

The identification of archaeological evidence for hawking in medieval England

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Abstract. This paper examines the archaeozoological evidence for hawking in Medieval England between AD 600 and 1600. It will initially survey the incidence of skeletal remains of those species closely associated with hawking during the medieval period, namely the short winged hawks, the Goshawk and Sparrowhawk, and the long winged hawks, such as the Peregrine Falcon, Kestrel and Gyrfalcon. By using criteria such as the nature of the deposition of the skeletal remains, environmental factors and by assessing the incidence of other wild species within the faunal assemblage, this paper demonstrates that in most cases a determination of wild or captive status is possible. These findings provide evidence for the widespread use of hawking birds, especially the Sparrowhawk and the Goshawk in medieval England across the whole period under consideration. Furthermore, the distribution of archaeozoological evidence is also indicative of the status of falconry as a pursuit of those with means, with manors and castles representing a third of all sites and in general these deposits contain the remains of a greater number of birds. What is perhaps more surprising is the high numbers of trained birds recovered from urban contexts, although it should be noted that a number of the urban deposits, such as the Bedern, York and those in Southampton, are associated with high status sites.

Key words: falconry, hawking, Acciptridae, Falconidae, Medieval.

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I. INTRODUCTION

Hawking or falconry is the pursuit and capture of birds and small mammals by trained birds of prey (PRUMMEL 1997: 333). Its origins are unclear, but from its introduction into Europe from Asia in the third and fourth centuries AD (PRUMMEL 1997: 335), it rose to become one of the great field sports of the medieval period (STEANE 1993: 152). Emperor Frederick II claimed in his 11th century book "Concerning the art of hunting with birds" that falconry was more noble than other forms of hunting because of the difficulty in acquiring the necessary skills. Unlike the pursuit of deer, hawking was not the sole preserve of the nobility being accessible to those lower down in the social strata, providing they had sufficient resources (GRANT 1988: 180). However, this in effect prevented ownership of hunting birds by the poor, who had neither the resources to afford to keep a bird which served no utilitarian purpose, nor the time to train and care for such a bird. Even among those who

could afford to keep trained birds, social position was expressed by the hierarchy of the birds themselves, as expressed in “The Boke of St Albans”, c. 1486;

“An eagle for an Emperor, a gyrfalcon for a King,
a peregrine for a prince, a saker for a knight,
a Merlin for a Lady, a goshawk for a yeoman,
a sparrow-hawk for a priest, a musket for a holy water clerk,
a kestrel for a knave”.

The Peregrine Falcon and Gyrfalcon, considered the noblest of hunting birds, were reserved for the nobility, while lesser birds such as the Goshawk and Sparrowhawk were deemed suitable for those of lower status such as priests and yeomen (GRANT 1988: 180).

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II. ARCHAEOLOGICAL EVIDENCE FOR FALCONRY IN MEDIEVAL ENGLAND

This paper aims to examine the archaeological evidence for hawking in Medieval England between AD 500 and 1600 and will focus primarily on archaeozoological material. This is not to detract from the value of finds of hawking equipment, such as the hawk rings recovered from Heddingham Castle and Bigglewade (STEANE 1993:155), which provide the most unequivocal type of archaeological evidence for hawking (PRUMMEL 1997: 335). However, the small size of many items of falconry equipment combined with the fact that a number are made of leather, which often decays in archaeological deposits, makes such survivals rare and this serves to limit their use in any type of archaeological survey. A far more frequent archaeological indicator for the practice of hawking is provided by the skeletal remains of the trained birds themselves. Table I summarises the results of a survey of hawk bones found on English Medieval sites compiled from review articles and excavation reports (see also Fig. 1). Data was collected only for those species closely associated with hawking during the medieval period, namely the short winged hawks, the Goshawk *Accipiter gentilis* (LINNAEUS, 1758) and Sparrowhawk *Accipter nisus* (LINNAEUS, 1758), and the long winged hawks, such as the Peregrine Falcon *Falco peregrinus* TUNSTALL, 1771, Kestrel *Falco tinnunculus* LINNAEUS, 1758, and Gyrfalcon *Falco rusticolus* LINNAEUS, 1758, (PRUMMEL 1997: 333). Other raptor species, such as the Red Kite *Milvus milvus* (LINNAEUS, 1758), Buzzard *Buteo* spp and White-tailed Eagle *Haliaeetus albicilla* (LINNAEUS, 1758), are relatively common within the archaeological record, but are rarely if ever used in hawking and are known to be scavengers in human settlements (MULKEEN & O’CONNOR 1997: 443). It should be noted that the results of the survey is not intended to be a comprehensive listing of every example of Falconidae and Accipitridae in the archaeological record in England, but rather a means of illustrating the nature of the archaeozoological evidence.

III. CAPTIVE TRAINED BIRDS OR WILD SPECIES?

While the recovery of hawk bones confirms the existence of these species it is necessary to consider in what capacity the birds were present. Are these the remains of trained birds involved in field sports or are they wild? While this question can perhaps never be resolved with absolute certainty, certain sources of evidence provide the means of resolving this question with a degree of confidence.

Table I

Examples of skeletons of raptor species associated with falconry in the archaeological record

Type of site	Site	Period	Raptor species	Type of deposit	Reference
Manors and Castles	Facombe Netherton Hampshire (Rural manor)	c. AD 980-1070 c. AD 1070-1280 c. 1160-1180	Goshawk Goshawk Sparrowhawk, Goshawk, Peregrine Falcon	Partial skeleton Single bone 3 almost complete skeletons in a pit	SADLER (1990)
	Porchester Castle	c. 1100-1200	Sparrowhawk Goshawk	Single bone Series of matched limb bones from single skeleton Single bone	EASTHAM (1977)
		c. 1200-1300	Goshawk		
	Middleton Stoney (Rural manor)	12 th to early 13 th century	Sparrowhawk	Almost complete skeleton	LEVITAN (1984)
	Castle Rising Castle, Norfolk	12 th -15 th century	Sparrowhawk Goshawk Peregrine Falcon	2 bones 2 bones Partial skeleton	JONES (1997)
	West Cotton, Northamptonshire (Rural manor)	c. AD 1250-1400	Sparrowhawk	Single bone	ALBARELLA & DAVIS (1994)
Baynards Castle, London	c. 1500	Sparrowhawk, Peregrine Falcon	N/A	BRAMWELL (1975a)	
Ecclesiastical Sites	Linacre Gardens, Canterbury	c. late 11 th century	Sparrowhawk	6 limb bones	DRIVER et al. (1990)
	Bedern, York	Mid-13 th to 14 th century	Sparrowhawk, Goshawk	N/A	BOND & O'CONNOR (1999)
	St. Gregory's Priory, Canterbury	15 th –early 16 th century	Kestrel	Partial skeleton	POWELL et al. (in press)
Urban sites	Ipswich (wic site)	Middle Saxon	Goshawk	Single bone	JONES & SERJEANTSON (1983)
	Castle Mall, Norwich	c. 11 th century	Goshawk	Partial skeleton	ALBARELLA et al. (1997)
	Exeter	12 th century	Sparrowhawks	2 partial skeletons	MALBY (1979)
	Coppergate, York	12 th century	Sparrowhawk	N/A	BOND & O'CONNOR (1999)
	Southampton	13 th century	3 Sparrowhawks	N/A	BRAMWELL (1975b)
	Winchester	13-15 th century	Gyr Falcon	Partial skeleton	COY (in press)
	Flaxengate, Linoln	c. AD 850-1500	Goshawk, Peregrine Falcon	N/A	O'CONNOR (1982)
	Closegate, Newcastle	15 th -16 th century	Sparrowhawk	Single bone	DAVIS (1991)
Rural settlements	Brandon, Suffolk	c. AD 650-900	Peregrine Falcon	Partial skeleton	CRABTREE (1996)
	Wraysbury, Berkshire	c. AD 600-900	Goshawk	Single bone	COY (1987)



Fig. 1. Location of sites mentioned in the text.

For the purposes of identifying the trained birds among those listed in Table I, an important consideration is whether the species would be expected to occur naturally in the environment in which it was found. Clearly any non-native species, such as the Gyrfalcon recovered from a late medieval deposit in Winchester, unquestionably represents a bird imported for falconry, probably a great cost from Scandinavia or Iceland (COY in press). When considering those domestic species trained for hawking, it becomes necessary to consider their ecological requirements and patterns of behaviour. The two most common potential falconer's birds, the Goshawk and Sparrowhawk, are specialists hunters, usually of other birds, which require sufficient cover in the form of trees or scrub to be able to ambush their prey (MULKEEN & O'CONNOR 1997: 442). This hunting behaviour, combined with lack of any recorded predisposition towards carrion, makes both species ill suited to urban environments and implies that the remains of either species within an urban context are most probably the result of human activities. This would suggest that the majority of both Goshawk and Sparrowhawk bones from the urban contexts listed in Table I represent the remains of falconer's birds.

With falcons, excluding the Gyrfalcon discussed earlier, the situation is more complex with both the Peregrine Falcon and Kestrel being common sights in modern town centres, a testament to the adaptability of both species to the urban environment (MULKEEN & O'CONNOR 1997: 442). How-

ever, the movement of the Peregrine Falcon into the urban environment has only occurred in areas where there were suitable cliff roosting and nesting sites, such as office blocks, which would have been less readily available in most medieval urban centres (MULKEEN & O'CONNOR 1997: 446). This again would suggest that most Peregrine Falcon remains from urban contexts, such as those from Lincoln (O'CONNOR 1982: 44) and Baynards Castle (BRAMWELL 1975: 16) listed in Table I, represent trained birds. However, the ease with which this species' hunting style can be adapted to suit the urban environment means the possibility of wild individuals being drawn to the towns from nearby mountains or sea cliffs by high urban concentrations of prey must always be considered (MULKEEN & O'CONNOR 1997: 442). Fortunately, in both of the above cases there is no evidence of a suitable nesting habitats for some considerable distance (MULKEEN & O'CONNOR 1997: 446). Of all the trained birds of prey, both the behaviour and the ecological niche occupied by the Kestrel make it the best equipped to adapt to the urban environment as can be seen by the species' colonisation of modern towns (MULKEEN & O'CONNOR 1997: 442). As such, a much higher incidence of the species within medieval deposits would be expected among the evidence collected during this study than the single example from St. Gregory's Priory, Canterbury (SERJEANTSON in press). This suggests that the species' adaptation to the urban environment may represent a recent development or that changes in the populations densities of different raptor species have allowed the Kestrel to move into habitats from which it had been previously excluded by competition (MULKEEN & O'CONNOR 1997: 446). The rarity of Kestrel remains within medieval archaeological deposits also means the remains from St Gregory are highly likely to represent a captive, trained bird.

While a consideration of the behaviour and natural habitat of a species often is of great benefit in distinguishing between wild and trained birds especially within urban contexts, it is often of less use when considering remains from rural contexts. The specific nesting and roosting requirements of the Peregrine Falcon are sufficiently specialised to often exclude it from the vast majority of rural as well as urban contexts. The Peregrine Falcon remains found at the middle Saxon rural site of Brandon are believed to represent a trained hawking bird because the species' natural habitat of sea-cliffs and upland areas is absent in the surrounding region (CRABTREE 1996:72). However, the environmental requirements of other species associated with hawking, such as the Sparrowhawk, Goshawk and Kestrel, are less specific and can rarely be used as a means of identifying captive species found in rural contexts. In these cases, it becomes necessary to use other criteria, such as the differences in the deposition of the skeletal remains, to distinguish between wild and trained individuals (MULKEEN & O'CONNOR 1997: 445).

Occasionally, the remains of birds of prey are found incorporated within human funerary deposits (ALBARELLA et al. 1997: 51), and these most probably represent captive birds of prey that were buried or cremated with their owners (PRUMMEL 1997: 335). However, while there are a number of such examples from 5th to 7th century German inhumations and 6th to 9th century Swedish cremations, all the remains identified in this survey seem to represent the more usual means of disposing of the remains of a dead bird, with other forms of refuse on waste tips or in rubbish pits (ALBARELLA et al. 1997: 51).

Variations in skeletal representation within the archaeological deposit can also be used to identify captive birds. Often the remains of known scavenger species, such as the Red Kite, are represented by single bones within the archaeological record, which contrasts markedly with the number of complete or partial skeletons of Goshawks, Sparrowhawks and Peregrine Falcons recovered, as illustrated in Table I. This is strongly indicative of human involvement in the disposal of the skeleton, particularly when the remains of the bird are found in rubbish pits, as in Southampton (PLATT & COLEMAN-SMITH 1975: 338). The evidence for hawking is further strengthened when a deposit contains the skeletons of more than one trained bird, such the virtually complete skeletons of a Goshawk, a Sparrowhawk and a Peregrine Falcon which were recovered from a single pit at Facombe Netherton (SADLER 1990: 505). The presence of these three different species, which normally occupy different ecological niches, within a single deposit provides strong evidence for the practice of falconry at the manor.

In a few cases, such as at Facombe Netherton, additional osteological evidence for hawking may be present in the form of the pathological changes as observed in two of the Goshawks skeletons from the manor. One female Goshawk had slight exostoses on the left tarsometatarsus thought to be the result of trauma, possibly caused by jesses (SADLER 1990: 505). Another Goshawk exhibited what SADLER (1990: 505) describes as a possible false joint forming on the dorsal end of the left coracoid. This is a type of injury is occasionally seen among modern birds of prey and is generally the result of chasing prey. The break in the bone was well healed and the bird must have been kept for some time despite being handicapped. Another type of osteological evidence, which can be of use when trying to distinguish between captive and wild Goshawks and Sparrowhawks, is the ratio between the sexes. In both of these species the female is larger than the male and is considered better at bringing down larger prey (PRUMMEL 1997: 336). The preponderance of the remains of female birds at the Slavonic stronghold at Oldenberg, Germany is highly suggestive of the practice of hawking. However, this particular source of evidence would appear to have a limited application to the material from medieval England as finds of Sparrowhawks and Goshawks have so far been limited to at most five individuals from any single site, as can be seen in Table I. However, it would have been of interest to examine the ratio of male to female birds identified in this survey. Unfortunately information on the sex of the individual birds is lacking for all sites bar Southampton and Facombe Netherton, making such analysis impossible.

A final source of evidence for hawking lies in the remains of the game caught by trained birds. The quarry of wild Sparrowhawks and Goshawks mainly comprise small and medium bird species, such as sparrows *Passer* spp., larks *Alauda arvensis*, thrushes *Turdus* spp., Starlings *Sturnus vulgaris* and pigeons *Columba* spp., with in the case of the Sparrowhawk some mice species (PRUMMEL 1997: 336). Evidence from pre-nineteenth century references suggests that large birds, such as Grey Heron *Ardea cinerea*, goose *Anser* spp. and *Branta* spp., and Crane *Grus grus*, were considered suitable prey for a trained Goshawk. In addition evidence from literature of nineteenth and twentieth centuries list hare *Lepus capensis* and rabbit *Oryctolagus cuniculus*, as well as a number of species of ducks, Partridges *Perdix perdix* and Pheasants *Phasianus colchicus* as common prey for the Goshawk. These sources also provide evidence for the use of the trained Sparrowhawks in the capture of Partridge and Pheasant, both species much larger than the bird's natural prey in the wild. The presence of the wild species listed above when found in association with the remains of trained hawks, as in those sites listed in Table II, serve to strengthen the case for the practice of hawking at those locations. While in theory it may be possible to use the composition of faunal assemblages to distinguish between the hunting activities of wild and captive hawks (PRUMMEL 1997: 337), such an approach requires an exceptional large sample of wild species remains found in association with the remains of trained hawks. In addition, any results would need to be interpreted with caution due to the considerable overlap between the types of wild and captive quarry and the possibility of both chronological and geographical variations in species availability. Furthermore, even the simple presence of the quarry of trained hawks should not be seen as absolute proof for the occurrence of hawking as there are many other ways to capture such species, including nets, snares, traps and the use of bow and arrows (PRUMMEL 1997: 337). Also by the later medieval period many wild species could be purchased in urban centres as clearly demonstrated by a law suit in Winchester of 1412, which refers to the sale of Woodcocks *Scolopax rusticola*, Partridge, Pheasant, plovers *Pluvialis* spp. and many other bird species as well as rabbits *Oryctolagus cuniculus*, trout *Salmo trutta* and eels *Anguilla anguilla* (COY, in press). As such, the possibility that many of the wild species could be the product of the local market, and not hawking, must be considered when looking at late medieval urban sites, such as the Bedern, Baynards Castle and those in Southampton listed in Table II. Finally it should be noted that while the presence of the remains of game may strengthen the case for the practice of hawking, most of the hawk remains listed in Table I were not found in association with any prey species. This in most cases is not a reflection of the hawk's status, wild or captive, or even the bird's efficiency in the capture of prey, but rather differences in disposal between food and non-food species. Trained birds of prey are not usually eaten by humans (PRUMMEL 1997: 336), and the disposal of their remains may have differed markedly from those of their prey, which formed part of the human diet.

Table II

Prey species present at selected sites (references for sites are given in Table I)

Site and period	Species associated with falconry present	Mammals	Duck	Crane, heron, spoonbills and waders	Galliforms other than fowl	Pigeons	Passerines
Southampton Pit 14 – late 13 th century	2 Sparrowhawks	Rabbit	Teal and other unspecified duck species	Woodcock, Curlew, Lapwing	–	–	
Baynards Castle c.1500	Sparrowhawk	N/A	Teal, Wigeon, Garganey, Mallard/Pintail, Shoveler, Pochard, Red-breasted Merganser & other unidentified duck species	Grey Heron, Curlew, Woodcock, Golden Plover, Grey Plover, Turnstone, Red Shank, Green Shank, Snipe, Lapwing	Partridge, Pheasant	Wood Pigeon, Stock Dove, Rock/Domestic Dove	Fieldfare, Song Thrush, Blackbird
Castle Rising Castle 12 th -15 th century	Sparrowhawk, Goshawk, Peregrine Falcon	Hare, Rabbit	Mallard, Wigeon, Teal, Garganey	Green Heron, Crane, Spoonbill, Golden Plover, Curlew, Woodcock, Moorhen, Oystercatcher, Whimbrel, Knot	Partridge, Pheasant	Woodpigeon, Rock Dove.	Song Thrush, Blackbird, Redwing.
Bedern Mid 13 th to late 14 th century	Sparrowhawk, Goshawk	Squirrel, Hare	Mallard, Teal & other unidentified duck species	Plover, Woodcock and & other unidentified waders	Partridge, Grouse, Pheasant	–	Thrush

IV. CONCLUSIONS

The central issue when trying to identify falconry in the archaeological record using skeletal evidence is not the initial identification of the bird of prey, but rather in determining whether the skeletal remains are of a wild or captive bird. This paper has demonstrated that in most cases a determination of status is possible by a consideration of the deposition of the skeletal remains, environmental factors and by assessing other incidence of other wild species within the faunal assemblage. Of the nineteen sites listed in Table I, only in cases of the single Goshawk bone from Wraysbury and the single Sparrowhawk bone from West Cotton is a determination of status problematic. Based on the criteria discussed above, the hawk remains from the other sites can be said to represent trained birds. These sites in turn provide evidence for the widespread use of hawking birds, especially the Sparrowhawk and the Goshawk, the birds of the yeoman and the priest according to the “Boke of St. Alban”. The distribution of evidence is also indicative of the status of falconry as a pursuit of those with means, with manors and castles representing a third of the sites and in general these deposits contain the remains of a greater number of birds. What is perhaps more surprising is the high numbers of trained birds recovered from urban contexts, although it should be noted that a number of the urban deposits, such as the Bedern, York and those in Southampton, are

associated with high status sites. Finally, while this study based on published records and secondary sources has uncovered substantial evidence for hawking during the medieval period, this work forms in reality only relatively superficial enquiry and there is a need for the skeletal analysis of the remains of both trained birds and the faunal assemblages associated with them to do the subject justice.

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