

## **Applying knowledge of species-typical scavenging behavior to the search and recovery of mammalian skeletal remains**

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**ABSTRACT**

Forensic investigations involving animal scavenging of human remains require a physical search of the scene and surrounding areas. However, there is currently no standard procedure in the U.K. for physical searches of scavenged human remains. The Winthrop and grid search methods used by police specialist searchers for scavenged remains were examined through the use of mock red fox (*Vulpes vulpes*) scatter scenes. Forty-two police specialist searchers from two different regions within the U.K. were divided between those briefed and not briefed with fox-typical scavenging information. Briefing searchers with scavenging information significantly affected the recovery of scattered bones ( $\chi^2= 11.45$ ,  $df= 1$ ,  $p=.001$ ). Searchers briefed with scavenging information were 2.05 times more likely to recover bones. Adaptions to search methods used by searchers were evident on a regional level, such that searchers more accustomed to a peri-urban to rural region recovered a higher percentage of scattered bones (58.33 %,  $n=84$ ).

**Keywords: Forensic science; Forensic archaeology; Crime Scene Investigation; Scavenging; Physical search; Police; Red fox**

The scavenging, disarticulation, removal, and scattering of human remains by mammalian and avian scavengers can affect the search and recovery efforts of forensic professionals (1-10). Currently in the U.K., there are no standard search protocols regarding the search for scavenged or scattered human remains (11-12). Senior investigating officers (SIOs) and police specialist searchers involved in the design and implementation of physical searches are not knowledgeable in the species-typical scavenging behavior and scatter patterns or scavenger-induced alteration to human remains, as evident by a study by Young *et al.* (13) and further emphasised by the National Search Adviser, C. Hope (personal communication, 09 May 2013). Nevertheless, Young *et al.* (1,6,13) showed that scavenging within this region does occur and can affect physical searches. Fifty-three point thirty-three percent of 90 U.K. police specialist searchers were found to have participated in searches for scavenged human remains (13). Likewise, search efforts were impacted by scavenging and scattering, such that 80.43% of 92 searchers had participated in a search that did not result in the recovery of a whole set of human remains, even with the assistance of cadaver dogs (13). Young *et al.* (13) has also shown that where SIOs and searchers have knowledge of scavenging in this region it is subjective, undervalued, based on potentially incorrect anecdotal evidence, or limited due to a gap in region- and species-specific forensic and archaeological literature (14-18), as well as poor access to academic research. This gap in scavenger knowledge leaves investigators and police specialist searchers at a disadvantage when faced with a crime scene involving suspected scavenging. Thus, police search advisers (PoSAs) are limited in advising SIOs and informing search team members on the design and execution of a search strategy and methods for locating scavenged and/or scattered human remains. Similarly, SIOs, PoSAs, and other specialist searchers are unaware of what resources and expert advice is available to aid in the search of scavenged remains.

Crime scenes at which scavenging has occurred require a thorough physical search of the scene and surrounding area in an effort to recover skeletal remains for the purposes of identifying the deceased, the assessment of trauma, establishing manner of death,

interpreting the post-mortem interval (PMI), the interpretation of the deposition site, and any third party involvement (2-4,6,8-10,19-24). Within forensic investigations, the standard procedure is for a forensic examination to be conducted prior to a physical search so that forensic evidence at a scene, such as blood, is not contaminated during a search (12). However, a physical search may occur before a forensic examination if the priority is to search for a deposition site and not the victim or other evidence (12). A forensic examination is developed by the SIO in conjunction with the crime scene manager (CSM) and crime scene coordinator (CSC), which is then carried out by scene of crime officers (SOCOs) who will record, photograph, recover and sample evidence (12,25) . The search strategy of a physical search will also be developed by the SIO but with the aid of police search advisers (PoSAs) (11-12). PoSAs provide SIOs with pertinent information regarding the use of different search methods which will achieve the objectives of the search strategy in the most effective and efficient manner (11-12). Physical searches for forensic evidence or human remains can include non-specialist and specialist searchers (11-12). Non-specialist searchers are those not trained or licenced by the Association of Chief Police Officers (ACPO) or the National Centre for Policing Excellence (NCPE) and specialist searchers include those that are trained or licenced (11-12). Any number of specialist searchers could be requested to perform a physical search depending on the risk level, time constraints, search parameters, objectives, and available resources per police force (12,25-26). PoSAs, police search teams, and police search coordinators are trained by the NCPE in physical search methods for counter-terrorism (CT) and crime (e.g. drugs or homicide) (11-12). CT methods are used as the foundation for systematic searching in physical searches in counter-terrorism, crime, and homicide (11-12). Specialist searchers are trained to use systematic CT methods, like a fingertip search, to locate small materials when searching indoor locations (11-12,27-28). For outdoor searches, CT methods are adapted for searching large areas in a systematic line or grid search (12,25,29-30). An additional CT search method available to officers is the Winthrop method. The National Search Adviser, C. Hope, states that “the Winthrop or reference point technique is a search tactic that can be

considered by a search team in circumstances where they are deployed to search for items that a person would intend to have recovered, i.e. items [drugs, weapon] that are hidden but not lost” (personal communication, 09 May 2013). Although CT search methods are not based on the search of human remains, searchers are advised to apply these methods to the search and recovery of human remains (11-12). Moreover, current search protocols focus on the application of CT search methods for locating homicide burials and not surface deposits or scavenged remains (11-12).

Within the U.K., the red fox (*Vulpes vulpes*) is the largest wild scavenger and is capable of modifying, disarticulating, fragmenting, removing, and scattering surface deposited human remains over wide distances, which can hinder search and recovery efforts (1, 5-6,13). Scavenger-induced modifications and scattering of human remains can occur at both crime scenes and scenes not related to criminal activity. Therefore, this study focused on the scavenging behavior and patterns of the red fox. Prior to this study, the adaptation and application of CT methods, such as line, grid, and fingertip methods, to the physical search and recovery of scavenged human remains have not been assessed. Additionally, the Winthrop method has not been previously applied to physical searches involving scavenged human remains. The aims of this pilot study were: to analyze whether or not providing police specialist searchers with information on the scavenging behavior and pattern of foxes can enhance search and recovery efforts for scavenged remains; and to explore the potential for regional differences within the U.K. of police specialist searchers' search methods. This research also seeks to add to current U.K. physical search protocol so that SIOs and specialist searchers can more readily include efficient adaptations to search strategies involving outdoor scavenged and scattered human remains.

## **Materials and Methods**

This pilot study focused on police specialist searchers from two regionally different locations, Kent, an urban to rural area, and Dorset, a more peri-urban to rural area, of England, U.K. An experiment was initially conducted on 02/27/2012 with police specialist

searchers from Kent, England, U.K. The experiment was then repeated on 06/12/2012 for police specialist searchers from Dorset, England, U. K. The environment at Dorset had a higher density of trees than that in Kent, nonetheless, both had a temperate mixed woodland of spruce (*Picea* spp.), pine (*Pinus* spp.), oak (*Quercus* spp.) and birch (*Betula* spp.) (Figure 1). Likewise, the sites had a mix of short, thick and high vegetation, small to large trees, tree stumps, and leaf litter which allowed a variety of areas for scavenged bones to be scattered. The ground cover at the sites included a mix of mostly bramble (*Rubis fruticosus*), wavy hair-grass (*Deschampsia flexuosa*), creeping soft grass (*Holcus mollis*), and bracken (*Pteridium aquilinum*).

In total, four different 10 m x 10 m grid sites and 42 police specialist search officers (two constabularies) were used for this study. Inclusive of 0 m, flags of opposing colour were placed at every 0.5 m along the outline of each grid to assist searchers in walking in a grid search pattern (following transect lines) (Figure 1). Each grid contained a total of 24 deer (*Odocoileus virginianus*) long bone fragments obtained from a licensed butcher shop (Figure 2). Half of the fragments were c. 4 cm (large) and the other half were c. 2 cm (small) (Figure 2; Table 1). Bones were fragmented to reflect the small size of bones scavenged by foxes, as based on the taphonomic experiments using deer as human proxies conducted by Young *et al.* (1,6). Prior to the experiment, the bones were macerated for health and safety reasons and were fragmented using a table saw so that the bones were cut at controlled lengths. Bones were also lightly stained with coffee to lessen the bright appearance caused by maceration and to recreate the appearance of skeletal remains that have been exposed to decomposing soft tissue and fluids. Bones were either surface deposited or buried (shallow depth of c. 7 cm) at locations associated with red fox scavenging and scatter patterns (1) (near trees, within thick vegetation) and locations not associated with fox scavenging, termed as random, within each grid (Table 1) (Figure 3-4). The arrangement of bones within each grid included eight bones (four small and four big) at each type of location (Table 1) (Figure 3-4). There were many locations of thick vegetation and trees within each site, thus there were also fox and non-fox associated areas within each grid that did not have bones

deposited. When bones were deposited, the side of the bone which was not exposed was labelled with a corresponding number so that a searcher could record the number of the bone found. The numbering of bones also allowed for later analyses on the effects of size, location, and type of deposition in the recovery of the bones.

On February 27, 2012, the first experiment took place in Kent and consisted of eight teams (Team 1-8) of four officers searching two grids. The weather conditions on the day were partly cloudy with a maximum temperature of 10 °C and minimum temperature of 6 °C. The second experiment took place in Dorset on June 06, 2012 and consisted of three teams, one team had four officers and the other teams had three officers due to unforeseen issues. The weather conditions on the day were partly cloudy with a maximum temperature of 14 °C and minimum temperature of 10 °C. Team members for both Kent and Dorset were chosen randomly based on officers' availability within their work schedules on the day of the experiment. All teams were briefed separately prior to starting their search of a grid but all were told the same basic description of the crime scene scenario that teams were to search a scene where human remains were scavenged. Prior to searching at Kent, Team 1, 3, 5, and 7 were individually briefed with information about fox scavenging behavior and scatter patterns, whereas Team 2, 4, 6, and 8 were not given information. At Dorset, Team 1 and 3 were individually briefed with information on fox scavenging behavior and scatter patterns and Team 2 was not given information. The officers used within this study were all trained specialist searchers including police search team members and PoSAs with a minimum of five years of experience as a non-search officer followed by one to 15 years of experience as a search officer. All participants had been trained in current standard search procedures and CT search methods for counter-terrorism, crime scene, and homicides, which they had previous experiences applying to indoor and outdoor searches, as well as to physical searches for human remains.

The total quantity and characteristics of bones in each grid were not told to any search team. The six teams given information on typical fox scavenging behavior were provided with four key points: fox scatter patterns commonly lead towards areas of thick or

high vegetation, the base of trees and tree stumps, and collections of fallen tree branches; and foxes will bury bones in caches (depths of c. 7 cm – 12 cm) with light covering of leaves or twigs. The other five teams were not provided with any information identifying the scavenger species or pertaining to fox scavenging behaviors and patterns.

Two separate teams, one with scavenging information and one without, were assigned separate grids to search in a single session. A session lasted 35 minutes but teams were not given countdowns of their time so that there was a consistent effort of searching throughout the entire session. The length of a session had been chosen based on the available daylight and officers' work schedules. The search sequence for the 11 teams was as follows: Teams 1 and 2 would search grid 1 and 2 respectively until each team had finished their search during a session. After their search, Teams 1 and 2 would switch and search the opposite grid for the next session prior to the next teams commencing their search.

All teams were instructed on the use of a grid search method wherein two searchers from a single team started their search on one side of the grid and at parallel corners in a left to right direction. The other two searchers started their search in the opposite direction. Searchers were instructed to walk a total of five lines each and to keep a space of 1 m between each other (Figure 5). Searchers were told not to walk over the same line twice or back over areas once their designated five lines were completed. Whilst walking, searchers were allowed to look 0.5 m to their left and right for any bones. If it was necessary to clear away any vegetation, searchers were instructed to only use their hands to conduct a light clearing (no sticks or feet) of debris or leaf litter in order to avoid the destruction of the site and so that it was not obvious to the next searcher where a bone was located. Searchers were told to turn bones over when located, record the associated number, and then place the bone back down as it was found. Teams and searchers were at no point allowed to inform each other of the location or number of a bone. Although a grid search method was used to control how searchers walked through the sites, the manner in which an individual searched the soil surface was allowed to vary (e.g. fingertip search close to the ground



surface or simple walking) (Figure 5-6). Searchers given information on fox scavenging were also allowed to adapt their search method (within the limits of a grid search method) as they saw fit to incorporate the scavenging information, such as only looking at typical fox scatter locations or searching the entire grid section.

After a team searched both grids searchers completed a short questionnaire asking their opinions on the search. The questionnaire was included in this study because police specialist searchers not only form a search team but also influence the decisions of the PoSAs and SIOs in the structure and implementation of search strategies. Obtaining their opinions regarding scavenging and the search experiment can provide evidence to PoSAs and SIOs of officers' readiness to incorporate scavenging information into search strategies. Whilst completing the questionnaire, the teams not given information on fox scavenging for their searches remained unaware of the provision of such information to other teams.

The following questions were asked verbatim of those teams given information on fox scavenging prior to their search (A) and those teams not given information on fox scavenging prior to their search (B):

- Question 1 - Do you feel that your search method [was improved (A)/ could have improved (B)] with information on the species-typical scavenging behavior of foxes (how they scavenge, modify and scatter remains; how and where they are likely to deposit remains)?
- Question 2 - Do you feel that your recovery rate of bone [was improved (A)/ could have improved (B)] with information on the species-typical scavenging behavior of foxes (how they scavenge, modify and scatter remains; how and where they are likely to deposit remains)?

After a team searched two grids and completed the questionnaire, a debriefing was held to discuss the experiment and the opinions of the searchers. All teams were informed in the debriefing of the scavenging information provided prior to some teams' searches and the location of bones.

A chi-square test was used to analyze whether or not the number of bones recovered by teams was significantly affected by the provision of scavenging information. Chi-square tests were also used to analyze the effect of scavenging information on searchers' questionnaire responses. The results of the questionnaire were also charted to show searchers' overall opinions towards the addition of species-typical information. All statistical analyses were conducted using PASW Statistics version 18.

## Results

Overall, teams which were briefed with information on fox scavenging behavior and scatter patterns did recover a higher number of bones (16.48 %,  $n=87$ ) than those teams which were not given scavenging information (7.95 %,  $n=42$ ) (Table 2). Teams from Kent which were briefed with scavenging information recovered 7.81 % ( $n=30$ ) of bones and those teams which were not briefed with scavenging information only found 3.91 % ( $n=15$ ) bones. Dorset teams briefed with scavenging information also recovered a higher percentage of bones (39.58 %,  $n=57$ ) than those teams which were not given scavenging information (18.75 %,  $n=27$ ). Likewise, the maximum number of bones recovered from two grids by a single team ( $n=32$ ) was achieved by a team given scavenging information (Table 2). The total number of bones recovered by searchers was significantly affected by whether or not they were provided with information on fox scavenging behavior and scatter patterns ( $\chi^2=11.45$ ,  $df=1$ ,  $p=.001$ ). This represents the fact that the odds of the officers finding bones within this study was 2.05 times higher if they were briefed with the information on fox scavenging than if not provided with the information.

The teams from Kent recovered 11.72 % ( $n=45$ ) of the bones from both grids, whereas teams from Dorset found 58.33 % ( $n=84$ ). The percentages of bones found by Kent teams in Grid 1 and 2 were similar (11.98 %,  $n=23$ ; 11.46 %,  $n=22$ ) (Figure 7-8). Likewise, Dorset teams recovered more than half of the bones located in Grid 1 (56.94 %,  $n=41$ ) and Grid 2 (59.72 %,  $n=43$ ) (Figure 7,9). Kent teams found more small (2 cm) bones (17.71 %,  $n=34$ ) than large (4 cm) bones (5.73 %,  $n=11$ ), as well as more bones which were deposited

at trees (17.97 %,  $n=23$ ) than at thick vegetation (3.13 %,  $n=4$ ) or random (14.06 %,  $n=18$ ) locations within the grids (Figure 7-8). The percentages of surface deposited (11.98 %,  $n=23$ ) and buried (11.46 %,  $n=22$ ) bones found by Kent teams were alike, as were the Dorset teams' percentages of recovered surface deposited (61.11 %,  $n=44$ ) and buried (55.56 %,  $n=40$ ) bones (Figure 7-9). In contrast to teams at Kent, the Dorset teams recovered more large bones (79.17 %,  $n=57$ ) than small bones (37.50 %,  $n=27$ ). Dorset teams also found more bones located at trees (85.42 %,  $n=41$ ) than at thick vegetation (43.75 %,  $n=21$ ) or random locations (45.83 %,  $n=22$ ) (Figure 7,9).

### *Questionnaire*

Searchers' overall opinions as to whether they felt that search methods were/could have been improved with information on the scavenging behavior and pattern of foxes (Q1) was positive (89.80 %) (Figure 10). Regarding whether they felt that their recovery rate of bones was/could have been improved with scavenging information (Q2), opinions were again positive (81.63%) (Figure 10). Chi-square tests showed that searchers' opinions for Question 1 were significantly affected by whether or not they were in a team briefed with scavenging information ( $\chi^2= 4.54$ ,  $df= 1$ ,  $p=.03$ ). In contrast, searchers' opinions for Question 2 were not significantly affected by whether or not they were in a team briefed with scavenging information ( $\chi^2=2.29$ ,  $df= 1$ ,  $p=.13$ ).

### **Discussion**

This pilot study has shown that providing police specialist searchers with information on species-typical scavenging behavior and patterns increases their recovery rate of scavenged and scattered bones and can lead to improvements in search methods. Additionally, the preliminary comparisons made in this study between police specialist searchers from Kent and Dorset introduced potential regional differences in search methods and further variables that need to be explored in future experiments.

Searchers were found to adapt counter-terrorism (CT) search methods in the following ways: using either a fast or slow fingertip search, removing leaf litter with their hands, or simply walking through a grid without a fingertip search. Searchers given scavenging information and reference points also varied between individuals choosing or not choosing to prioritise those points with the Winthrop method. Searchers' recovery rates, adaptations of counter-terrorism (CT) search methods, and the length of time required to complete a search within each grid gave insight into future adaptations to search methods that can be used for more efficient and effective search and recovery of scavenged and scattered human remains.

Despite the presence of more teams searching at Kent, Dorset teams found a greater total number of bones. This was also true of the three teams of Dorset when compared to only the first three teams that searched at Kent. Although search protocol, procedures and training are delivered through one facility (National Centre for Police Excellence) within the U.K., the ways in which search methods are then applied to different environments and crime scene scenarios may differ. The Kent teams had more experience searching urban and peri-urban areas whereas the Dorset teams had more experience with peri-urban and rural areas. Dorset teams may have found more bones because they were more accustomed to searching woodland and rural environments. The differences in the search results from Kent and Dorset suggest that there are potentially regional differences in search methods and individual differences between police constabularies due to the different types of environments that are regularly searched. In order to explore these differences further, the methods used within this study should be applied to future experiments with an increased dataset including more police specialist searchers from a greater number of regions with different environments across the U.K.

An array of expected and unexpected variables arose during this pilot study and included the following: the size of the bones (large; small), deposition (surface; buried), location (tree; thick vegetation; random), grid number (Grid 1; Grid 2), county (Kent; Dorset), number of teams and searchers; and the order in which teams searched. There was also the

potential bias towards searchers recovering bones located specifically at reference points associated with foxes. However, no team recovered all of the bones in any grid; searchers were observed adapting the grid search method differently to incorporate the reference points; and bones were not deposited at every reference point within each grid. After each team searched there was the potential for bones to be displaced by each searcher within their search area, as well as the possibility that the disturbance to the ground surface during a prior search could mislead or even correctly lead the next searcher. For future research, increasing the number of grids searched, such that there is a large enough sample size for each grid to only be searched once can assist in preventing the potential displacement of bones during a search. Furthermore, the experiments from this study should be repeated as individual experiments to test each variable.

### *Questionnaire*

Although questionnaire responses were subjective according to whether or not scavenging information had been provided, they did further highlight the gap in scavenger knowledge by searchers. The responses also indicated that searchers were receptive to the inclusion and application of species-typical scavenging information to current search methods. During the briefings and debriefings with participants of this study it was evident that their knowledge of scavenging was limited and restricted to anecdotal evidence. For instance, searchers stated that they expected scavenged and fragmented bones to retain characteristics of undamaged whole bones. The misconception by searchers that bones would be whole and easily recognisable may have given those searchers whom were provided with scavenging information a higher expectation of their recovery rate. Likewise, those given information had not searched prior to the provision of information so were not able to compare search methods and recovery rates to a search without information. Searchers' lack of knowledge regarding the appearance of scavenged bone can affect the recovery rate of scavenged bones, such that scattered and fragmented bones are overlooked or disregarded.

### *Further Suggestions*

Senior investigating officers (SIOs) and specialist searchers should treat all scenes of scavenged human remains as crime scenes until criminal activity has been identified or eliminated because it is not within their expertise or role to analyze and interpret skeletal remains but is instead that of forensic anthropologists, forensic archaeologists, and pathologists (15,12,25,31-32). Moreover, a physical search by specialist searchers for scavenged remains may also reveal further forensic evidence that require forensic examination and re-assessment of the objectives and search methods of the physical search (12). Nonetheless, SIOs, police search advisers (PoSAs), and other specialist searchers need to be knowledgeable in the effects of scavenging on human remains and how it will affect search strategies and methods. For instance, the addition of scavenger knowledge to a search strategy and methods could indicate what to search for (e.g. whole or fragmented bones), where to concentrate search efforts, and what search methods to choose.

Within the U.K., current standard search procedures and training of physical search methods to investigators and police search officers need to be updated to include the effects of scavenger species-typical scavenging behavior and scattering patterns on buried and surface deposited human remains. SIOs, scientific support managers (SSM), PoSAs, and other specialist searchers must be made aware of the value of scavenging information to the search and recovery of scavenged human remains and of what expert advice in scavenging is available. Accurate scavenging information needs to be disseminated to forensic professionals through seminars, conferences, lectures, and workshops involving police and academics. Additionally, specialist searchers need to be exposed to the various effects that different scavenger species have on human remains. Search exercises or experiments in different environments and scenarios, such as those within this study, should be used to expose and help specialist searchers better adapt their search methods to the various effects that different scavenger species have on human remains. Knowledge and hands-on experiences with scavenged and scattered human remains and animal proxies based on

accurate scavenging information will allow police specialist searchers to problem solve and adapt search methods more efficiently.

The following search methods are the most appropriate methods to be used in the search for scavenged and scattered human remains, depending on the environment and topography: systematic line and grid searching, fingertip searching, and Winthrop (27-30,33). Line and grid search methods allow for small and large indoor and outdoor locations to be systematically searched by specialist searchers during a physical search (12,25). During a systematic physical search, fingertip searching allows for a detailed search of scavenged and scattered skeletal elements. The Winthrop method concentrates search efforts at those reference points or locations at which a scavenger species is most likely to transport scavenged and scattered remains.

When creating the search strategy for the physical search of scavenged and scattered human remains, SIOs and PoISAs should consider the following: the environment, topography, the weather to which remains have been exposed, the suspected time of exposure, state of decomposition, and the condition and deposition of remains, in order to make an assessment of the potential scavenger species and subsequent species-typical scavenging behavior and scattering patterns affecting the human remains and physical search. In the employment of the search strategy and physical search, SIOs, along with PoISAs and SSMs, should obtain resources and expert advice on scavenger species-typical scavenging behavior and scatter patterns in order to delineate the search parameter and adapt search methods with a higher level of confidence.

Cadaver dogs are also widely used by police forces in the search of human remains but the effectiveness of a dog is dependent on a variety of factors such as the experience of the handler and dog, weather conditions, wind direction, and condition and deposition of human remains (29-30,34). A dog is not simply brought to a scene and allowed to roam with no direction from a handler but is instead used to search targeted and/or tested areas based on the collation of various information (29-30,33-34). Knowledge of species-typical scattering patterns and reference points will allow cadaver dog handlers to identify a search radius and

use the Winthrop method to search reference points with the dog, so that the chances of recovering scavenged and scattered bones are maximised. However, without the knowledge, training, and expert advice on species-typical scavenging behavior and scattering patterns police cadaver dog handlers, investigators, and police specialist searchers are unable to fully adapt and apply search methods to the physical search and recovery of scavenged and scattered remains.

## **Conclusion**

Regional differences within the U.K. in the employment and adaptation of search methods by police specialist searchers for the search of scavenged human remains can affect the recovery of skeletal remains. Providing police specialist searchers with information on species-typical scavenging behavior and patterns enhances their chances of recovering scavenged skeletal remains. Police specialist searchers are 2.05 times more likely to recover scavenged bones when briefed with information on red fox scavenging behavior and scatter patterns. Knowledge of the effects of foxes scavenging on human remains assists searchers in the adaptation and improvement of counter-terrorism search methods used at crime scenes involving fox-scavenged remains. Crime scene scenarios and environments do vary thus studies which take into account different environments, species-typical scavenging behavior and scattering patterns, region-specific scavenging patterns, and varying conditions of human remains have the potential to greatly improve the recovery rate of scavenged and scattered remains.

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**Additional Information – Reprints Not Available from Author**

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Table 1. The feature at which each small (2 cm) and large (4 cm) bone, as identified by its assigned number, was surface deposited or buried within each grid for the experiments in Kent and Dorset, England, U.K.

Feature	Kent								Dorset							
	Grid 1				Grid 2				Grid 1				Grid 2			
	4 cm		2 cm		4 cm		2 cm		4 cm		2 cm		4 cm		2 cm	
	Buried	Surface	Buried	Surface	Buried	Surface	Buried	Surface	Buried	Surface	Buried	Surface	Buried	Surface	Buried	Surface
Tree	6	10	4	3	17	20	21	22	6	10	4	3	7	20	21	22
Tree	22	7	23	8	7	2	13	15	22	7	23	8	17	2	13	15
Thick Vegetation	15	1	16	9	10	6	24	9	15	1	16	9	10	6	24	9
Thick Vegetation	5	13	14	17	12	11	4	5	5	13	14	17	12	11	4	5
Random	19	20	11	24	23	8	1	18	19	20	11	24	23	8	1	18
Random	2	12	21	18	19	3	16	14	2	12	21	18	19	3	16	14

Table 2. The minimum, maximum, and total quantity of bones recovered at Kent and Dorset, U.K., by teams briefed with scavenging information and those teams not briefed.

	Amount of Bones								
	Kent			Dorset*			Overall		
	Total	Max	Min	Total	Max	Min	Total	Max	Min
Teams With Information	30	15	2	57	32	25	87	32	2
Teams Without Information	15	5	2	27	27	27	42	27	2

\*In total, the searches at Dorset only had 3 teams.