARRED UMBER** Powerstock Common, 20.4 (MF, PH, DF, RL, PHS, JMc, BU); Milborne Wood, 17.5, 6.6 (HW); Holt Heath, 3 on 19.5 (PD); Puddletown, 3.6 (HW)
- Epione repandaria* **BORDERED BEAUTY** Bagmore Wood, nr Bourton, 21.7, 27.7 (MPI); West Bexington, 23.7, 28.7, 30.7, 1.8, 2.8, 7.8, 13.8, 14.8 (RE); Puddletown, 8 between 25.7 and 31.8 (HW); Merley, 11 between 29.7 and 9.10 (JHa); Radipole Lake, 2.8 (MF, DF, PH); Walditch, 3.8 (MSP); Preston, 3.8 (MF); Gillingham, 5.8 (GH); Keyworth, 5.8 (HW); Motcombe, 20.8 (PBU); Trigon, 29.8 (CM); Woolland, 11.9 (PBe); Studland Dunes, 14.9 (CM); Trigon, 27.9, 31.10 (CM)
- Pseudopanthera macularia* **SPECKLED YELLOW** Buckland Newton, 8.5 (LdW); Stubhampton, by day 20.5 (MSP); Boys Wood, 2 disturbed on 23.5 (PD), 30.5 by day (PHS); Fontmell Wood, by day 29.5 (WS); Brookman's Valley, by day 31.5 (W Raymond)
- Apeira syringaria* **LILAC BEAUTY** Slepe Heath, 20.6 (DC); Upwey, 24.6 (PH); East Lulworth, 25.6 (DG, MSP); West Bexington, 26.6, 29.6, 11.7, 15.7 (RE); Wool, 3.7 (DC); Bothenhampton, 4.7 (DW); Hurn, 6.7 (MJ); Walditch, 8.7 (MSP); Two Mile Coppice, 17.7 (PHS, MF, DF, M Clarke); Morden Bog, 18.7 (DC, PD); Woolland, 22.7 (PBe)
- Ennomos quercinaria* **AUGUST THORN** Puddletown, 2.8, 14.8, 16.8, 7.9 (HW); Woolland, 5.8, 18.8 (PBe); Ashington, 8.8 (JF)
- Apocheima hispidaria* **SMALL BRINDLED BEAUTY** Woolland, 4.3 (PBe); Merley, 6.3 (JHa); Hurn, 8.3, 9.3, 12.3, 13.3 (MJ)
- Agriopsis aurantiaria* **SCARCE UMBER** Motcombe, 16.11 (PBU)
- Selidosema brunnearia* **BORDERED GREY** Dorset heath, 25.7 (SFP); Stoborough Heath, 2 on 15.8.2001 (JMc)
- Cleora cinctaria* **RINGED CARPET** Holt Heath, 22.4 (PD); Morden Bog, 3 on 25.4, 8.5 (PD); Hurn, 1.5 (MJ); Arne, Froxen, 3 on 11.5 (CM)
- Deileptenia ribeata* **SATIN BEAUTY** Walditch, 12.7 (MSP); Shapwick, 27.7 (PD)
- Serraca punctinalis* **PALE OAK BEAUTY** Hurn, 8.5, 16.5, 19.5, 25.5, 17.6 (MJ); Holt Heath, 3 on 19.5, 16.6 (PD)
- Ectropis crepuscularia* **SMALL ENGRAILED** Merley, 5 between 19.4 and 28.5 (JHa); Holt Heath, 3 on 22.4, 19.5 (PD); Puddletown, 23.4, 26.4 (HW); Hurn, 16.5 (MJ)

- Paradarisa consonaria* **SQUARE SPOT** Blandford, 2 nectaring on 6.5, 5 on 15.5 (PD); Hurn, 9.5, 14.5, 2 on 16.5 (MJ); Holt Heath, 10 on 19.5, 4 on 16.6 (PD); Trigon Ford, 12.6 (CM); north-east Dorset, 13.6 (PD), 2 on 15.6 (RRC, DAH, PD)
- Paradarisa extersaria* **BRINDLED WHITE SPOT** Holt Heath, 2 on 19.5, 16.6 (PD); Puddletown, 7.6, 11.6 (HW); north-east Dorset, 2 on 13.6 (PD)
- Aethalura punctulata* **GREY BIRCH** Hurn, 22.4, 2 on 23.4, 24.4, 8.5, 12.5, 16.5 (MJ); Hengistbury Head, 10.5 (MJ); Arne, Froxen, 5 on 11.5 (CM); Merritown Heath, by day on 16.5 (RRC); Holt Heath, 12 on 19.5 (PD)
- Lomographa bimaculata* **WHITE-PINION SPOTTED** Merley, 19.5, 21.5, 2 on 7.6, 9.6 (JHa)
- Hylaea fasciaria* **BARRED RED** Turners Puddle Heath, 6.6 (PHS); Trigon Ford, 12.6 (CM); Trigon, Dynamite 2 on 20.7, 2 on 26.7, 31.7 (CM); Trigon, 23.7 (CM); Poole, 18.6, 10.7, 30.7, 2.8 (PT); Hurn, 20.6 (MJ); Slepe Heath, 3.7 (DC); Merley, 13 between 4.7 and 3.8 (JHa); Winterborne Stickland, 5.7 (LdW); Melbury Park, 13.7 (CM); Hengistbury Head, 13.7 (MJ); Melbury Park, 14.7 (PHS); Walditch, 16.7 (MSP); Milton-on-Stour 16.7 (JB); Swanage, 17.7 (RC); Portland Bird Observatory, 19.7 (MC); Briantspuddle, 23.7 (JF); Verwood, 25.7 (SP); Trigon, Adams Hill, 2 on 1.8 (CM); Studland, Shell Bay, 2.8 (CM)
- Gnophos obscuratus* **ANNULET** Morden Bog, 2 on 22.7 (MSP, DG, JMc, BU, PD); Higher Hyde, 2 on 23.7 (PD); Upton Heath, 22 on 24.7 (JMc, PD); Dorset heath, 8 on 25.7 (SFP); Durlston, 13.8 (SN); Charmouth, 16.8 (CE); Freshwater Bay, Portland, 4 on 17.8 (RRC); Portland, 14 on 17.8 (RRC, DAH, AP); Redcliff Point, by day 28.8 (MF)
- Aspitates ochrearia* **YELLOW BELLE** Hengistbury Head, 8 between 5.5 and 19.6, 4 between 29.8 and 4.9 (MJ); Hurn, 10.5, 15.5, 17.5 (MJ); West Bexington, 18 between 15.5 and 10.6, 10 between 11.8 and 4.10 (RE); Cheyne Weare, 17.5 (MF, RL); Wyke Regis, 20.5, 24.8 (DF); Slepe Heath, 17.6 (DC); Arne, Patchins, 3.9 (CM)
- Perconia strigillaria* **GRASS WAVE** Slepe Heath, 11.6, 13.6, 20.6 (DC); Arne, Gold Point, 7 on 13.6 (CM); Arne, Froxen, 2 on 13.6 (CM); Ashington, 14.6 (JF); Merritown Heath, 3 on 14.6 (MJ); Sopley, 3 on 15.6 (MJ); Trigon, 20.6 (CM)
- Agrus convolvuli* **CONVOLVULOUS HAWK** Portland Bird Observatory, 13.8, 19.8, 2 on 11.9, 19.9 (MC); Cheyne, three between 20.8 and 21.8 (per MC); West Bexington, 8.9, 2 on 15.9, 16.9, 17.9 (RE); Hengistbury Head, 22.9 (MJ); St Alban's Head, full grown larva 25.9 (Doug Crawford, per Phil Budd)
- Acherontia atropos* **DEATH'S-HEAD HAWK** Durlston, 20.10 (SN, PD)
- Hemaris tityus* **NARROW-BORDERED BEE HAWK** Melbury Down, in flight 11.5 (PD); Melbury Down, in flight 15.5 (PD); Giant Hill, 10 larvae plus ovum on scabious on 11.6 (MSP), 2 first instar larvae on scabious 15.6 (PD); Powerstock Common, button holes in devil's-bit scabious leaf 20.6 (PD); Rempstone, many button holes in devil's-bit scabious leaves 26.6 (PD); Arne, many button holes in devil's-bit scabious leaves 10.7 (PD)
- Hemaris fuciformis* **BROAD-BORDERED BEE HAWK** West Moors, Ringwood Forest, button holes in honeysuckle leaves 25.6 (PD); Stoborough, many button holes in honeysuckle leaves plus first instar larva 26.6 (PD); Arne, button holes in honeysuckle leaves plus second instar larva 10.7 (PD); Morden Bog, many button holes in honeysuckle leaves plus first instar larva 14.7 (PD); Oaker's Wood, many small button holes in honeysuckle leaves plus second instar larva 14.7 (PD)
- Macroglossum stellatarum* **HUMMING-BIRD HAWK** Portland Bill, by day 16.3, by day 22.8, by day 22.10 (MC), 19.9 (MC); Shapwick, in flight along garden wall 23.4, in flight 28.7 (PD); Swanage, in garden 4.5 (Mrs A Cox); Dorchester, 17.6 (JD); Preston, 28.8, 1.9 (MF); East Lulworth, 2 by day on 29.9 (DG)
- Hyles euphorbiae* **SPURGE HAWK (not verified)** Durlston, 4.8 (Robin Plowman)
- Hyles galii* **BEDSTRAW HAWK** West Bexington, 11.8 (RE)
- Hyles lineata* Fabr. ssp. *livornica* **STRIPED HAWK** Chickerell, at rest on log pile 29.3 (Julian Cooper); Dorchester, 17.5 (JD); East Lulworth, 18.5 (Chris Rothwell); Puddletown, 18.5, 21.5, 30.5 (HW); Upwey, 20.5 (PH); Milton-on-Stour, 21.5, 30.5 (JB); Blandford brewery, at rest 24.5 (Nick Butt); West Bexington, 10.6, 19.6, 23.6 (RE)
- Hippotion celerio* **SILVER-STRIPED HAWK** Durlston, 31.10 (SN)
- Cerura vinula* **PUSS** Preston, 8.5 (MF); Wool, 10.5 (DC); Trigon, 10.5, 15.5, 6.6 (CM); Hengistbury Head, 11.5 (MJ); Puddletown, 12.5, 2 on 17.5, 18.5, 19.5, 21.5, 2.6 (HW); West Bexington, 20.5 (RE); Merley, 25.5 (JHa); Woolland, 3.6 (PBe); Walditch, 6.6, 18.6 (MSP); East Lulworth, 27.6 (DG, MSP); Fontmell Magna, larvae on willow, 3.7, 30.7 (J Wistgate)
- Furcula bifida* **POPLAR KITTEN** Bagmore Wood, nr Bourton, 14.5 (MPI); Woolland, 31.5 (PBe)
- Pheosia tremula* **SWALLOW PROMINENT** Dorchester, 9.3, 12.3 (JD); West Bexington, 8 nights between 10.4 and 26.6, 18 nights between 4.8 and 29.8 (RE); Gillingham, 6 between 12.4 and 8.5, 4.8 (GH); Slepe Heath, 15.4, 12.6 and 4 between 23.7 and 15.8 (DC); Woolland, 14 between 16.4 and 18.8 (PBe); Hurn, 54 between 19.4 and 29.5 (MJ); Bothenhampton, 2 on 20.4 (DW); Hengistbury Head, 25.4, 2.5, 30.5, 15.7, 27.7, 30.7, 1.8 (MJ); Preston, 6.5 (MF), 7.8 (PK); Trigon, 9.5, 21.7, 13.8 (CM); Wyke Regis, 10.5, 23.7 (DF); Middlebere Heath, 30.5 (CM); Wimborne, 6.7, 29.8 (MG); Wool, 18.7 (DC); Trigon, Dynamite 26.7 (CM); Briantspuddle, 3 on 27.7 (JF); Verwood, 27.7 (SP); Merritown Heath, 4 on 28.7 (MJ); Shaftesbury, 30.7, 10.8 (WS); Ashington, 30.7, 6.8, 8.8 (JF); Trigon, Adams Hill, 1.8 (CM); Kingston, 3.8 (PBe); Ballard Down, 7.8 (TP); Durlston, 13.8 (SN); Swanage, 13.8, 29.8 (RC); Lodmoor, 16.8, (PHS, DF, MF, M Clarke, DCx), 30.8 (MF, DF, PHS, CM, PH)
- Odontotia carmelita* **SCARCE PROMINENT** Hurn, 8 between 9.4 and 13.5 (MJ); East Lulworth, 16.4, 23.4 (DG, MSP), 3 on 18.4 (DG); Slepe Heath, 18.4 (DC); Holt Heath, 4 on 22.4 (PD)
- Clostera pigra* **SMALL CHOCOLATE-TIP** Holt Heath, 3 on 22.4, 2 larvae in spun up willow leaves on 22.9 (PD)
- Clostera curtula* **CHOCOLATE-TIP** Hurn, 18 between 20.4 and 24.5, 20.7 (MJ); Holt Heath, 2 on 22.4 (PD); Hamoon, 23.4 (SB, PD); Langton Matravers, 7.5.2000 (PG), 5.8 (Nick Pomiankowski); Trigon, 3 on 10.5, 30.7 (CM); Dorset heath, 25.7 (SFP); Preston, 29.7 (MF); Trigon, Adams Hill, 1.8 (CM); Fifehead Wood, larva on aspen 21.9 (PD)
- Diloba caeruleocephala* **FIGURE OF EIGHT** West Bexington, 20 nights between 13.9 and 29.10 (RE); Woolland, 28.10 (PBe)
- Dicallomera fascelina* **DARK TUSsock** Arne, Patchins, 12.7 (CM); Dorset heath, 2 on 19.7, 2 on 25.7 (SFP); Holt Heath, 28.7 (SP); Slepe Heath, 29.7 (DC)
- Euproctis chryorrhoea* **BROWN-TAIL** Swanage, 9.7, 11.7, 20.7, 25.7, 28.7, 31.7, 1.8, 8.8, 14.8, 19.8 (RC); Langton Matravers, 17.7 (BP); Durlston, 18.7 (BP); Wyke Regis, 19.7 (DF)
- Leucoma salicis* **WHITE SATIN** Hurn, 14.7, 15.7, 2 on 16.7, 31.7 (MJ)
- Lymantria monacha* **BLACK ARCHES** Portland Bird Observatory, 15.8, 17.8 (MC)
- Thumatha senex* **ROUND-WINGED MUSLIN** Morden Bog, 2 on 16.7 (CM, PD); Tadnoll, 19.7.2001 (JMc); Morden Bog, 22.7 (MSP, DG, JMc, BU, PD); Purewell Meadows, 24.7 (MJ); Arne, Salterns, 25.7 (CM); Stoborough Heath, 26.7 (PD); Studland, Shell Bay 2.8 (CM)

*Mitochrista miniata* **ROSY FOOTMAN** Portland Bird Observatory, 17.8, 19.8 (MC)

*Nudaria mundana* **MUSLIN FOOTMAN** Walditch, 8.7 (MSP); Swanage, 12.7 (RC); West Bexington, 14.7, 15.7, 16.7, 19.7, 20.7, 21.7, 23.7 (RE); Langton Matravers, 17.7 (BP), 5.8 (Nick Pomiankowski); Preston, 19.7, 23.7 (MF); Studland, Shell Bay 2.8 (CM)

*Atolmis rubricollis* **RED-NECKED FOOTMAN** Hurn, 12.6, 17.6, 20.6, 6.7 (MJ); Arne, Froxen, 13.6 (CM); north-east Dorset, 15.6 (RRC, DAH, PD)

*Eilema sororcula* **ORANGE FOOTMAN** Shapwick, 9.5 (PD); East Lulworth, 9.5 (DG, MSP); Hurn, 10 between 9.5 and 21.5, 14.6 (MJ); Upwey, 10.5 (PH); Merley, 20 between 11.5 and 8.6 (JHa); Blandford, 28 on 15.5 (PD); Merritown Heath, by day 16.5 (RRC); Alner's Gorse, 2 on 16.5 (PD); Puddletown, 10 between 16.5 and 11.6 (HW); Ware Wood, 17.5 (DF), 15.6 (PHS); Preston, 17.5 (RL); Walditch, 17.5 (MSP); Briantspuddle, 2 on 17.5, 17.6 (JF); Holt Heath, 3 on 19.5 (PD); Stubhampton Bottom, by day on 20.5 (MSP); Boys Wood, by day 30.5 (PHS); West Bexington, 31.5 (RE); Milborne Wood, 31.5, 8 on 4.6, 3 on 6.6 (HW); Sares Wood, 9 on 6.6, 5 on 7.6 (MF); Chickerell Downs, 8.6 (PHS); Ashington, 8.6 (JF); Trigon Ford, 12.6 (CM); north-east Dorset, 2 on 13.6 (PD); Woolland, 14.6 (PBe); north-east Dorset, 3 on 15.6 (RRC, DAH, PD); Holt Heath, 3 on 16.6 (PD)

*Eilema deplana* **BUFF FOOTMAN** Merley, 85 between 9.7 and 26.8 (JHa); Wool, 14.7, 22.7, 12.8, 15.8, 17.8, 21.8, 27.8 (DC); Merritown Heath, 2 on 28.7 (MJ); Wyke Regis, 29.7 (DF); Bothenhampton, 31.7 (DW); Preston, 3 on 1.8 (PK); Ashington, 2 on 6.8 (JF); Slepe Heath, 12.8, 3.9 (DC); Woolland, 11.9 (PBe)

*Lithosia quadra* **FOUR-SPOTTED FOOTMAN** Puddletown, 11.7, 12.7 (HW); East Lulworth, 1.10, 2.10 (DG, MSP)

*Coscinia cribraria* **SPECKLED FOOTMAN** Dorset heath, larva by day 2.3 (PD); Dorset heath, 2 on 19.7 (SFP); Dorset heath, 5 on 25.7 (SFP)

*Parasemia plantaginis* **WOOD TIGER** Black Hill, 3 at rest, in flight on 17.6 (PD); Lyscombe, 2 in flight on 18.6 (PD); Fontmell Down, 8 by day 19.6 (DBC); Melbury Down, by day 27.6 (DBC)

*Arctia villica britannica* **CREAM-SPOT TIGER** West Bexington, 33 between 17.5 and 25.6 (RE); Keyworth, 18.5 (HW); Hengistbury Head, 10 between 27.5 and 19.6 (MJ); New Buildings, Langton West Wood, 2.6 (CM); Preston, 2.6 (RL), 15.6 (MF), 25.6 (PK); Chickerell Downs, 8.6 (PHS); Gillingham, 11.6 (GH); Hurn, 12.6, 2 on 14.6 (MJ); Slepe Heath, 13.6 (DC); Arne, Gold Point, 13.6 (CM); Arne, Froxen, 13.6 (CM); Merritown Heath, 4 on 14.6 (PD); Freshwater Bay, 15.6 (MSP); Wyke Regis, 17.6 (DF); Ware Wood, 22.6 (DF)

*Euplagia quadripunctaria* **JERSEY TIGER** Walditch, larva on 5.5, larva on 16.5, 135 between 29.7 and 29.8 (MSP); West Bexington, 92 between 16.7 and 27.8 (RE); Wyke Regis, 24.7 (DF); Bothenhampton, 7 between 27.7 and 18.8 (DW); Portland Bird Observatory, by day 27.7, 14.8, by day 16.8, by day 28.8 (MC); Durlston, 13.8 (SN); Lodmoor, 16. (PHS, DF, MF, M Clarke, DCx); Charmouth, 28.8 (CE); Culverwell, by day 3.9 (per MC)

*Callimorpha dominula* **SCARLET TIGER** Stubhampton Bottom, full grown larva feeding on oak gall on 19.5 (PD), 2 larvae 20.5 (MSP)

*Meganola albula* **KENT BLACK ARCHES** West Bexington, 24 nights between 29.6 and 18.8 (RE); Upwey, 5.7 (PH); Higher Hyde, 2 on 6.7 (MF, DF, PH, JD, RL, DCx); Slepe Heath, 10.7, 24.7 (DC); Hurn, 13.7 (MJ); Morden Bog, 18.7 (DC, PD); Wyke Regis, 19.7 (DF); Trigon, 22.7, 30.7, 7.8 (CM); Preston, 25.7, 4.8, 17.8 (PK); Wool, 25.7, 13.8 (DC); Arne, Salterns, 25.7 (CM); Stoborough Heath, 26.7 (PD); Talbot Heath, 29.7 (PD);

Hengistbury Head, 2 on 30.7 (MJ); Durlston, 13.8 (SN); East Lulworth, 13.8 (RF), 14.8 (DG, MSP)

*Nola cucullatella* **SHORT-CLOAKED** Bothenhampton, 25.6 (DW); West Bexington, 25 nights between 5.7 and 18.8 (RE); Hengistbury Head, 6.7, 28.7 (MJ); Swanage, 6.7, 23.7, 28.7 (RC), 13.7, 15.7, 17.7, 26.7 (WGT); Wyke Regis, 11.7 (DF); Ware Wood, 12.7 (DF); Woolland, 15.7, 22.7 (PBe); Preston, 6.7 (MF), 15.7 (PK); Weymouth, 16.7 (PHS); Lodmoor, 16.7 (PHS, DCx); Dorchester, 16.7, 22.7, 23.7 (JD); Morden Bog, 16.7 (CM, PD); Walditch, 16.7 (MSP); Trigon, Dynamite 26.7 (CM)

*Euxoa obeliscica grisea* **SQUARE-SPOT DART** West Bexington, 12.8 (RE); Durlston, 31.8 (JMc); Charmouth, 1.9 (CE)

*Euxoa tritici* **WHITE-LINE DART** Hengistbury Head, 9 between 22.7 and 4.9 (MJ); .7 (MJ); Stoborough Heath, 3 on 26.7 (PD); Shapwick, 27.7 (PD); Holt Heath, 28.7 (PD); East Lulworth, 19.8 (DG, MSP); Ferndown, 21.8 (DAH); Durlston, 4 on 31.8 (JMc)

*Euxoa nigricans* **GARDEN DART** Bothenhampton, 2 on 4.8 (DW); Portland, 17.8 (RRC, DAH, AP)

*Agrotis cinerea* **LIGHT FEATHERED RUSTIC** Preston, 7.5, 11.5 (RL); Woolland, 11.5 (PBe); Puddletown, 12.5, 29.5 (HW); Upwey, 17.5 (PH); Ballard Down, 1.6 (CM)

*Agrotis vestigialis* **ARCHER'S DART** Trigon, 22.7, 7.8, 16.9 (CM); Studland, Shell Bay, 2.8 (CM); Slepe Heath, 21 between 12.8 and 29.8 (DC); Studland Dunes, 14.9 (CM)

*Agrotis trux lunigera* **CRESCENT DART** West Bexington, 17 between 25.6 and 19.8 (RE); Bothenhampton, 2 on 14.7 (DW); Durlston, 18.7 (BP), 13.8 (SN); Swanage, 19.7 (RC); Walditch, 11 between 26.7 and 16.8 (MSP); Wyke Regis, 28.7 (DF); Upwey, 29.7, 30.7, 31.7, 1.8 (PH); East Lulworth, 6.8 (DG, MSP)

*Agrotis ripae* **SAND DART** Hengistbury Head, 14.6, 26.6 (MJ); Studland, 2.8 (CM)

*Ochropleura leucogaster* **RADFORD'S FLAME SHOULDER** Puddletown, 31.10 (HW)

*Paradiarsia glareosa* **AUTUMNAL RUSTIC** Trigon, 4.9, 2.10 (CM); Hengistbury Head, 8.9, 13.9, 2 on 22.9, 24.9 (MJ); Slepe Heath, 17 between 11.9 and 7.10 (DC); Wool, 13.9, 17.9, 30.9 (DC); Studland Dunes, 14.9 (CM); Merley, 15.9, 17.9 (JHa); Puddletown, 21.9 (HW); Studland, Knoll, 28.9 (CM); Milborne Wood, 7 on 28.9, 4 on 11.10 (HW); East Lulworth, 2.10 (DG, MSP); Swanage, 4.10 (RC); Walditch, 8.10 (MSP)

*Xestia baja* **DOTTED CLAY** Merritown Heath, 28.7 (MJ); Studland, Shell Bay, 5 on 2.8 (CM); East Lulworth, 12.8 (RF); Arne, Patchins, 3.9 (CM)

*Xestia castanea* **NEGLECTED RUSTIC** Arne, Patchins, 4 on 3.9 (CM); Slepe Heath, 3.9, 12.9, 19.9, 30.9 (DC); Studland Dunes, 4 on 14.9 (CM); Merley, 2 on 14.9, 18.9 (JHa); Trigon, 16.9, 2 on 19.9, 26.9 (CM); Studland, Knoll, 5 on 28.9 (CM)

*Xestia agathina* **HEATH RUSTIC** West Bexington, 27.8 (RE); Slepe Heath, 100 between 2.9 and 7.10 [forty on 11.9] (DC); Arne, Patchins, 2 on 3.9 (CM); Shapwick, 12.9, 3 on 19.9 (PD); Merley, 2 on 12.9, 2 on 16.9, 20.9, 23.9, 2.10 (JHa); East Lulworth, 6 on 14.9 (DG, MSP); Puddletown, 13.9, 14.9 (HW); Studland Dunes, 8 on 14.9 (CM); Hurn, 19.9 (MJ); Hengistbury Head, 2 on 20.9 (MJ); Portland Bird Observatory, 20.9 (MC); Studland, Shell Bay, 11 on 21.9 (CM); Studland, Knoll, 35 on 28.9 (CM)

*Naenia typica* **GOTHIC** Bagmore Wood, nr Bourton, 1.7 (MPI); Wyke Regis, 11.7 (DF); Weymouth, 16.7 (PHS); Upwey, 16.7, 27.7, 30.7, 7.8, 8.8 (PH); Puddletown, 17.7, 18.7, 4.8 (HW); Merley, 2 on 17.7, 19.7, 23.7 (JHa); Preston, 19.7 (MF); Radipole Lake, 2.8 (MF, DF, PH); Milton-on-Stour 27.7, 13.8 (JB); Portland Bird Observatory, 6.8 (MC); Gillingham, 7.8 (GH)

*Polia nebulosa* **GREY ARCHES** Portland Bird Observatory, 26.7 (MC)

*Mamestra brassicae* **CABBAGE** Preston, 7.5, 6.7, 2 on 29.7, 22.8, 11.9 (PK), 11.6 (MF); Gillingham, 8.5 (GH); Hengistbury Head, 4 between 8.5 and 4.6, 5 between 30.6 and 6.8 (MJ); 25.4, 2.5, 30.5, 15.7, 27.7, 30.7, 1.8 (MJ); Dorchester, 16.5, 4.6, 12 nights between 5.7 and 14.9 (JD); Walditch, 16.5 (MSP); Wyke Regis, 18.5 (DF); West Bexington, 18.5, 11.6, 17.6, 20 nights between 6.7 and 12.9 (RE); Wool, 1.6, 5.7, 22.7, 2.8, 15.8 (DC); Swanage, 21.6, 19.9 (TP); Langton Matravers, 6.7.2000, 26.7.2000, 22.7.2001, 29.7.2001, 25.8.2001, 16.7, 3.8 (PG); Weymouth, 16.7 (PHS); Bothenhampton, 23.7 (DW); Shaftesbury, 3.8 (WS); Ashington, 5.9 (JF)

*Lacanobia contigua* **BEAUTIFUL BROCADE** Merritown Heath, 14.6 (MJ); Morden Bog, 29.6 (PD); Higher Hyde, 5 on 6.7 (MF, DF, PH, JD, RL, DCx), 3 on 15.7 (PD, CM); Dorset heath, 19.7, 2 on 25.7 (SFP); Upton Heath, 2 on 24.7 (JMc, PD)

*Lacanobia suasa* **DOG'S TOOTH** Hengistbury Head, 65 between 19.4 and 10.8 (MJ); Preston, 6.5, 17.5, 2.6, 5.6, 6.6, 6.7, 13.7 (RL), 8.6, 27.8 (MF); Arne, Froxen, 11.5 (CM); Arne, Patchins, 17 on 16.5 (CM); Wyke Regis, 15.5 (DF); Arne, Gold Point, 3 on 13.6 (CM); Puddletown, 28.6 (HW); Arne, Patchins, 12.7, 11 on 29.7 (CM); Lodmoor, 16.7 (PHS, DCx), 16.8 (PHS, DF, MF, M Clarke, DCx)

*Ceramica pisi* **BROOM** Hengistbury Head, 25 between 9.5 and 2.8 (MJ); Slepe Heath, 13.6, 18.6, 11.7 (DC); Merritown Heath, 5.7 (MJ); West Bexington, 5.7, 6.7 (RE)

*Hecatera bicolorata* **BROAD-BARRED WHITE** Dorchester, 5.6, 25.6, 28.6, 29.6, 2 on 5.7 (JD); Wool, 23.6, 25.6, 12.7 (DC); Higher Hyde, 6.7 (MF, DF, PH, JD, RL, DCx); Weymouth, 16.7 (PHS); Langton Matravers, 17.7 (BP); Hengistbury Head, 19.7 (MJ); Winfrith, 20.7 (MF, DF, DCx); Swanage, 24.7 (RC)

*Hadena rivularis* **CAMPION** Hurn, 12.3 (MJ); Lodmoor, 8.5 (PHS, MF); Winterborne Stickland, 10.5, 16.5 (LdW); West Bexington, 20 nights between 15.5 and 21.8 (RE); Bothenhampton, 1.6 (DW); Wool, 1.6, 2.6, 4.6, 16.6, 23.6, 25.6, 27.6, 3.7, 27.7 (DC); Preston, 23.6, 28.6, 15.7, 29.8 (PK); Upwey, 2.8 (PH); Portland Bird Observatory, 28.7 (MC)

*Hadena perplexa* **TAWNY SHEARS** West Bexington, 14 between 21.4 and 8.6, 45 between 10.7 and 12.9 (RE); Wyke Regis, 24.4 (DF); Arne, Froxen, 11.5 (CM); Puddletown, 13.5 (HW); Sutton Poyntz, 3 at Bladder Campion around dusk 31.5 (MF); Wool, 1.6 (DC); East Lulworth, 6.6 (DG, MSP); Preston, 6.7 (PK)

*Hadena luteago barrettii* **BARRETT'S MARBLED CORONET** West Bexington, 17.5 (RE)

*Hadena albimaculata* **WHITE SPOT** East Lulworth, 28.5 (DG, MSP); Purbeck, 4 on 1.6 (CM); Wool, 20.6 (DC)

*Cerapteryx graminis* **ANTLER** Winterborne Stickland, 5.7 (LdW); Keyworth, 4 on 3.9 (HW)

*Tholera decimialis* **FEATHERED GOTHIC** Portland Bird Observatory, 2.9 (MC)

*Panolis flammea* **PINE BEAUTY** Wyke Regis, 7.6 (DF); Higher Hyde, 15.7 (PD, CM)

*Orthosia miniosa* **BLOSSOM UNDERWING** Ware Wood, 22.3 (DF); Woolland, 16.4 (PBe); Hengistbury Head, 25.4 (MJ)

*Orthosia opima* **NORTHERN DRAB** Woolland, 31.3 (PBe); Gillingham, 12.4 (GH); Hengistbury Head, 14.4 (MJ)

*Orthosia populeti* **LEAD-COLOURED DRAB** Hurn, 15 between 4.3 and 22.3 (MJ); Woolland, 20.3, 29.3 (PBe)

*Orthosia gothica* **HEBREW CHARACTER** Puddletown, 25.12 (HW)

*Mythimna turca* **DOUBLE-LINE** Melbury Park, 2 on 13.7 (CM), 6 on 14.7 (PHS)

*Mythimna conigera* **BROWN-LINE BRIGHT EYE** Wyke Regis, 6.8 (DF); Winterborne Stickland, 18.8 (LdW);

*Mythimna albipuncta* **WHITE-POINT** West Bexington, 82 between 27.5 and 5.7, 287 between 28.7 and 22.10 (RE);

Middlebere Heath, 30.5 (CM); Portland Bird Observatory, 14 between 31.5 and 20.6, 101 between 6.8 and 11.10 (MC); Hengistbury Head, 4.6, 13.6, 14.6, 30.8, 13.9 (MJ); East Lulworth, 2 on 13.6, 10 between 29.8 and 1.10 (DG, MSP), 12.10 (PHS); Walditch, 9 between 18.6 and 20.9 (MSP); Slepe Heath, 23.7, 19.8, 27.8, 19.9 (DC); Swanage, 12.8, 27.8, 1.9, 12.9 (RC), 7.9 (TP); Durlston, 4 on 13.8, 9 on 3.9 (SN); Freshwater Bay, Portland, 17.8 (RRC, DAH, AP); Trigon, 26.8, 29.8, 4.9, 6.9 (CM); Durlston, 31.8 (JMc); Preston, 11 between 22.8 and 9.10 (PK), 30.9, 11.10 (MF); Wyke Regis, 6 between 26.8 and 1.10 (DF); Dorchester, 27.8 (JD); Swanage, 2 on 31.8, 2 on 7.9 (RC); Durlston, 9 on 3.9 (SN); Bothenhampton, 6.9 (DW); Studland Dunes, 14.9 (CM)

*Mythimna vitellina* **DELICATE** Portland Bird Observatory, 15.5, 16.5, 66 between 10.9 and 1.11 (MC); East Lulworth, 6.6 (DG, MSP), 2.10 (DG), 12.10 (PHS); West Bexington, 5.7, 16.7, 35 between 29.9 and 3.11 (RE); Wyke Regis, 28.8, 5.10 (DF); Slepe Heath, 30.9, 7.10 (DC); Seacombe, 5 on 30.9 (CM); Preston, 5.10, 10.10, 11.10, 1.11 (MF); Winterborne Stickland, 8.10 (LdW); Walditch, 8.10, 29.10 (MSP); Langton Matravers, 29.10 (PG); Durlston, 2 on 31.10 (SN)

*Mythimna straminea* **SOUTHERN WAINSCOT** Wyke Regis, 20.6 (DF); Puddletown, 26.6, 29.6 (HW); Morden Bog, 8 on 29.6 (PD), 16.7 (CM, PD); Hurn, 7.7 (MJ); West Bexington, 24 nights between 10.7 and 12.9 (RE); Preston, 59 between 14.7 and 30.8 ... peak of 16 on 26.8 (MF), 12.8, 5 on 2.9 (PK); Abbotsbury, 5 on 14.7.2001 (JMc); Weymouth, 16.7 (PHS); Lodmoor, 16.7 (PHS, DCx), 16.8 (PHS, DF, MF, M Clarke, DCx), 30.8 (MF, DF, PHS, CM, PH); Studland, Salterns, 3 on 25.7 (CM); Hengistbury Head, 25.7, 27.7, 30.7, 2.8 (MJ); Arne, Patchins, 29.7 (CM); Charmouth, 2 on 30.7 (CE); Portland Bird Observatory, 6.8, 7.8, 19.8 (MC); Cheyne Weare, 4.8 (per MC); Lodmoor, 30.8 (MF, DF, PHS, CM, PH)

*Mythimna favicolor* **MATHEW'S WAINSCOT** Arne, Gold Point, 3 on 13.6 (CM); Arne, Patchins, 4 on 12.7, 9 on 29.7 (CM); Arne, Salterns, 3 on 25.7 (CM)

*Mythimna litoralis* **SHORE WAINSCOT** Hengistbury Head, 2.6, 12.7 (MJ); Studland, Shell Bay, 15 on 2.8 (CM)

*Mythimna unipuncta* **WHITE-SPECK** Portland Bird Observatory, 4.1, 3.3, 124 between 12.9 and 3.12 (MC); Ferndown, 24.8 (DAH); Wyke Regis, 12 between 28.8 and 29.10 (DF); Walditch, 13 between 8.9 and 12.12 (MSP); Weymouth, 13.9, 31.10, 1.11, 2.11 (PHS); Woolland, 16.9 (PBe); West Bexington, 41 between 1.10 and 4.12 (RE); Swanage, 5.10 (RC); Preston, 9.10, 2 on 10.10, 30.10, 31.10 (MF); East Lulworth, 10.10 (DG, MSP); Swanage, 2 on 11.10 (RC); Durlston, 2 on 20.10, 2 on 31.10 (SN); Trigon, 28.10 (CM); Highcliffe, 3 on 29.10 (PD); East Lulworth, 28.11 (MSP); Bridport, 1 at shop light 14.12 (MSP)

*Mythimna obsoleta* **OBSCURE WAINSCOT** Hengistbury Head, 16.5, 1.6, 14.6, 27.6 (MJ)

*Mythimna loreyi* **COSMOPOLITAN** Puddletown, 1.10 (HW); Swanage, 29.10 (RC); Portland Bird Observatory, 29.10 (MC)

*Senta flammea* **FLAME WAINSCOT** Morden Bog, 2 on 8.5 (PD); Slepe Heath, 16.5 (DC); Keyworth, 18.5 (HW); Arne, Salterns, 18.5 (CM); Middlebere Heath, 30.5 (CM)

*Cucullia chamomillae* **CHAMOMILE SHARK** Dorchester, 7.3 (JD); West Bexington, 3.4, 4.4, 19.4 (RE); Milton-on-Stour 24.4 (JB); Wyke Regis, 1.5 (DF); Hengistbury Head, 6.5 (MJ); Puddletown, 11.5, 18.5 (HW)

*Brachylochia viminalis* **MINOR SHOULDER-KNOT** Merritown Heath, 5.7, 28.7 (MJ); Merley, 5.7, 12.7, 21.7, 22.7, 23.7 (JHa); Slepe Heath, 9.7, 10.7 (DC); Ware Wood, 12.7 (DF); Arne, Salterns, 25.7 (CM)

*Brachionycha sphinx* **SPRAWLER** West Bexington, 31.10, 5.11, 17.11, 25.11 (RE); Woolland, 1.11, 8.11 (PBe)

*Dasytopia templi* **BRINDLED OCHRE** Durlston, 31.10 (SN)

- Aporophyla lutulenta* **DEEP-BROWN DART** Portland Bird Observatory, 27.9 (MC)
- Lithophane semibrunnea* **TAWNY PINION** Puddletown, 23.3, 4 on 31.3, 12.10 (HW); Upwey, 29.3 (PH); Woolland, 1.11 (PBe)
- Xylena vetusta* **RED SWORD-GRASS** Puddletown, 25.2 (HW); East Lulworth, 7.3 (DG, MSP), 20.3 (MSP); Slepe Heath, 21.3 (DC); Morden Bog, 2 on 25.4 (PD); Milton-on-Stour 8.10 (JB); Milborne Wood, 30.11 (HW); Durlston, 22.12 (SN, PD)
- Trigonophora flammaea* **FLAME BROCADE** Portland Bird Observatory, 29.10 (MC); Wyke Regis, 29.10 (DF)
- Polymixis flavicincta* **LARGE RANUNCULUS** Walditch, 14.9 (MSP); West Bexington, 21.9, 29.9, 2.10 (RE); Wyke Regis, 29.9 (DF)
- Eumichtis lichenea lichenea* **FEATHERED RANUNCULUS** Wyke Regis, 27.7 (DF); Milborne Wood, 12.9 (HW); Wool, 20 between 16.9 and 5.10 (DC); Puddletown, 29.9, 2.10, 10.10, 16.10 (HW); Dorchester, 27.9, 28.9, 2.10 (JD); East Lulworth, 12.10 (PHS); Slepe Heath, 14.10 (DC); Highcliffe, 29.10 (PD)
- Conistra ligula* **DARK CHESTNUT** Woolland, 29.1, 20.12 (PBe); West Bexington, 4.3, 8.3, 21.3, 10 nights between 20.10 and 27.12 (RE); Milton-on-Stour 29.10 (JB); East Lulworth, 30.10 (MSP); Puddletown, 31.10 (HW); Durlston, 31.10 (SN), 22.12 (SN, PD); Preston, 9.11 (MF)
- Conistra rubiginea* **DOTTED CHESTNUT** Shapwick, 7.3, 24.3 (PD); Merley, 8.3, 13.3, 23.3, 27.3, 4.4 (JHa); Walditch, 15.3 (MSP); West Bexington, 21.3, 22.3, 7.4 (RE); Milton-on-Stour 26.3 (JB); Powerstock Common, 30.3 (MF, PH, JD); Moreton, 2 on 3.4 (MF, DF, PH); Wool, 12.4 (DC)
- Agrochola haematidea* **SOUTHERN CHESTNUT** Sopley Common, 3 on 28.10 (PHS, HW), 5 on 30.10 (JMc)
- Agrochola helvola* **FLOUNCED CHESTNUT** Briantspuddle, 12.10 (JF); Portland Bird Observatory, 16.10 (MC)
- Parastichtis suspecta* **SUSPECTED** Higher Hyde, 2 on 6.7 (MF, DF, PH, JD, RL, DCx); Keyworth, 12.7 (HW); Winfrith, 2 on 20.7 (MF, DF, DCx); Holt Heath, 28.7 (RRC, DAH); Talbot Heath, 29.7 (PD)
- Xanthia citrigo* **ORANGE SALLOW** Puddletown, 20.9, 3.10 (HW); Walditch, 8.10 (MSP)
- Moma alpium* **SCARCE MERVEILLE DU JOUR** north-east Dorset, mid-June (PD)
- Acrionicta megacephala* **POPLAR GREY** Bagmore Wood, nr Bourton, 20.5 (MPl); Preston, 16 between 30.5 and 19.8 (PK), 28.6 (MF); Poole, 7.7 (PT); Dorchester, 14.7 (JD)
- Acrionicta leporina* **MILLER** Portland Bird Observatory, 23.7 (MC)
- Mormo maura* **OLD LADY** Puddletown, 12.8 (HW); Poole, 16.8 (PP); Wimborne, 29.8 (MG); Lodmoor, 30.8 (MF, DF, PHS, CM, PH); Arne, Patchins, 3.9 (CM); Mudeford Wood, 5 on 5.9 (MJ); Studland Dunes, 14.9 (CM)
- Ipimorpha retusa* **DOUBLE KIDNEY** Tadnoll, 19.7.2001 (JMc); Keyworth, 5.8 (HW); Ferndown, 7.8 (RRC)
- Ipimorpha subtusa* **OLIVE** Dorset heath, 25.7 (SFP); Walditch, 25.7 (MSP); Merritown Heath, 28.7 (MJ); Preston, 29.7 (RL); Ashington, 30.7 (JF); Upwey, 2.8, 3.8 (PH); East Lulworth, 6.8 (DG, MSP)
- Enargia ypsilon* **DINGY SHEARS** Kingston, 13.7 (PBe); Hengistbury Head, 13.7, 15.7, 17.7 (MJ); West Bexington, 15.7, 26.7 (RE); Wyke Regis, 18.7 (DF); Morden Bog, 22.7 (MSP, DG, JMc, BU, PD); Preston, 23.7 (MF); Puddletown, 23.7, 27.7 (HW); Swanage, 25.7 (RC); Walditch, 28.7 (MSP); Hurn, 29.7 (MJ)
- Cosmia affinis* **LESSER-SPOTTED PINION** Upwey, 19.8 (PH)
- Apamea oblonga* **CRESCENT STRIPED** Arne, Patchins, 29.7 (CM)
- Apamea sublustris* **REDDISH LIGHT ARCHES** Puddletown, 2.6, 29.6, 8.7, 17.7 (HW); Dorchester, 24.6 (JD); Hurn, 14.7 (MJ); Hengistbury Head, 15.7, 16.7 (MJ); Morden Bog, 22.7 (MSP, DG, JMc, BU, PD); Badbury Rings, 3 on 27.7 (PD)
- Apamea epomidion* **CLOUDED BRINDLE** Preston, 2.6 (MF), 25.6, 2 on 6.7 (PK); West Bexington, 8.6, 18.6, 26.6, 9.7 (RE); Walditch, 15.6 (MSP); Swanage, 23.6, 24.6, 25.6, 26.6, 28.6 (RC); Motcombe, 5.7 (PBU)
- Apamea unanimis* **SMALL CLOUDED BRINDLE** Preston, 16.5, 2.6, 4.6 (MF), 15.6 (PK); West Bexington, 17.5, 18.5, 30.5, 13.6, 11.7 (RE); Walditch, 4.6 (MSP); Wimborne, 6.6 (MG); Wyke Regis, 8.6 (DF); Trigon Ford, 12.6 (CM)
- Apamea scolopacina* **SLENDER BRINDLE** Hurn, 19.7, 21.7, 27.7 (MJ); Milborne Wood, 21.7 (HW); Keyworth, 2 on 25.7 (HW); Walditch, 11.8 (MSP)
- Apamea ophiogramma* **DOUBLE LOBED** Hengistbury Head, 13.7 (MJ); Hurn, 15.7, 21.7 (MJ); Puddletown, 17.7, 4 on 18.7, 19.7, 20.7 (HW); Woolland, 23.7 (PBe); Upwey, 27.7 (PH); Radipole Lake, 8 on 2.8 (MF, DF, PH); Wimborne, 3.8 (MG); Preston, 7.8 (MF)
- Mesoligia literosa* **ROSY MINOR** Hengistbury Head, 25 between 17.7 and 2.8 (MJ); Wyke Regis, 27.7 (DF); Preston, 15 between 29.7 and 25.8 (PK); Trigon, 27.7 (CM); Dorchester, 31.7, 3.8, 5.8, 6.8, 7.8 (JD); Studland, Shell Bay, 4 on 2.8 (CM); Shaftesbury, 6.8 (WS); Woolland, 18.8, 27.8 (PBe)
- Photodes morrisii morrisii* **MORRIS'S WAINSCOT** Charmouth, 2 on 18.6 (CE)
- Photodes fluxa* **MERE WAINSCOT** Charmouth, 30.7 (CE)
- Photodes pygmina* **SMALL WAINSCOT** West Bexington, 13 nights between 24.7 and 1.10 (RE); Arne, Salterns, 25.7 (CM); Arne, 26.7 (JMc); Bothenhampton, 4.8 (DW); Ashington, 8.8 (JF); Wool, 10.8, 17.8, 21.8 (DC); Slepe Heath, 13 between 12.8 and 12.9 (DC); East Lulworth, 12.8 (RF), 20.8, 1.10 (DG, MSP), 29.9, 2 on 30.9 (DG); Trigon, 14.8, 4.10 (CM); Bagmore Wood, nr Bourton, 16.8 (MPl); Lodmoor, 16.8 (PHS, DF, MF, M Clarke, DCx); Walditch, 18.8 (MSP); Portland Bird Observatory, 22.8, 19.9 (MC); Wyke Regis, 22.8 (DF); Merley, 25.8, 2 on 30.8 (JHa); Arne, Patchins, 3.9 (CM); Kingcombe, 10.9, 11.9, 12.9 (REt); Studland Dunes, 14.9 (CM); Studland, Knoll, 28.9 (CM)
- Eremobia ochroleuca* **DUSKY SALLOW** Wool, 22.7, 10.8, 12.8, 13.8 (DC); Slepe Heath, 23.7, 24.7, 25.7 (DC); Wyke Regis, 26.7 (DF); Hengistbury Head, 26.7 (MJ); Wimborne, 27.7 (MG); Holt Heath, 3 on 28.7 (RRC, DAH, JMc, SP); Merley, 29.7 (JHa); Ashington, 30.7 (JF); Hurn, 3.8 (MJ); West Bexington, 10 nights between 3.8 and 20.8 (RE); Dorchester, 5.8, 25.8 (JD); Walditch, 6.8 (MSP); Preston, 7.8 (PK, MF); East Lulworth, 12.8 (RF); Seacombe, 3 on 17.8 (CM); Portland, 17.8 (RRC, DAH, AP)
- Amphipoea fucosa paludis* **SALTERN EAR** Preston, 10.7 (RL), 66 between 16.7 and 29.8 ... peak of 15 on 13.8 (MF); Lodmoor, 16.7 (PHS, DCx), 16.8 (PHS, DF, MF, M Clarke, DCx); Dorchester, 18.7, 2.8, 7.8, 28.8 (JD); West Bexington, 19.7, 2 on 28.7, 3 on 30.7, 31.7, 2.8, 7.8, 16.8, 17.8 (RE); Wyke Regis, 22.7 (DF); Arne, Patchins, 6 on 29.7 (CM); Upwey, 11 nights between 29.7 and 18.8 (PH); Hengistbury Head, 30.7 (MJ); Radipole Lake, 2.8 (MF, DF, PH); Puddletown, 7.8 (HW)
- Gortyna flavago* **FROSTED ORANGE** Portland Bird Observatory, 4.9 (MC)
- Celaena leucostigma* **CRESCENT** Preston, 11 between 12.7 and 17.8 (MF); Lodmoor, 16.7 (PHS, DCx), 16.8 (PHS, DF, MF, M Clarke, DCx), 30.8 (MF, DF, PHS, CM, PH); Wyke Regis, 25.7 (DF); Hengistbury Head, 28.7 (MJ); Portland Bird Observatory, 29.7, 19.8 (MC); Puddletown, 5.9, 6.9, 12.9 (HW)
- Nonagria typhae* **BULRUSH WAINSCOT** Portland Bird Observatory, 19.7, 17.8 (MC); Puddletown, 2.8, 14.8, 17.8, 14.9 (HW); West Bexington, 4.8, 14.8, 15.8, 25.8, 28.8, 30.8, 6.9 (RE); Slepe Heath, 15.8 (DC); Walditch, 23.8 (MSP);

- Wyke Regis, 27.8 (DF); Arne, Patchins, 3.9 (CM); Milborne Wood, 12.9 (HW)
- Archanara geminipuncta* **TWIN-SPOTTED WAINSCOT** Abbotsbury, 14.7.2001 (JMc); Lodmoor, 16.8 (PHS, DF, MF, M Clarke, DCx); Arne, 26.7 (JMc); West Bexington, 26.7, 27.7, 30.7 (RE); Hengistbury Head, 27.7, 30.7, 2.8 (MJ); Arne, Patchins, 29.7 (CM); Trigon, 7.8 (CM); Portland Bird Observatory, 8.8 (MC); Dorchester, 25.8 (JD);
- Archanara dissoluta* **BROWN-VEINED WAINSCOT** Lodmoor, 16.7 (PHS, DCx), 16.8 (PHS, DF, MF, M Clarke, DCx), 30.8 (MF, DF, PHS, CM, PH); Keyworth, 18.7, 5.8 (HW); West Bexington, 23.7, 2.8 (RE); Preston, 24.7 (MF); Wyke Regis, 26.7 (DF); Portland Bird Observatory, 29.7, 30.7 (MC)
- Archanara sparganii* **WEBB'S WAINSCOT** Slepe Heath, 3.9 (DC)
- Sedina buettneri* **BLAIR'S WAINSCOT** Maiden Newton, at ambulance lights at road traffic accident 26.10 (Andy Elliot)
- Arenostola phragmitidis* **FEN WAINSCOT** Poole, 10.7 (PT); Lodmoor, 16.7 (PHS, DCx), 16.8 (PHS, DF, MF, M Clarke, DCx); Hengistbury Head, 7 between 17.7 and 2.8 (MJ); Wyke Regis, 18.7 (DF); Keyworth, 12 on 18.7, 5.8 (HW); West Bexington, 22.7 (RE); Arne, Salterns, 3 on 25.7 (CM); Trigon, Dynamite 26.7 (CM); Arne, Patchins, 2 on 29.7 (CM); Upwey, 30.7 (PH); Puddletown, 7.8 (HW)
- Coenobia rufa* **SMALL RUFIOUS** Portland Bird Observatory, 6.8 (MC)
- Spodoptera exigua* **SMALL MOTTLED WILLOW** Shapwick, 2 on 17.5 (PD); Down Farm, 2 on 17.5 (MJ); Portland Bird Observatory, 2 on 17.5, 3.6, 4.6, 19.6, 2 on 28.7, 29.7, 26.8, 1.11 (MC); Dorchester, 17.5, 19.5, 1.6 (JD); Walditch, 17.5, 18.5, 29.10 (MSP); West Bexington, 20.5, 26.7, 27.7 (RE); East Lulworth, 6.6 (DG, MSP); Wimborne, 6.6 (MG); Trigon, 17.6 (CM); Bothenhampton, 7.7 (DW); Wyke Regis, 30.7, 30.8 (DF); Trigon, 4.8 (CM)
- Chilodes maritimus* **SILKY WAINSCOT** Keyworth, 18.5, 50 on 18.7 (HW); Arne, Salterns, 2 on 8.6, 3 on 25.7 (CM); West Bexington, 5.7 (RE); Hengistbury Head, 15.7, 16.7 (MJ); Radipole Lake, 3 on 2.8 (MF, DF, PH)
- Stilbia anomala* **ANOMALOUS** Slepe Heath, 10.9 (DC)
- Elaphria venustula* **ROSY MARBLED** Hurn, 27.6 (MJ)
- Panemeria tenebrata* **SMALL YELLOW UNDERWING** Milton-on-Stour, by day 10.5 (JB); Shapwick, 100 in flight and at rest on mouse-ear in meadows on 12.5, 50 in flight and at rest near Mouse-ear in meadows on 15.5 (PD); Badbury Rings, disturbed 26.5 (PD); Brookman's Valley, by day 31.5 (W Raymond)
- Pyrrhia umbra* **BORDERED SALLOW** Wyke Regis, 10.5 (DF); Swanage, 18.6 (RC); Preston, 28.6 (MF); West Bexington, 8.7 (RE); Abbotsbury, 14.7.2001 (JMc); Arne, Salterns, 25.7 (CM); Arne, 26.7 (JMc); Slepe Heath, 30.7 (DC)
- Helicoverpa armigera* **SCARCE BORDERED STRAW** Portland, 17.8 (RRC, DAH, AP); Portland Bird Observatory, 18.8, 27.8, 11.9, 23.9, 29.9, 4 on 30.9, 31.10, 25.11 (MC); West Bexington, 2.10, 2 on 29.10, 4.11 (RE); Shapwick, 31.10 (PD)
- Heliothis peltigera* **BORDERED STRAW** Upwey, 3.6, 4.6 (PH); Wool, 16.6 (DC); Portland Bird Observatory, 17.7, 16.9 (MC); Cheyne Weare, 4.8 (per MC); West Bexington, 4.8, 12.8, 24.8, 3.9, 11.9, 2 on 13.9, 19.9, 20.9 (RE); Seacombe, 17.8 (CM); Wyke Regis, 26.8, 30.8 (DF); Ashington, 5.9 (JF); Puddletown, 15.9 (HW); Walditch, 18.9 (MSP)
- Earias clorana* **CREAM-BORDERED GREEN PEA** Middlebere Heath, 30.5 (CM); Hengistbury Head, 17 between 2.6 and 6.8 (MJ); West Bexington, 8.6 (RE); Holt Heath, 16.6 (PD); Portland Bird Observatory, 5.7 (MC); Upwey, 5.7, 16.7, 26.7, 27.7 (PH); Milborne Wood, 9.7 (HW); Puddletown, 9.7 (HW); Preston, 15.7 (MF); Lodmoor, 16.7 (PHS, DCx); Trigon, 22.7 (CM); Trigon, Dynamite 26.7 (CM); East Lulworth, 6.8 (DG, MSP)
- Bena prasinana* **SCARCE SILVER-LINES** Motcombe, 5.7 (PBU); Puddletown, 7.7, 15.7 (HW); Lodmoor, 16.7 (PHS, DCx); Gillingham, 16.7 (GH); Preston, 17.7 (RL); Verwood, 27.7 (SP); Ashington, 8.8 (JF)
- Chrysodeixis chalcites* **GOLDEN TWIN-SPOT** Wyke Regis, 26.8 (DF)
- Trichoplusia ni* **NI** Puddletown, 7.8 (HW); Wyke Regis, 21.8 (DF); Durlston, 3.9 (SN); Portland Bird Observatory, 3.9 (MC)
- Polychrysis moneta* **GOLDEN PLUSIA** Ferndown, larvae on delphinium on 27.4, 28.7 (RRC)
- Plusia festucae* **GOLD SPOT** Slepe Heath, 2 on 16.5, 19 between 12.8 and 12.9 (DC); Hengistbury Head, 2.6, 17.6, 28.7, 6.8 (MJ); Trigon, 6.6, 14.8, 26.8, 28.8, 29.8, 4.9 (CM); East Lulworth, 6.6 (DG, MSP); Wool, 16 between 4.8 and 30.9 (DC); Keyworth, 5.8, 2 on 15.8 (HW); Merley, 9.8, 10.8 (JHa); Preston, 12.8 (PK), 26.8 (MF), 4.9 (RL); Upwey, 14.8 (PH); Lodmoor, 16.8 (PHS, DF, MF, M Clarke, DCx); Winterborne Stickland, 18.8 (LdW); West Bexington, 26.8, 30.9 (RE); Portland Bird Observatory, 26.8 (MC)
- Abrostola trigemina* **DARK SPECTACLE** West Bexington, 17.5 (RE); Wyke Regis, 17.5, 5.9 (DF); New Buildings, Langton West Wood, 2.6 (CM); Portland Bird Observatory, 16.6, 2.8, 25.8, 30.8, 12.9 (MC); Puddletown, 18.6, 30.6, 7.8 (HW); Milborne Wood, 13.7 (HW); Hurn, 16.7, 30.7 (MJ); Walditch, 16.7 (MSP); Preston, 16.7, 26.8 (MF); Hengistbury Head, 19.7 (MJ); Winfrith, 20.7 (MF, DF, DCx); Upwey, 28.7, 3.9, 4.10 (PH); Weymouth, 14.9 (PHS); Highcliffe, 29.10 (PD)
- Tyta luctuosa* **FOUR-SPOTTED** Portland Bird Observatory, 3 on 15.7, 6 on 16.7, 26.7, 2 on 27.7, 4 on 29.7, 30.7 (MC)
- Lygephila pastinum* **BLACKNECK** Friar's Fields, West Moors, by day on 11.7 (DAH); Upwey, 15.7 (PH); Two Mile Coppice, 17.7 (PHS, MF, DF, M Clarke); Wool, 17.7, 18.7 (DC); Keyworth, 2 on 18.7 (HW); Tadnoll, 19.7.2001 (JMc)
- Phytometra viridaria* **SMALL PURPLE-BARRED** Hurn, 16.5, 30.7 (MJ); Maiden's Castle, 3 disturbed on 29.5 (PD); Higher Hyde, 14.6 (JMc), 15.7 (PD, CM), 5 on 23.7 (PD); Powerstock Common, 2 disturbed on 20.6 (PD); Morden Bog, 16.7 (CM, PD), 3 on 22.7 (MSP, DG, JMc, BU, PD); Trigon, 22.7 (CM); Upton Heath, 6 on 24.7 (JMc, PD); Dorset heath, 10 on 25.7 (SFP); Arne, 26.7 (JMc); Holt Heath, 28.7 (RRC, DAH, PD); Talbot Heath, 10 on 29.7 (PD); East Lulworth, 29.7 (DG, MSP); Ashington, 30.7 (JF)
- Hypena crassalis* **BEAUTIFUL SNOOT** Puddletown, 7.7 (HW)
- Hypena obsitalis* **BLOXWORTH SNOOT** Portland Bird Observatory, 1 indoors 15.3 (MC)
- Hypenodes humidalis* **MARSH OBLIQUE-BARRED** Trigon, 17.6 (CM); Morden Bog, 10 on 16.7 (CM, PD), 22.7 (MSP, DG, JMc, BU, PD); Higher Hyde, 5 on 23.7 (PD); Dorset heath, 2 on 25.7 (SFP); Arne, Salterns, 25.7 (CM); Trigon, Dynamite 4 on 26.7 (CM); Arne, 26.7 (JMc); Stoborough Heath, 2 on 26.7 (PD); Holt Heath, 28.7 (RRC, DAH); Talbot Heath, 29.7 (PD); Studland Dunes, 14.9 (CM)

## 2002 MOTH IMMIGRATIONS TO DORSET AND POTENTIAL SOURCES OF ORIGIN

Peter Davey

2002 produced a scattering of immigrations and can best be described as an average year, although an average migrant year in Dorset is very much a relative term. The

year was notable for the range of migrant hawk moth species plus large numbers of home-grown second-brood migrant wainscot species, such as the Delicate, White-point and White-speck. The Gem also had a bumper year. However, Rush Veneer (*Nomophila noctuella*) and Silver Y moths were relatively infrequent in 2002.

January was anticyclonic with winds from between the south and south-east for the first half, followed by stormy south-westerly winds during the second. Air originating over north-west Africa and western Iberia during the first two days of the month gently wafted across Dorset on 4 January, and that evening a White-speck was trapped at Portland Bird Observatory. February continued the mild theme with mean temperature 3°C above normal (January's mean temperature was 2°C above normal). With south-west to west winds blowing in from the Atlantic throughout, no migrants observed apart from a Pearly Underwing on 12 February.

March experienced rapidly changing weather types with winds often from between south-east and south-west. Winds blew non-stop from the Mediterranean on two occasions; the first in mid-month, the second a few days before the end of the month. A White-speck was trapped on Portland on 3 March, a Hummingbird Hawk was seen on 16 March at Portland Bird Observatory, and a Striped Hawk was found at rest on a pile of logs at Chickerell on 29 March. Two other potential immigrant species were seen, although these may have been indigenous. The first, a Bloxworth Snout, was found inside Portland Bird Observatory on 15 March; the second a Northern Drab (about a month early) was trapped at Woolland on 31 March. April saw little immigrant activity in a dry anticyclonic month. A single Humming-bird Hawk was seen at Shapwick on 23 April, the warmest day of the month.

For the first ten days of May winds blew from between north-west and north-east, and, apart from a Hummingbird Hawk seen at Swanage on 4 May, no other migrants were seen. As high pressure developed over France on 14 May, winds backed through south-west to between south and south-east on 16 May, and temperatures rose to a warm 23°C. By this time the air over Dorset had originated over north Africa and the Mediterranean and a major immigration followed. This event was remarkably similar to the Striped Hawk immigration ten years earlier in May 1992. The following potential migrant species were seen:

- Small Mottled Willow, two at Portland Bird Observatory, two at Shapwick, two at Down Farm, at Walditch, and at Dorchester, all on 17 May; at Walditch on 18 May; at Dorchester on 19 May; at West Bexington on 20 May.
- Striped Hawk at Dorchester on 17 May; at East Lulworth and at Puddletown, both on 18 May; at Upwey on 20 May; at Milton-on-Stour and Puddletown, both on 21 May; at Blandford on 24 May.
- Dark Spectacle at West Bexington and at Wyke Regis, both on 17 May.
- Barrett's Marbled Coronet (second Dorset record) at West Bexington on 17 May.
- Peacock at Upwey on 18 May.
- *Eudonia pallida* at Shapwick on 20 May.

Cooler south-westerly winds swept in on 19 May and persisted until 30 May. An anticyclone moved north-east across southern England on 31 May, and for the following

few days, warm south to south-easterly winds blew once more. A further wave of Small Mottled Willow, Striped Hawk, Dark Spectacle and Delicate moths appeared at this time; several Bordered Straws were also seen. The rare migrant pyralid moth *Diasemiopsis ramburialis* was netted by day on Winfrith Heath on 4 June, and *Evergestis extimalis* turned up at West Bexington on 4 and 8 June. An unsettled, windy and cool regime persisted until the end of June, although for a short time around the middle of the month, winds backed slightly to between south and south-west, and many of the aforementioned species appeared once more.

The first ten days in July were cool, wet and sunless with blustery west to north-westerly winds. Pressure rose thereafter and winds blew from a northerly quarter until 21 July. Tropical air moved in from the Atlantic on 25 July and winds became light. Pressure began to fall on the hottest day of the month, 29 July, as a large thundery low-pressure area developed over Europe. No discrete immigrations occurred during July although a few Dark Spectacles, Small Mottled Willows and Four-spotted Footmans were observed. An *Evergestis limbata* at Trigon on 18 July was likely to be indigenous as was a recent addition to British moths, the pyrale *Dioryctria sylvestrell*, trapped at Higher Hyde on 23 July. The absence of an airmass from Europe on both occasions point to indigenous individuals.

The warm thundery conditions imported from northern Europe at the end of July persisted until 12 August. During this time many immigrant species were seen:

- Sand Dart at Studland on 2 August (possibly indigenous, but an unusually late date).
- *Evergestis extimalis* at West Bexington on 2, 3 and 14 August
- Spurge Hawk (unverified) at Durlston on 4 August.
- Stout Dart (unverified) at Bothenhampton on 4 August.
- Angle-striped Sallow (unverified) at Preston on 7 August.
- *Sitochroa palealis*, seven at Portland Bird Observatory in the first fortnight of August.
- Ni at Puddletown on 7 August.
- Bedstraw Hawk at West Bexington on 12 August.
- *Yponomeuta rorella* at Walditch on 12 August.
- Convolvulus Hawk at Portland Bird Observatory on 13 August.
- White-line Snout (unverified) at Durlston on 13 August.
- Jersey Tiger at Durlston on 13 August.

After a few days of changeable westerlies, pressure began to rise from 14 August over northern Europe and Scandinavia. Between 15 and 19 August, the airmass originated over western France and north Iberia, and some early examples of the Scarce Bordered Straw were trapped on 17 and 18 August together with a Tawny Wave on 18 August and a Convolvulus Hawk on 19 August, all on Portland, an *Ostrinia nubilalis* at Upwey on 17 August plus a *Sitochroa palealis* at West Bexington on 20 August. North to north-easterly winds blew from Scandinavia and northern Europe from 20 August for nine days, and for much of this time hot tropical air originating from south-east Europe lay just to the east of Britain. On 26 August, a rare migrant plusia moth, the Golden Twin-spot, was trapped at Wyke Regis. The following night a Grass Eggar was caught

at Portland Bird Observatory, and an *Evergestis extimalis* was trapped at Fortuneswell.

Following a brief interlude of Atlantic westerly winds, pressure rose strongly on the last day of August and the first day of September, and easterly winds blew once more. On 2 September, pressure began to fall over Spain and France, and a shallow low tracked north-east across south-east England on 3 September. This feature brought the following immigrants to Dorset:

- Ni at Portland Bird Observatory and at Durlston on 3 September.
- *Acrobasis tumidana* at Durlston on 3 September.
- Eighty Angle Shades at Durlston on 3 September.
- Dark Spectacle at Upwey on 3 September and Wyke Regis on 5 September.
- 339 *Plutella xylostella* at Portland Bird Observatory on 4 September.

Atlantic westerlies again swept across the country on 5 September with the parent low pressure off northern Scotland slowly slipping south to be centred over south-west England by 8 September. A new developing low pressure centre took an unusual north-west track out of France and deposited six inches of rain on Swanage on 9 September. Pressure then rose steadily to the east of Britain, and high pressure took up residence over and to the north of Britain until the end of the month. Winds blew continually from between the east and north-east until the end of September. Many White-point, Bordered Straw, Delicate, White-speck, and Convolvulus Hawk moths were recorded during this time, and it is likely that many of the White-point, Bordered Straw and Delicate moths were offspring from the strong May and early June immigrations. This possibility may also extend to the two *Evergestis extimalis* pyrales trapped at West Bexington on 13 and 16 September. One interesting event was the many Heath Rustics recorded, some well away from their usual heathland habitat. This may have been due to a population explosion on heathland in southern England or from northern continental Europe. The following Heath Rustic records are of interest:

- Slepe, forty on 11 September.
- Merley, two on 12, 16 and 20 September.
- Shapwick, 12 September, plus three on 19 September.
- Puddletown, 13 and 14 September.
- East Lulworth, six on 14 September.
- Hurn, 19 September.
- Hengistbury Head, 20 September.
- Portland Bird Observatory, 20 September.

The high pressure area which had dominated the UK weather for so long began to move east across northern Europe, allowing winds to veer into the south-east from central France by 28 September. The following immigrants were seen:

- Humming-bird Hawk at East Lulworth, two on 29 September.
- Scarce Bordered Straw at Portland Bird Observatory on 29 and 30 September.
- *Galleria melonella* at Seacombe on 30 September.
- *Palpita unionalis* at Portland Bird Observatory on 1 and 2 October.
- Cosmopolitan at Puddletown on 1 October.
- Four-spotted Footman at East Lulworth on 1 and 2 October.

- 103 *Nomophila noctuella* at Portland Bird Observatory on 4 October.
- Dark Spectacle at Upwey on 4 October.
- 12 Delicate at Portland Bird Observatory on 5 October.
- *Diasemiopsis ramburialis* at Portland Bird Observatory on 6 October.

An anticyclone moved slowly north-east across the UK from 3 October, and winds were generally light north-west veering north-east. Pressure then fell, and a series of low pressure areas moved east across southern England and the near Continent. Cold easterly winds slowly backed to a northerly point by 16 October, and, apart from numbers of second-brood potentially indigenous Delicate, White-speck and White-point, no immigrants were noted during this prolonged spell of cool, and at times very wet, weather. Tropical air originating over north-west Africa, passed quickly across southern England overnight on 20 October. With winds fresh and from the south, a Death's-head Hawk was trapped at Durlston during the evening. The weather continued wet and occasionally stormy up until 27 October, and, with south-west winds coming in from the Atlantic no new migrants were seen. A strong ridge of high pressure moved across England on 28 October, and winds swung round to the south thereafter. Tropical air, again originating over north-west Africa moved slowly into southern England during the 29 October, and remained there until the end of the month. Winds were light and from between south and south-east, and with high humidity night-time temperatures did not fall below 15°C. A significant immigration took place at this time, and the following species were recorded:

- Dark Spectacle at Highcliffe on 29 October.
- *Palpita unionalis* at Highcliffe and West Bexington on 29 October, at Portland Bird Observatory on 30 October, Preston on 31 October, and Durlston on 31 October.
- Cosmopolitan at Portland Bird Observatory and at Swanage on 29 October.
- Flame Brocade at Portland Bird Observatory and at Wyke Regis on 29 October.
- Small Mottled Willow at Walditch on 29 October, and at Portland Bird Observatory on 1 November.
- Scarce Bordered Straw at West Bexington on 29 October, at Portland Bird Observatory, and at Shapwick on 31 October.
- 48 *Udea ferrugalis* at Portland Bird Observatory on 31 October.
- *Diasemiopsis ramburialis* at Studland on 31 October.
- Silver-striped Hawk at Durlston on 31 October.

November was characterised by mild, wet and often stormy weather brought in from the Atlantic on persistent south-westerly winds. Apart from potentially indigenous White-speck moths, no further potential immigrant species were observed.

December was mainly cyclonic and very wet, with winds from all points of the compass. Opportunities for immigration were restricted to a short period of warm southerly winds between 21 and 23 December. White-speck moths again put in an appearance until mid-month. Tropical air moved up from Spain just before Christmas and a Silver Y plus a Red Sword-grass were trapped at Durlston on 22 December.

**DORSET HOVERFLY REPORT 2002**

E.T. and D.A. Levy

This was quite a good year for hoverflies, though no new species were recorded for the County. One hundred and twenty-nine different hoverflies were seen during the year and several new sites visited. Our new project was a comparative study of the insects of the Glanvilles Wooton area, for which we have the published lists made by C.W. Dale in the 1800s. His hoverfly list consisted of 90 species and his vast collections are held in the 'Hope Department' of University Museum, Oxford. So far our nine visits have yielded 60 species, some of which are listed below. Garston Wood, the RSPB woodland reserve on the Wiltshire border, was comprehensively targeted and good results obtained. Once more we must compliment Mick Parker of Weymouth, for his multi-page list of records from all over the County. Binnegar Quarry records are from David Gibbs.

The following selection of hoverfly records, relates to their scarcity in Dorset.

- Brachypalpus laphriformis*: Girdlers Coppice [DWT] 4.5.02. Scarce and elusive.
- Callicera aurata*: Garston Wood [RSPB] 28.6.2. [4th County Record] Rare.
- Cheilosia carbonaria*: Milborne Wood 12.4.02.
- Cheilosia cynocephala*: Garston Wood [RSPB] 21.6.02; Warmwell Heath 24.8.02
- Cheilosia griseiventris*: Garston Wood [RSPB] 11.5.02; Scrubby Burrows 18.5.02.
- Cheilosia lasiopa*: Glanvilles Wooton 10.5.02; Garston Wood [RSPB] 11.5.02; Oakers Wood 14.5.02; [was *honestia*]: Scrubby Burrows 18.5.02.
- Cheilosia ranunculi*: Mick Parker has found this 'newly split' species at Breach Wood, Girdlers Coppice and Piddles Wood all in early May.
- Chrysotoxum festivum*: Binnegar Quarry 15.8.02.
- Criorhina asilica*: Garston Wood 4.5.02; Scrubby Burrows 18.5.02.
- Criorhina floccosa*: Garston Wood 12.4.02; Scrubby Burrows 18.5.02; Heath Bottom 23.6.02.
- Criorhina ranunculi*: Spyway 22/29.3.02; Oakers Wood 7.4.02; Garston Wood [4 dates].
- Epistrophe diaphana*: Charlton Down 13.7.02; Garston Wood 13.7.02.
- Eristalis* [*Eoseristalis*] *abusivus*: Breach Wood 2.5.02. Our earliest County record.
- Eumerus ornatus*: Garston Wood 12.5.02; Scrubby Burrows 18.5.02; Heath Bottom 23.6.02.
- Ferdinandea ruficornis*: Owermoigne 13/16.4.02 Malaise Trap J. Hunnisett. 4th County record. Rare.
- Melangyna labiatarum*: Glanvilles Wooton 28.8.02. Scarce in Dorset.
- Orthonevra geniculata*: Spyway 29.3 and 12.5.02; Oakers Wood 7.4.02; Nutley Farm 8.4.02. Scarce and local.
- Platycheirus* [*Pachysphyria*] *ambiguum*: Nutley Wood 8.4.02; Glanvilles Wooton 2.5.02.
- Parhelophilus frutetorum*: Higher Hyde Heath 21.7.02.
- Pipiza lugubris*: Glanvilles Wooton 28.8.02.

- Pipizella virens*: Binnegar Quarry 21.7.02.
- Platycheirus angustatus*: Scrubby Burrows 18.5.02; Higher Hyde Heath 21.7.02.
- Platycheirus immarginatus*: Newton Bay 20.7.02. Very scarce and local.
- Platycheirus occultus*: Newton Bay 20.7.02; Higher Hyde Heath 21.7.02.
- Platycheirus splendida*: Mick Parker has found this 'newly split' species at five new sites in Dorset.
- Rhingia rostrata*: Garston Wood 14/26.7.02. Very rare.
- Scaeva selenitica*: Heath Bottom 23.6.02; Winfrith Heath 17.7.02.
- Sphaerophoria fatarum*: Warmwell Heath 24.8.02.
- Sphaerophoria rueppellii*: Newton Bay 20.7.02.
- Sphaerophoria taeniata*: Garston Wood 27.7 and 5.8.02.
- Tropidia scita*: Glanvilles Wooton 25.5.02; Binnegar Quarry 15.6.02.
- Xanthandrus comtus*: Garston Wood 2.8.02; Bracket's Copse 10.9.02.
- Xanthogramma citrofasciatum*: Heath Bottom 15.6.02. Scarce and local.

E.T. and D.A. Levy (recorders)

The following report should have been included in Volume 122.

**MARINE INVERTEBRATES 2000**

John Hawthorne

*Physalia physalis*

The Portuguese Man-o-War was reported from a number of locations in October. The dates of the records indicate the rate at which surface Channel water was flowing eastwards:

- 11.10.00 Bridget Loveday recorded it at Chesil Cove, Portland;
- 14.10.00 Peter Tinsley recorded it at Kimmeridge Beach, and
- 16.10.00 Duncan Mathers recorded it at Bournemouth Beach.

*Physalia* drifts at the sea surface with its inflated 'sail' catching the wind. Its presence almost certainly indicates an influx of southern water into the Channel. This may have brought eggs and larvae of other southern species; it will be interesting to see if records of the next few years show successful settlement of such species.

*Monodonta (Osilinus) lineata*

Peter Tinsey recorded a large specimen at Yellow Ledge, Kimmeridge. This may be the most easterly specimen of a scattered population recorded in the past three years to the east of Portland.

*Sabellaria alveolata*

Tubes of this polychaete worm were recorded as encrusting rock ledges at Monmouth Beach at the west of Lyme Regis in 1981. It was recorded at Charmouth in 1990. Since the building of the sewage plant at Lyme Regis the ledges at Church Cliff, Lyme Regis have been covered with tubes. A recent record from Denis Seaward is worthy of note since he found it at Bowleaze Cove, east of Weymouth on 23.7.97.

## DORSET NATURAL HISTORY AND ARCHAEOLOGICAL SOCIETY: FIELD MEETINGS 2002

J.A. Newbould

### Field Meeting 11 June 2002

#### Metlands Wood: Frampton

In pouring rain, only two members arrived for this visit to Metlands Wood, which is dominated by Sycamore and Ash (*Fraxinus excelsior*). Field Maple (*Acer campestre*) is occasionally scattered through the wood. Yew (*Taxus baccata*) is found in small pockets through the wood. There are a number of introduced species including Mock Orange (*Philadelphus coronarius*) and Snowberry (*Symphoricarpos albus*). The ground flora is dominated by Dog's Mercury (*Mercurialis perennis*) whilst Bluebell (*Hyacinthoides non-scriptus*) and Wood Sanicle (*Sanicula europaea*) are rare. Box (*Buxus sempervirens*) covers much of the eastern end of the wood.

### Field Meeting 22 June 2002

#### Portland

Four members of the Society visited Portland under the leadership of Professor M.G. Morris to study the entomology. Mr J.A. Newbould provided the botanical data on a later visit to the Perryfields Quarry and the Verne area.

The four entomologists visited Verne Yeates, Perryfield Quarries and Penn's Weare. Reports were received from Professor M.G. Morris and Mr J. Hunnisett. Six species of butterfly, recorded on the three sites during the day, included Clouded Yellow (*Colias croceus*). Several newly emerged Ringlet (*Aphantopus hyperanthus*) butterflies were seen at Penn's Weare. Speckled Bush-cricket (*Leptophyes punctatissima*) was found in the Verne Yeates area. Professor Morris commented that generally most of the invertebrates found were common in Dorset including *Rhinocyllus conicus* on *Carduus nutans*. This weevil species classed as notable A, is found in less than fifteen 10km squares in Britain.

At Perryfields Quarry nature reserve, many of the hollows have a wooded vegetation, which rarely exceeds 5m in height and is composed principally of Sycamore, which favours the wet coastal climate, and Ash (*Fraxinus excelsior*). Elsewhere, Wayfaring Tree (*Viburnum lantana*) and Entire-leaved Cotoneaster (*Cotoneaster integrifolius*) covered rock and scree. The short chalk grassland of NVC type CG5 (*Bromus erectus-Brachypodium pinnatum*) has a number of chalk plants including Bithynian Vetch (*Vicia bithynica*), a single Bee Orchid (*Ophrys apifera*), Salad Burnet (*Sanguisorba minor*) etc.

At the Verne viewing area the short turf near the car park, had Rough Clover (*Trifolium scabrum*) which is downy all over with dark stripes visible on the calyx tube. In the same area Ivy Broomrape (*Orobancha hederarum*) was located beneath the fence of the steep covered slope covered in Ash and Sycamore below the viewing area, and nearby there was confirmatory evidence of the old Portland record for Round-leaved Cranesbill (*Geranium rotundifolium*). Across the road, the short turf on the level ground near the quarries had similar species to Perryfield Quarry. It is always good to see Quaking grass (*Briza media*) and here we also had Red Bartsia (*Odonites verna*), Rest-harrow (*Ononis repens*) and Pyramidal Orchid (*Anacamptis pyramidalis*).

### Field Meeting 29 June 2002

#### Corscombe

Seven members of the Society met on a warm sunny day at Woodwalls, by kind permission of Major and Mrs J.A. Valdes-Scott. The morning was spent surveying two meadows to the south of the house, which had last been ploughed over ten years ago. A remarkable grassland had resulted from the dormant seeds. The overall impression of pre-World War II meadows came from the brilliant show of Common Knapweed (*Centaurea nigra*). The sweet smell of an old hay meadow came from walking through Sweet-vernal Grass (*Anthoxanthum odoratum*). Amongst the species present in the meadow were a group of orchids from the *Dactylorhiza* family. Whilst the Southern Marsh Orchid (*D. praetmissa*) was clearly present and the occasional Common-spotted Orchid (*D. fuchsii*) was seen, quite a number of the orchids were clearly hybrids from this genetically mobile group. Clovers and other legumes were present in this increasingly rare MG5 grassland. The eastern boundary of the drive to the house was an old-established hedge with large oaks (*Quercus robur*), one of which had Common Polypody fern (*Polyopodium vulgare*) growing from its trunk. A wet ditch under the hedge had the water-dropwort *Oenanthe pimpinelloides* which is commonly found in the north-west of the county.

Four butterflies: Ringlet, Large Skipper, Painted Lady and numerous Meadow Brown were observed during the morning.

The afternoon was spent recording in three woods owned by the same family, to the east of Woodwalls. The third wood was located to the east of the parish boundary (an earth bank in part) in the adjoining Long Park and Chelborough Park (part of the West Chelborough Park). The woods have not been managed since the middle part of the 19th century. The westerly wood was principally Sycamore with some Ash (*Fraxinus excelsior*) and an understorey of Hawthorn (*Crataegus monogyna*) coppiced Hazel (*Corylus avellana*) and Holly (*Ilex aquifolium*). The ground flora included Bluebell (*Hyacinthoides non-scriptus*), Dog's Mercury (*Mercurialis perennis*), in wet places Ransoms (*Allium urninum*) and Yellow Pimpernel (*Lysimachia nemorum*) which is more common in the west of the county. The second smaller wood was principally Ash with a coppiced Hazel understorey. Oak (*Quercus robur*) was also present to the west. Sedges present along the path here included Remote Sedge (*Carex remota*) and Wood Sedge (*C. sylvatica*). This wood had clear species evidence of being a typical NVC type W8 *Fraxinus excelsior-Acer campestre-Mercurialis perennis* wood, with large Field Maples at the wood entrance. The presence of violets in the ground flora with the occasional open space should make this wood an ideal place for the Silver-washed Fritillary of which Mrs Valdes-Scott reported a decline in recent years. The wood will have a clay over-layer indicated by the vegetational change at the southern end of the wood to a typical NVC type W10 *Quercus robur-Pteridium aquilinum-Rubus fruticosus* woodlands with the ground flora including Creeping Soft-grass (*Holcus mollis*).

The botanical report concludes with the set-a-side field between the western and middle wood which had four sedges: *Carex remota*, *C. otrubae*, *C. panicea* and a single spike of *C. pendula*. Other wet grassland herbs included Greater Bird's-foot Trefoil (*Lotus pedunculatus*) and Marsh

Thistle (*Cirsium palustre*). Two macro moths of interest in this field included Blood-veined and Yellow Shell. In Long Park Wood, Mr D. Jeffers reported good numbers of the micro-moth *Pseudargyrotoza conwagana*. He also reported on a number of Hoverflies (*Syrpluidae*) including: *Episyrrhus balteatus* and *Vólucella bombylaus*.

Professor M.G. Morris produced a substantial list of weevils. He commented that although nearly all the weevils recorded were common and call for no special comment, three species were rare:

*Protapion varipes*. Although Pearce (1926) described this species as 'common', recording it from Glanville's Wooton, Bloxworth and East Lulworth, this was the first specimen that Professor Morris had found in Dorset (although recording intensively during the period 1976–1990). Hyman (1992) suggested it might be declining nationally. At all events, he [M.G.M] was very pleased to record a weevil which he had last recorded in England in 1967. He also recorded *Ischnoptera pium modestum*. This is not a great rarity, although not distinguished in the British Isles from the very common *I. loti* (which has *Lotus corniculatus* as its host) until 1963. However, this was the first record from ST50. The third species was *Rhinocyllus conicus*. This is a species with a distinctly southern distribution, usually found on the coast. There are inland records from Muckleford and Fontmell Down DWT reserves, but he has never recorded it outside Dorset.

There was only casual observation of the area's birds, but whilst at Woodwalls Mr Hobson recovered some Barn Owl pellets. There was a good sighting of Greater-spotted Woodpecker, whilst a Buzzard hawked the area for most of the day. Smaller birds seen near the house included Blue Tit, Chaffinch, Wren and Goldfinch. A Common Frog was seen in the cornfield adjacent to Long Park Wood. At lunch-time Mr Valdes-Scott produced a Roman roof-tile he had recovered from the area, with clear Roe Deer footmarks imprinted whilst drying.

As a footnote to this report, your attention is drawn to Cantor and Wilson (1966, 176) who specifically draw readers' attention to the absence of any earthworks. Our report, in fact, contradicts this article. On a subsequent visit this merits specific checking, following a study of an early 6 inch OS map.

### Field Meeting 6 July 2002

#### Broadcroft Quarry Nature Reserve

This was a joint meeting with British Butterfly Conservation, Dorset Branch and was attended by 21 members and guests. The meeting opened in the Grove Recreation Ground Car Park, with a demonstration by Dr P. Sterling of the moth catch from the previous evening. He reported that due to adverse weather conditions during much of the preceding month, only forty moths had been recorded instead of the predicted one hundred usual for the time of the year. Moths recorded included Chalk Carpet (*Scotopteryx bipunctaria* ssp. *cretata*), which is a coastal moth and the Magpie (*Abraxas grossulariata*). Although this moth is found across the British Isles, it is scarce in Europe. Other interesting moths included the micro moths, *Eudonia lineola* (nationally scarce whose larvae feed on lichens on scrub) and *Synaphe punctalis* which is nationally scarce but common in Dorset. Two Chimney Sweeper moths (*Odesia atrata*) were recorded in compart-

ment 8 during the day. Members of BBCS were busy recording butterflies which included Silver-studded Blue (*Plebeius argus*) — a species with a stronghold on the Dorset Coast. Other butterflies present included Clouded Yellow, Meadow Brown (plentiful), Small Heath (which some members commented has been scarce this year) and Small and Large Skipper.

Professor Morris principally recorded weevils, which were present in good numbers because of the diversity of Papilionaceae. Most were common enough, but eight were new to the 10km square SY67. The two notable species he recorded were *Tychius schneideri* which feeds as a larva on the seeds of Kidney Vetch (*Anthyllis vulneraria*), while *Rhinocyllus conicus* feeds on all kinds of thistles, which are no doubt encouraged as the food plants for Painted Lady.

Mr J.A. Newbould recorded the botany. Botanists in Dorset have started to concentrate on checking species, considered rare and scarce in the County, in a project led by Mr D.A. Pearman. Broadcroft Quarry was an excellent place to spend the day on this project with *Orobancha maritima* subsp. *maritima* at the edge of the car park and 16 spikes *O. hederæ* on Ivy in compartment 4. Leguminosae were an important feature of the reserve. Professor Morris commented on Kidney Vetch which was frequent across the area, while Horseshoe Vetch (*Hippocrepis comosa*) was scarce. Sea Clover (*Trifolium squamosum*) was recorded on the eastern edge of the reserve. Two vetches, which are generally only found on the Dorset coast, Yellow Vetchling (*Lathyrus aphaca*) and Grass Vetchling (*L. missola*), were also present in compartments 6 and 8. Many of the quarried hollows had Sycamore and Buddleia whilst most of the open grass was dominated by Tor-grass (*Brachypodium pinnatum*).

### Field Meeting 6 August 2002

#### River Frome: Stinsford

Two members met at the Stinsford Church car park, for an evening meeting to record along the banks of the River Frome. The footpath from Stinsford Church to the river was lined with Greater Celandine (*Chelidonium majus*). The Stinsford section of the river is strongly influenced by the parkland formed at the south-east of Kingston Maurwood College leaving the river overshadowed and a reducing riverside vegetation. Trees included Beech, Sycamore and Yew and also Pedunculate Oak (*Quercus robur*). However, at Lower Bockhampton, the river is more open with Alder (*Alnus glutinosa*) and aquatic herbs such as Water-plantain (*Alisma plantago-aquatica*), Water-cress (*Rorippa nasturtium-aquaticum*) and the Water-crowfoot (*Ranunculus penicillatus*). Although the river bottom had some surface mud, there were many areas of gravel. Plant galls were starting to develop and we recorded seven species including three on oak, one each on willow, ground-ivy, holly and alder.

At Lower Bockhampton there were a pair of Mute Swans with five young. Greater-spotted Woodpecker was calling from a dead riverside tree to another bird in the village to the north. Returning to Stinsford, in the late evening light, it was possible to see evidence of the old water meadows to the south, although these have inevitably been improved for cattle grazing.

Professor Morris spent a good proportion of the evening searching water plants including Water-cress and Water-plantain for host-specific weevils without success.

All the insects he recorded during the evening were quite common, but it was quite pleasing to find a Small Stag Beetle (*Dorcus parallelipipedus*) on the footpath, whilst returning to our cars in the late evening light.

### Field Meeting 22 August 2002

*Frampton, Metlands Valley and The Frome Valley*

Just one member arrived for this meeting to explore this area of important historical landscape. As Metlands Wood had been explored earlier in the season, recording here concentrated on plant galls. Of particular interest was the gall Diptera: Cecidomyiidae *Monarthropalpus flavus*, which leaves a yellow blister on both sides of the leaf of Box (*Buxus sempervirens*). The Box was also searched for the foliicolous lichen *Fellhanera bouteillei*, found on the twigs and leaves of evergreen shrubs, such as box. This search appeared to be unsuccessful but material has been posted to the University of Leeds for assessment. Crossing Frampton Park by the public footpath, a visit was made to the River Frome, the first of four points at which vegetation of the river was recorded during the day. In the Park, many of the oaks had the knopper gall on acorns *Andricus quercuscalicis* which was first reported in the County thirty years ago (Lang 1973).

During the afternoon the Frome Valley was explored in a circular walk from Southover to Notton Farm; returning across the water meadows on the north bank of the river to Frampton. Of particular interest was the hedge on the north side of the public footpath, south-east of Throop Dairy Farm. At one point, in a 30m stretch, the hedge had 8 woody species on the hedge bank. Nearer the farm a more open hedge bank has three very old Field Maple (*Acer campestre*), laid many years ago, leaving very large trunks running along the hedge bank. Dutch Elm disease was particularly prevalent in this area. Many of these trees have winged cork bark, the pattern of which has been shown to relate to the leaf trace system. Smithson (1954, 211). Even from a distance these trees were quite distinctive due to the deep yellow *Xanthorion* lichens.

Returning to Frampton via the northern footpath, notes were taken of the vegetation of the river at three points: Notton Farm; the footbridge west of Hydeldans Farm; and at Frampton adjacent to the village green. To the west of Notton, the river passed through open countryside, whilst once east of the bridge, the river banks were lined with Alder (*Alnus glutinosa*) or White Willow (*Salix alba*) riverside margin woodland (Type W6 under the National Vegetation Classification system). Although wooded, there was generally sufficient light to allow water crowfoot (*Ranunculus penicillatus*) to be present at each sample point. The river banks are generally straight-sided, and lined with Great-hairy Willow-herb (*Epilobium hirsutum*); in places there were dense stands of Himalyan Balsam (*Impatiens glandulifera*). There were a few small herbs; a member of the mint family was seen only at Frampton, whilst Water Chickweed (*Myosoton aquaticum*) and Water Speedwell (*Veronica anagallis-aquatica*) was more common.

Birds were scarce, but two pairs of House Martins were still nesting at Southover New Farm House and Buzzard was hawking near Lambert's Plantation and at Notton. Eleven species of butterfly were seen during the day, with the inevitable garden Buddleia in Southover attracting the most species, including Comma and Painted Lady.

### Field Meeting 5 September 2002

*The Frome Valley: autumn wildlife*

The first of a series of autumn meetings was held on a warm sunny day and began in style, with Kingfisher being observed at Wool Bridge. During the morning there were further observations at Morton and Holme Bridge. Meade (2000, 211) reported this species from only seventy-six 10km squares in the UK. Also at Wool Bridge, one of the species on the Dorset Rare and Scarce Plants list was found: Imperforate St John's-wort (*Hypericum maculatum* ssp. *obtusiusculum*). Here around 30 plants had escaped the County's mowing machine on the roadside and were growing with bramble. The wetland birds had not yet started to return to the water meadows and numbers were low. However, during the day it was possible to estimate breeding success of Mute Swan along the valley. Botanical recording begun at the Frampton meeting continued on the lower reaches, recording similar species.

At Lower Bockhampton excellent light on the river bottom allowed the observation of a shoal of Roach (*Rutilus rutilus*) and a small shoal of Minnow (*Phoxinus phoxinus*) feeding on the gravel bottom.

### Field Meeting 14 September 2002

*Chesil Beach and Portland Harbour*

In the morning session we recorded along the eastern side of the Chesil Beach, adjacent to Portland Harbour. A complex series of habitats, often quite small but recognisable vegetation types, are found, reflecting the chalk-based sandy habitat. The stone chippings of the old railway form a distinct walk from the Ferry Bridge to The Mere. There are ditches to the west, which allow shelter and produce different habitats. Across from the Beach Centre, two small ditches had 60mm of rainwater from the previous Monday's heavy rain. One of these has the only place where Tufted Hair-grass (*Deschampsia cespitosa*) was seen growing luxuriantly; to the south the long ditch had quite depauperate Common Reed (*Phragmites australis*). Further south, nearer the tank farm, were patches of Shrubby Sea-blite (*Suaeda vera*), a plant in Great Britain usually associated with the East Anglian coast, but found in Dorset in the Poole Basin and at Chesil. The plant is a small evergreen shrub whose fruits wash along the drift lines, germinating the following spring. Also in this ditch is Rock Sea-lavender (*Limonium dodartiforme*) which appears to be found in Great Britain only on the Dorset coast. Stewart *et al.* (1994, 239). Mr J. Pyett considered that the size of this colony has increased over the past three years. Sea Holly (*Eryngium maritimum*) was present on sandy ridges. The plant has been known in the area for over 200 years, but appears to be declining in the county (Bowen 2000). Bare sandy ground had the lichen *Cladonia rangiformis*.

In the afternoon, we looked at the western Chesil Beach area and associated mud and pools. Sea Spurge (*Euphorbia paralis*) was found at its only known Dorset site associated with Rock Samphire (*Crithmum maritimum*) (Stewart *et al.* 1994, 158). The shingle beach also has a compact form of Herb Robert (*Geranium robertianum*) which was quite compact with deep purple stems. Three species of Eelgrass have previously been recorded from the area. The one located by the Beach Information Centre was Narrow-leaved Eelgrass (*Zostera angustifolia*). This western area had maritime pools, mud with Glassworts (*Salicornia* species)

and areas of grass dominated by Curved Hard-grass (*Parapholis incurva*) which were accompanied by Sea Campion (*Silene uniflora*) and Hare's-foot Clover (*Trifolium arvense*). The latter species appears to be confined to the Chesil Bank area in western Dorset.

Gilbert (2001, 409) described the lichen flora of coastal lagoons following a visit to Chesil (SY 635795) in September 2000 accompanied by V.J. Giavarni. Following this visit he, in collaboration with Dr B.J. Coppins, described a new species of lichen *Caloplaca suaedae*. During the meeting, Mr J.A. Newbould collected a few twigs of dead wood from Shrubby Sea-blite located near the Chesil Beach car park and sent these for determination to Mr A. Henderson, University of Leeds. It was not surprising that the lichen *Caloplaca suaedae* was confirmed along with *Xanthoria parietina* and *Lecania cyrtella*, confirming an extension of its range in Dorset. A specimen of the *Caloplaca* from this site has been deposited in the herbarium at DOR.

Although we were not specifically recording birds, the notice board outside the RSPB centre was highlighting a rare visiting Sandpiper, which had been reported on Friday 13 September. Turnstone, Common Tern, Green Sandpiper and Common Sandpiper were amongst the birds present in the area.

#### Field Meeting 28 September 2002

Wareham: The River Frome

In the newly published *Atlas of the British and Irish Flora*, the Wareham 10km square has the highest number of plants recorded in the British Isles. It was difficult to know what to expect at a meeting being organised towards the end of the recording season. Needless to say, some of the more interesting plants were found within the town itself. In pavement cracks we found Shaggy Soldier (*Galinsoga quadriradiata*) and Black Nightshade (*Solanum nigrum*) whilst on a wall opposite the west door of the Church, were 10 plants of Rustyback fern (*Ceterach officinarum*).

Our walk was along the north bank of the river to Swineham Point, returning along the northern path past Swineham Farm. The river bank is lined with reed (*Phragmites australis*) not only in the river but down the bank side to the inner drainage channel to the north. Periodically we were able to obtain access to the drainage ditch, which is quite species-rich compared with the river channel, with water plants such as Nuttalls Pond-weed (*Elodea nuttali*). An adder (*Vipera berus*) was seen taking the afternoon sun, basking on a south-facing hedge bank, as we returned from Swineham Point.

#### Field Meeting 12 September 2002

Arne Nature Reserve and Shipstal Point

With temperatures approaching 17°C in an area which has been well recorded botanically, the small party had a relaxing visit looking for late insects, mammals, birds and vegetation patterns.

The RSPB has done an excellent job removing Rhododendron from the wooded areas. It is a pernicious weed and some small plants still require removal. The plant's acidic residues have left large areas devoid of ground vegetation. The wooded areas are principally Oak and Silver Birch, with Downy Birch in the wet areas. We

counted over 20 Roe Deer (*Capreolus capreolus*) in the woods and in the *Spartina* salt-marsh. The deer seemed quite domesticated and continued grazing whilst we watched from close by.

North-east towards Shipstal Point the bramble and bracken on the woodland edge provided perching points for the Migrant Hawker Dragonfly (*Aesina mixta*) which was present in good numbers. A single female Long-winged Conehead Cricket (*Conocephalus dorsalis*) was found resting on the boardwalk. Over two hundred Oyster-catchers were feeding on the beach of the adjacent Long Island. Turning south at Shipstal Point, Chiff-chaff was heard calling and in the vicinity of the bird hide there were two parties of Long-tailed Tits. In the heathland pools Common Darter Dragonfly (*Sympetrum striolatum*) was present in good numbers. Viewed from the top deck of the hide, the *Spartina* salt-marsh and mud flats held a variety of birds including Curlew, Oyster-catcher, seven Little Egret, two Heron and Bar-tailed Godwit.

The dry autumn has resulted in fewer of the macro fungi being present than would be expected. Two identified were the morel *Morchella esculenta*, characterised by its honeycomb-like pits and the Shaggy Parasol (*Lepiota procerca*).

I am indebted to Mr A. Henderson, The Department of Biology, University of Leeds, for helpful comment and criticism of the preparation of the report and also for the identification of the lichens at the Chesil Beach meeting.

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#### AMPHIBIANS 2001

Robert V. Skinner

**Smooth Newt** *Triturus vulgaris* – L  
(No records received for this species)

**Palmate Newt** *Triturus cristatus* – L

Two small individuals found in leaf litter (Birch and sal-low) on 9 May. Studland Heath NNR – SZ 030836. One very small specimen (this year's hatch?) found on the Dune Trail. East of Crater Pool on 15 October, Studland Heath NNR – SZ 033843 (J.R. Cox).

This species was recorded at Hill View, Leigh, a resident with one acre of meadow/orchard/garden, during 2001 – ST 029082 (John Hinton).

**Great Crested Newt** *Triturus cristatus* – Laurenti

This species as recorded at Hillview, Leigh, during the year 2001 – ST 629082 (John Hinton).

**Common Frog** *Rana temporaria* – L

This species was recorded in a garden during June, July and November, at Bradford Abbas – ST 589144 (Angela Haigh).

Frogs were croaking in a pond in the evening during mild weather on 30 January at 7 Kingsbere Crescent, Dorchester – SY 6989. On 2 February there were more than 20 frogs in the same pond, croaking and thrashing about in the morning and afternoon. On 4 February there were two lots of spawn present. By 14 February there were more than 20 frogs and in the following week there was another 10 clumps of spawn present (E.W. Keats).

The species was recorded at Hillview, Leigh – ST 629082 (John Hinton).

30–40 recorded in a garden pond at 33 Priest's Road, Swanage on 21 January, SZ 022786 (Mrs A.M. Cox). On 31 January, about 120 frogs and 3 batches of spawn were in the same pond. The numbers increased to about 150 frogs and 7–8 batches of spawn on 4 February. By 11 February there were masses of spawn, more than last year but, apparently, fewer frogs (J.R. Cox).

One specimen found in a pond in a garden at 9 Herbert Avenue, Parkstone, Poole, on 22 January–25 August – SZ 056928.

Two found in a rockery in the same garden on 22 August and 4 September. One seen in the garden pond on 23 September – SZ 056928 (Phillip Prestridge).

One found in a puddle on wet heathland, Stoborough on 23 July – SY 942857 (Phillip Prestridge).

Spawn recorded in a garden pond at Robins Garth, Culliford Road, Dorchester, on 7 February – SY 696903 (B.J. Matthews). Spawn also observed in a garden pond at Wye Villa Athelston Road, Dorchester, on 13 February – SY 699902 (N.C. Matthews).

Observations from a garden, which seems to be some way from any garden ponds, revealed more frogs than usual this year, 2001. I watched one very large frog as it hopped across my back lawn in the middle of the day: it seemed to stop for a breather half-way across! I have never witnessed this behaviour before. (Alan Marsh) 50 Filleul Road Sandford Woods, Wareham – SY 9299602. Records have been kept of sightings of frogs at the Norden Park and Ride area, SYT 957828 (Philip Prestridge).

**Common Toad** *Bufo bufo* – L

One immature seen in an urban garden at 9 Herbert Avenue, Parkstone, on 9 August and two immatures seen at the same location between 19–25 August – SZ 056928.

One recorded on 6 October at Cynthia Road Parkstone – SZ 039932.

Specimens were recorded at Norden Park and Ride during the year – SY 957328.

One individual recorded in a small bog to the north-east of the Agglestone at Godlington Heath NNR – SZ 025829 9 (J.R. Cox and group).

A pond by the farmhouse at Fourmeads Farm Litton Cheney, Dorchester, was full of toads. This was the first time in eight years that this has happened (John Danbury).

**REPTILES 2001**

Robert V. Skinner

**Slow worm** *Anguis fragilis* – L

One found dead on a road at Higher Ansty on 14 May – ST 769039 (M.D. Stephens).

Approximately ten individuals were found in compost at Myrtle Cottage, Charlton Marshall during June (Bob Edwards).

One individual was first seen on 30 April at 2 Churchwell Lane, Bradford Abbas – ST 589144 and again in May and August in the same garden location (Angela Haigh).

A blue-spotted male was found on the garden lawn at 41 Bell Street, Herston, Swanage, on 11 May. Another was in a compost heap on 24 May and a third male found again in a compost heap on 19 July.

A very young specimen was found when an old tree stump was being removed on 9 October – SZ 018787 (W.G. Teagle).

One dead individual found in the car park of 'Brace of Pheasants' at Plush on 12 June – ST 714022

One large adult female with a very short tail found under tin in 12 Acre Wood North on 11 April, Studland Heath NNR – SZ 029843. A male was found under tin in Plateau Enclosure, North-end of Little Sea, also on 11 April – SZ 029355. A pale adult was found under tin in the same location 23 April.

This individual was found again under the same tin on 30 April. One adult, pale and tailless and one young adult found on 30 April at 12 Acre Wood North at Bird Hide Clearing – SZ 029842. The same two were found on 6 May and 11 May.

One young adult, dark copper colour found under tin in an area of heath, gorse scrub and brick rubble on 11 May – SZ 025850.

A young adult found in 12 Acre Wood North, the same as the one found on 30 April, same location, date 15 May.

Another individual was seen on 25 May crossing the main track, north of Woodland Walk access – SZ 030837.

Three found under tin in 12-Acre Wood North on 27 May SZ029842.

Three again found on 29 May, again on 30 May and 1 June.

Several specimens found in garden on 4 June at Briants Puddle – SY 820931. On 17 June the same three individuals were found under tin as they were on 27 May earlier. They were still there on 8 and 14 August.

A large adult was found on the garden path at 33 Priest's Road, Swanage, on 14 August.

Another adult was found at 3 Acre Wood coppice (N) Studland Heath NNR on 25 August – SZ 029840.

One specimen found at Townsend (DWT) Reserve on 28 October but long dead – SZ 024781 (J.R. Cox).

The species was present at Hillview, Leigh – ST 629082 (John Hinton).

Records of the species have been kept at Norden Park and Ride area SY 957828 (Philip Prestridge)

**Viviparous or Common Lizard** *Lacerta vivipara* – Jaquin  
One specimen seen in Bere Heath Wood on 20 June – SY 875935 (E.T. and D.A. Levy).

One adult seen near the Woodland Walk entrance on 18 April, area was damp, dune scrub, Studland Heath NNR – SZ 032838.

An adult was seen at Spur Bog W near road verge on 10 August – SZ 026842 (J.R. Cox).

A very dark juvenile was seen in an area of dry heath north of Central Bridleway Quarry on 16 September at Godlingston Heath NNR – SZ 016828 (J.R. Cox and Dick Burt).

Three recorded on Bloxworth Heath Land on 28 September and two at the same location on 8 October – SY 855900. Two were seen on Higher Hyde heathland on 28 September and two in the same area on 8 October – SY 8755900 (Philip Prestidge).

**Sand Lizard** *Lacerta agilis* – L

One individual seen at Godlingston Heath NNR on 13 May on the track between heath and fields, east of Fishing Banks – SZ 021821.

On Studland Heath NNR a yearling was recorded about 50 metres north-east of Woodland Walk entrance on 22 May – SZ 021838. On 1 June, one juvenile was found in a pitfall trap (for beetles) and was released, Spur Heath S – SZ 027844.

Adult female crossed the track from Spur Bog north-east to Spur Heath S on 3 June – SZ 027844 (J.R. Cox).

**Wall Lizard** *Podarcis muralis*

One individual of a pale lime-green colour with chevron markings all down the back was seen at Winspit, near the beach on 11 May. This specimen was about 300mm long – ST 977760 (Ms D. Stephens).

Two specimens were seen at Chene Quarry Portland, in the South Gully and were recorded on video, 3 August – SY 693703 (E.T. and D.A. Levy).

**Grass Snake** *Natrix natrix* – Lacepede

One adult was seen basking on a South facing bank, west of the fences area 'Orchard Bastion' in the Townsend (DWT) Reserve, Swanage, on 20 and 21 May – SZ 023781 (Tony Summers and niece).

A 600mm specimen was observed by old pine logs, east of Curlew Cottage site on 15 May – SZ 026850. Another was recorded crossing a track in a clearing on the edge of a birch wood on 16 September – SZ 029841. Both sightings were on Studland Heath NNR (J.R. Cox).

A dead specimen was found on a road at Lytchett Matravers on 13 May – SY 939958 (Rhiannon Rogers).

This species was recorded during the year at Hill View, Leigh – ST 629082 (John Hinton).

A 450mm long specimen was found in the backyard of 9 East Wyld Road, Weymouth, on 29 August – SY 661792 (Mick Parker).

An individual was seen swimming in the River Allen at Witchampton on 8 May (M.E.J. Booker).

The species was recorded at the Norden Park and Ride area near Corfe Castle during the year – SY 957328 (Philip Prestidge).

**Adder** *Vipera berus* – L

One seen in Yellowham Wood in a conifer plantation on 7 July – SY 730937 (E.T. and D.A. Levy).

A single young female seen in Spur Bog on Studland Heath NNR on 27 May – SZ 026843 (J.R. Cox).

The species was present at the Norden Park and Ride area during the year – SY 957328.

**Smooth Snake** *Coronella austroisica* – Laurenti

The earliest sighting for this species on Godlingston Heath NNR was for an adult found under tin on 13 May – SZ 024824.

A young adult male was found in the dry heath in the Reserve on 17 June – SZ 024834.

One adult under tin and another young adult under another piece of tin north-north-west of Central Bridleway Quarry on 16 September – SZ 017828.

On 21 September two females were found under tin, one 270mm and the other 340mm also under the tin. The area was dry heath and acid bog – SZ 013826 (J.R. Cox).

A 600mm specimen was observed basking on a log in Puddletown Forest, near Hardy's Cottage on 29 May. The colour was brownish-grey with a grid of delicate brown spots – SY 732927 (K.M. Whitworth, 11 Kirkby Avenue, Sale, Manchester M33 3EP).

## MAMMALS

J.A. Stobart

Mammal recording within Dorset has again increased significantly during 2002 with 2165 records received for the year covering 42 species, up from 776 in 2001 and 211 in 2000. The Dorset Environmental Records Centre (DERC) also continued to receive valuable records from the English Nature (EN) bat roost and badger sett database, the Dorset Otter Group's seasonal surveys, the Vincent Wildlife Trust's (VWT) Bryanston reserve and the Durlston Marine Project. DERC also received results from the Dorset Wildlife Trust's (DWT) County Water Vole Survey and the records generated from an EN project to investigate the Dorset distribution of the Bechstein's bat (*Myotis bechsteinii*). Work has also continued on processing the backlog of historical records and a further 907 records have now been added to the database.

The Dorset Bechstein's bat survey was undertaken by Frank Greenaway using a new pioneering survey technique. The technique involves playing a modified recording of one of the Bechstein's bat ultrasonic calls to attract this otherwise elusive bat into mist nets. A total of 13 likely looking woodlands were surveyed in this way with remarkable results. The survey found the nationally rare Bechstein's bat in 4 new locations with pregnant females, indicating the presence of a maternity colony, caught in 3 locations in the Powerstock and Melcombe Bingham areas. Not a bad result considering that before the work was undertaken only 7 maternity colonies were known from the whole of the country. Even less expected were Frank's discovery of barbastelle bat (*Barbastella barbastellus*), another national rarity, in three of the sites surveyed, with pregnant females being recorded in two: Piddles Wood and in woodland near Winterborne Houghton. It is thought likely that both sites support maternity roosts and if these can be located it would be a first for Dorset. Another 9 bat species were also recorded by the survey including common pipistrelle (*Pipistrellus pipistrellus*) (in 12 sites), soprano pipistrelle (*Pipistrellus pygmaeus*) (10 sites), brown long-eared bat (*Plecotus auritus*) (9 sites), whiskered bat (*Myotis mystacinus*) (8 sites), noctule (*Nyctalus noctula*) (6 sites),

Natterer's bat (*Myotis nattereri*) (4 sites), Daubenton's bat (*Myotis daubentonii*) (3 sites), serotine (*Eptesicus serotinus*) (2 sites) and Brandt's bats (*Myotis brandtii*) (1 site).

The Bechstein's maternity roost in the DWT Brackett's Coppice reserve remained at a similar size as in 2001, with 60 adult females producing some 30 juveniles. The oldest ringed individuals in the colony are now at least 7 years old. The VWT also reported a single male Bechstein's bat from Garston Wood RSPB reserve, Chase Wood and the Duncliffe Woodland Trust reserve. It is increasing clear that this extremely rare bat is well distributed within the county.

More good news came from Colin Morris (VWT) who reported that the greater horseshoe bat (GHB) (*Rhinolophus ferrumequinum*) colony at Bryanston had had its most successful year with 140 adults producing 63 juveniles. Colin puts the success of the colony down to a strict policy of non-interference during the breeding season. Bryanston also continues to improve as a hibernaculum with 9 barbastelle bats, 1 grey long-eared bat (GLB) and, in March, two lesser horseshoe bats (*Rhinolophus hipposideros*) (LHB) joining the greater horseshoes. Common pipistrelle, soprano pipistrelle, serotine and Natterer's bat were also reported.

Elsewhere, Pete Banfield recorded maximum counts of 4 GHBs and 11 LHBs at a hibernaculum in Holnest, Stephanie Fry reported that a GLB was found at the Dorchester County Hospital and Brian Moore reported a LHB killed by a cat in Netherbury.

The 2001/02 Dorset Water Vole (*Arvicola terrestris*) Survey, a repeat of the 1996/97 county survey, has now been completed and has produced some unexpected results. Although reported as continuing to decline throughout much of the UK, the population in Dorset seems to be holding its own. The survey monitored 233 sites across Dorset and found 91 (39.1%) positive, compared to only 33.9% in 1996/97. Substantial gains were noted on the River Frome particularly in the upper catchment, the upper Stour, with colonies found for the first time on the Key Brook and Caundle Brook and in West Dorset, where new populations were found on the River Bride and the River Char. However, the water vole population on the chalk tributaries of the River Stour appear to have remained stable or slightly decreased. The 2001/02 survey also produced 32 otter (*Lutra lutra*) records and 12 mink (*Mustela vison*) records. These results contrast markedly with those from the 1996/97 survey, which produced only 14 otter records and 30 mink records. Bronwen Bruce, DWT Conservation Officer and author of the survey report, suggests that the increase in the water vole population may be attributed to a decline in American mink caused by competition with the recovering otter population.

Throughout the year the Dorset Otter Group continued with their seasonal surveys and now has a dataset going back 5 years to 1998. The latest results show that in 2002 of the 910 surveys undertaken 207 (22.7%) were positive; in 1998 only 11.6% were positive. It is hoped that in forthcoming years the Dorset otter population will be able to maintain this healthy rate of recovery. On the downside the Environment Agency (EA) also reported that in 2002 seven otters (5 adult males and 2 cubs) were found dead in Dorset, including a particularly sad record of a male otter and two cubs found drowned in a single illegal fyke net on the River Stour near Wimborne Minster. The EA have used

the case to publicise the need for fitting otter guards on these types of nets.

The DWT has also now launched a major countywide survey of brown hares (*Lepus capensis*). The survey, funded by the Mammals Trust UK and English Nature, aims to generate brown hare records through a combination of vantage point surveys to be conducted during 2003 and requests for sightings from the general public. The pre-publicity for the survey has ensured it has got off to a great start with 99 new records of brown hare received during 2002. For more information about the 'Tracking the Dorset Hare' project visit the DWT website ([www.wildlifetrust.org.uk/dorset/](http://www.wildlifetrust.org.uk/dorset/)).

After two successful years the Brownsea Island red squirrel (*Sciurus vulgaris*) population had a relatively poor year with Maureen Taylor of the National Trust reporting a peak monthly count of only 120 in September, compared to 298 in September 2001. Maureen puts this decline down to late spring wet weather, as the numbers in March were still relatively high.

A number of dormouse (*Muscardinus avellanarius*) recorders are now using the new dormouse nesting tubes with some exciting results. The tubes are cheaper and can be used more easily in a wider range of habitats than the traditional dormouse nest box. Sue Eden reports that dormice seem to prefer the tubes to boxes in scrub and hedgerow habitats. For example, tubes have out-performed nest boxes in the coastal blackthorn scrub at West Bexington. In hedgerows near Holnest, 5 tubes attracted 2 dormice in just 4 months whereas 12 boxes in the same hedge had previously only been used once by dormice since 1999. Sue suggests that the preference for tubes in these habitats may at least partly reflect competition with wood mice (*Apodemus sylvaticus*). Sue Eden and Jan Crowden also had the Dorset Dormouse Group reaching for their hand lenses when they presented evidence of dormice opening sloe stones. Although tiny, the holes produced have exactly the same characteristics as the holes dormice produce in hazel nuts.

The Durlston Marine Project has continued to lead on the monitoring of marine mammals off Dorset's coast. Jo Wharham reports that in 2002 there were 153 Dorset sightings of bottle nosed dolphin (*Tursiops truncatus*); of these 283 were of adults and 9 of juveniles. Other sightings included harbour porpoise (*Phocoena phocoena*), long-finned pilot whale (*Globicephala melas*), common dolphin (*Delphinus delphis*) and grey seal. However, the highlight was a minke whale (*Balaenoptera acutorostrata*) that got stranded in Portland Harbour. Although the whale eventually swam away it was in poor condition and it is not thought likely to have survived. There were also a total of 34 dead strandings including 5 harbour porpoise, 13 common dolphin, 1 striped dolphin (*Stenella coeruleoalba*) and 1 pilot whale, the rest being recorded as unidentified dolphin species. Worryingly, post mortems found that the most common cause of death was bycatch.

In addition to the records already mentioned in this report the following were also recorded during 2002: hedgehog (*Erinaceus europaeus*) (69 records), mole (*Talpa europaea*) (537 records), common shrew (*Sorex araneus*) (6 records), pygmy shrew (*Sorex minutus*) (9 records), water shrew (*Neomys fodiens*) (4 records), rabbit (*Oryctolagus cuniculus*) (286 records), red squirrel (6 records), grey squirrel (*Sciurus carolinensis*) (166 records), bank vole

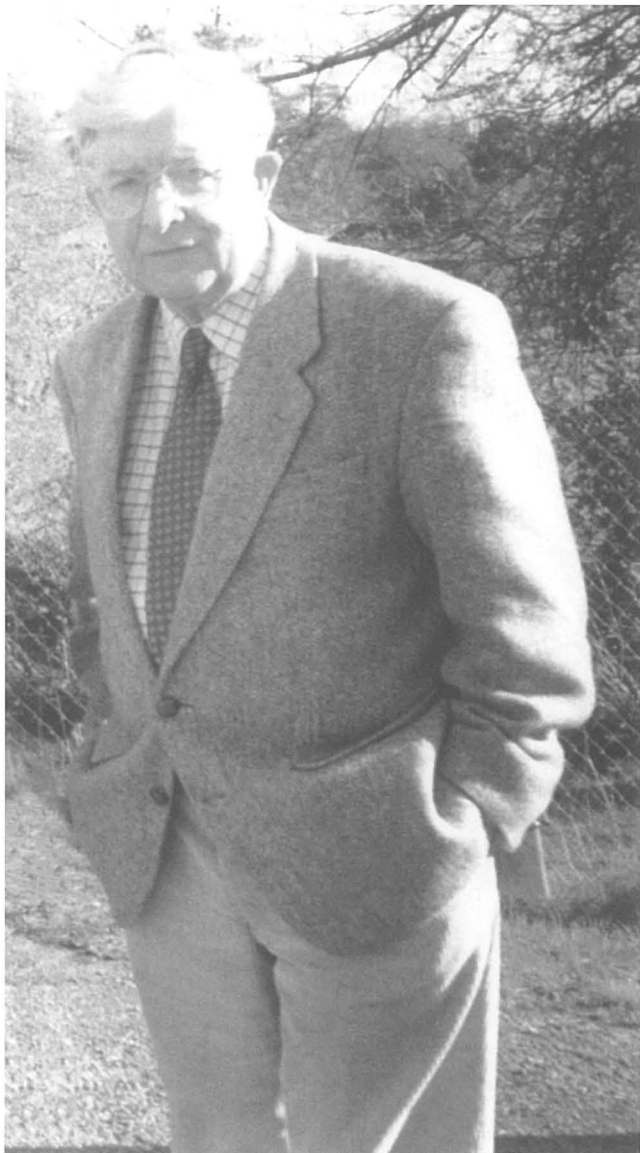
(*Clethrionomys glareolus*) (13 records), field vole (*Microtus agrestis*) (3 records), water vole (12 records), wood mouse (33 records), harvest mouse (*Micromys minutus*) (2 records), house mouse (*Mus musculus*) (4 records), brown rat (*Rattus norvegicus*) (36 records), dormouse (32 records), fox (*Vulpes vulpes*) (188 records), stoat (*Mustela erminea*) (34 records), weasel (*Mustela nivalis*) (17 records), Polecat-ferret (*Mustela putorius x furo*) (3 records), mink (4 records), badger (*Meles meles*) (202 records), otter (7 records), sika deer (*Cervus nippon*) (50 records), fallow deer (*Dama dama*) (33 records),

roe deer (*Capreolus capreolus*) (240 records), muntjac (*Muntiacus reevesi*) (1 record) and wild boar (*Sus scrofa*) (5 records).

Dorset mammal records can be submitted to me c/o English Nature, Slepe Farm, Arne, Wareham, BH20 5BN or via email to [John@country-side.freeserve.co.uk](mailto:John@country-side.freeserve.co.uk). With each record please provide your name, a six-figure or four-figure grid reference, the locality name and record notes (e.g. number of individuals, tracks and signs, frequency seen in locality etc.).

## Obituaries

### MICHAEL ROBERT HOUSE, 1930–2002



*Michael Robert House*

Michael was born in Blandford in 1930 but within two years his family had moved to Wyke Regis, Weymouth, partly because the sea-air was recommended for Michael's childhood asthma, which troubled him till he was 14. His unusual intelligence showed at school where the geography master, J. Morgan, helped and encouraged him in the search fossils. In 1947 the Geological Survey published the remarkable memoir by W.J. Arkell on 'geology in the country around Weymouth, Swanage, Corfe and Lulworth' which Morgan showed to Michael. In September 1949 he bought himself his own copy, but he was already finding features which are no more than mentioned in the memoir, such as the amazing Basal Shell Bed at the bottom of the Portland Stone, exposed as Chesil Beach. But

Arkell's memoir also introduced him to the tectonics of south Dorset, possibly the most complex of any Mesozoic area in Britain.

After service in the army, Michael House went up to Downing College, Cambridge, in October 1951. Here he was able to meet Arkell himself. Arkell was a shy man who responded to enthusiasm in others, whatever their age or status. He helped Michael enormously, quickly recognising Michael's abilities.

With the encouragement of Arkell and the help of W.B.R. King, the influential head of the geology department at Cambridge, House became a lecturer at Durham University. Here he started research for a PhD on Devonian ammonoids. He lived in the university building which had been the castle, so that he already had the prestigious address, 'The Castle', Durham, where I recall having breakfast with him, just the two of us in the grand hall.

Although the geology of the Devonian system was the main interest of House's professional career through the universities of Durham, Oxford, Hull and Southampton, he never lost an active interest in the geology of Dorset which was his birthplace and where he eventually retired and died. He published on the Red Nodule Beds at the top of the Oxford Clay, on calcareous algae in the Purbeck Beds, a revised map of the Fullers Earth outcrop (he loved mapping), and for many years an update of geological research in Dorset which appeared in our *Proceedings*. His most original contributions were on the tectonics: the structure of the Weymouth anticline in 1961, and the Sutton Poyntz, Poxwell and Chaldon Herring anticlines in 1974. Interestingly, his ideas are now accepted as the best interpretation of these structures. All his Dorset work was summarised in the Geologists' Association Guide, *Geology of the Dorset Coast* (2nd edition 1989), which is as much a research report as a guide to the area.

House was not in favour of declaring the Dorset coast a World Heritage Site. Any advantages there might be would be outweighed by limitations placed on visitors actually being able to study the geology freely. He had seen what 'protection' could do in the Canning Basin in Australia, where geologists are no longer allowed to collect even lithological specimens.

In the world of universities and scientific societies, House will be remembered for his quiet efficiency and leadership: for many years he was head of the geology department at the University of Hull, where he was a successful Pro-Vice Chancellor. At various times he was President of the Yorkshire Geographical Society, the Palaeontological Association, Section C of the British Association, the Palaeontographical Society, and the International subcommission on the Devonian System.

In the general word of geology, Michael House will be remembered for his contributions to our knowledge of the Devonian system: and particularly for its cyclostratigraphy based on astronomical causes. For Dorset geology he will be remembered for his ability to see the whole picture garnered from all the details. For those of us who knew him — and if you were interested in geology you soon met him — he will be remembered for the enthusiastic help he gave everyone. He encouraged us not just to follow what had been done before, but to study the geology for ourselves, and to carry our observations right through to publication.

Michael House was very much a family man and leaves a widow, Felicity. His daughter, Sue and son Jim, carry on his tradition of research, albeit in other fields.

Jake Hancock

I would like to pay a personal tribute to Professor Michael House who served as Geology Editor from 1989 until his death. He was a regular and assiduous member of the Editorial Committee and always a wise and supportive colleague. The care and encouragement which he gave to many geologists writing for these *Proceedings* will be sorely missed.

Ed.

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# Editorial Policy and Style Guide

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The *Proceedings of the Dorset Natural History and Archaeological Society* is an annual journal issued in June each year which publishes papers on the geology, natural history, archaeology, history, fine art and cognate subjects relating to Dorset.

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