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TECHNICAL NOTE

ANTHROPOLOGY

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Scavenging Behavior of *Lynx rufus* on Human Remains During the Winter Months of Southeast Texas

ABSTRACT: Animal-scavenging alterations on human remains can be mistaken as human criminal activity. A 32-day study, documenting animal scavenging on a human cadaver, was conducted at the Southeast Texas Applied Forensic Science facility, Sam Houston State University, Huntsville, Texas. A Stealth Cam Rogue IR was positioned near the cadaver to capture scavenging activity. An atypical scavenger, the bobcat, *Lynx rufus,* was recorded feeding on the cadaver. Scavenging by bobcats on human remains is not a predominant behavior and has minimal documentation. Scavenging behaviors and destruction of body tissues were analyzed. Results show that the bobcat did not feed on areas of the body that it does for other large animal carcasses. Results also show the bobcat feeds similarly during peak and nonpeak hours. Understanding the destruction of human tissue and covering of the body with leaf debris may aid forensic anthropologists and pathologists in differentiating between nefarious human activity and animal scavenging.

KEYWORDS: forensic science, forensic anthropology, scavenger activity, *Lynx rufus*, bobcat, human decomposition, taphonomy

Scavenging and dismemberment of human remains by animals and the associated soft tissue and bone damage are events that are studied in the United States (1,2). This taphonomic research is important because documentation of scavenging patterns aids in the differentiation between postmortem scavenging and nefarious human acts. Also, unusual coverings or markings on the body may confound the determination of cause and manner of death, possibly leading to erroneous conclusions that foul play was a factor. If a body is discovered in an outdoor environment and has evidence of manipulation or alteration of the body or its surroundings, it would be appropriate to consider possible scavenging activity from regional wildlife. Understanding the behavior of local or regional wildlife, the types of defects they could leave on a body, or the type of destruction they could do to a body will assist in determining the events that occurred.

This study records scavenging activity by the bobcat, *Lynx rufus*, that has minimal documentation in the literature. Although the bobcat is not typically a scavenger, this study documents scavenging activity predominantly on soft tissue as well as covering of the body with debris.

Scavengers include a variety of animals from rodents and birds to larger species such as dogs, pigs, and bears (3). Rodents have been found to feed on the hands, arms (4), and legs (5) of humans. The soft tissue surrounding the area where rodents feed tends to have a layered appearance. The remaining damaged soft tissue is crenulated with scratches, but the damage typically does not extend past these areas (4). Wolves and coyotes were observed in a study conducted by Willey and Snyder (1), who found that wolves and coyotes first fed on the areas of the body with the most meat, such as the hindquarters, then would tear open the chest, and consume the ribs. Damage to the soft tissue surrounding the area where the wolves and coyotes fed was scratched and the tissue edges appeared lacerated from tearing of the flesh while consuming it. Also, at the feeding margin, other soft tissue defects were "V" shaped in appearance (4). This is attributed to the shearing tooth configuration of the animal as it punctures the skin. This is in contrast to feline predators where the soft tissue surrounding the feeding site has smooth and clean cut edges (6).

When food sources become scarce, predators will occasionally scavenge as a source of nutrition. Koehler and Hornocker (7) found that coyotes, mountain lions, and bobcats scavenge even though they are primarily predators. Coyotes scavenge the most, followed by bobcats, then mountain lions (7). Juvenile bobcats will scavenge more than adults because they lack the skills needed to catch prey efficiently. The amount of available carrion in an area has been shown to directly influence the survival of a juvenile bobcat. They feed on the easiest prey to catch, but if there is a shortage of easy prey, then they will depend on carrion for survival (8).

Bobcats are found throughout North America except in the extreme north. The areas of the United States in which bobcats are not found are Alaska, Hawaii, the Ohio Valley, the southern Great Lakes region, and the northern Mississippi valley. They are solitary animals that maintain territories (9–12). Only when stressed, because of lack of food or severe weather, will they begin to cross paths, but bobcats never travel in packs (13–15). A mother bobcat

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will tend to her kittens, but by the time the kittens are 6 months old, they travel on their own to hunt. The young bobcats must leave the mother's territory before the next litter is born.

Bobcats are sexually dimorphic animals with males being larger than females. The male bobcat weighs approximately 9.6 kg on average and is *c*. 10% larger than the female. Females weigh around 6.8 kg on average. The size of the bobcat depends on the area in which the bobcat lives. Larger bobcats live in more northern regions, while the smallest bobcats are found in the southern part of the Appalachian Mountains (9,16).

Bobcats are opportunistic predators and have a wide range of prey. In a study conducted by Fritts and Sealander (8), the stomach contents of bobcats were analyzed postmortem to determine what they were eating. They found that bobcats ingested mostly rabbits (Leporidae), squirrels (Sciuridae), mice, and rats (Muridae). Some larger prey were also found in the stomach including the white-tailed deer (Cervidae) and a few domestic animals like the cow (Bovidae) and the goat (Capridae) (8).

Bobcats will feed on road kill or wounded animals (8,11,15), but will discontinue feeding when the tissue begins to spoil. On large carcasses, such as the white-tailed deer, bobcats usually feed just below the ribs eating viscera, but if the viscera are absent, they will feed on the hindquarters (17). If the bobcat cannot consume a carcass in one feeding event, it will often attempt to cover it with leaves, grass, dirt, and debris to return to it at a later time (9).

Bobcats are territorial animals and will maintain the same territory throughout their lives unless resources become strained. Bobcats scent-mark their territory to communicate with other bobcats that the area has already been claimed. Scent-marking can be done in a variety of ways including the use of urine, feces, oily secretions from the anal glands, and scraping the ground. Because bobcats scent-mark their territory, other bobcats are deterred from occupying the same area (13).

Previous literature states that the bobcat is predominantly nocturnal with peak hours of hunting or scavenging activity occurring between 04:00–10:00 and 18:00–24:00 (18). They frequently begin hunting before sundown. More daytime feeding occurs during the winter months than any other time of the year.

In this study, interactions between a bobcat and a human cadaver, including feeding and repetitive behaviors, are described over a 32-day period. Scavenging marks from the bobcat, visible on the soft tissue and bone of the body, are also documented.

Materials and Methods

A human adult female cadaver was donated to the Southeast Texas Applied Forensic Science (STAFS) facility, a willed-body donor program. STAFS is located in the piney woods ecoregion on the western border of the Sam Houston National Forest, which is comprised primarily of loblolly and short leaf pines, as well as some deciduous hardwoods. The climate of this ecoregion is humid subtropical.

The cadaver was assigned to two research projects. The first study involved the degradation of tattoos through the various stages of postmortem decay in a mostly sunny climate during the winter season. To protect the cadaver from avian scavengers, it was placed within a wooden-framed cage designed specifically for this study. The cage was built using 12.7 by 15.24 cm gridded wire wrapped around each side. The cage was 2.13 m long by 1.10 m wide and 79.25 cm high.

The second study was intended to observe terrestrial scavenger activity by small animals throughout the decomposition process. It was hypothesized that only animals small enough to enter into the cage through the 12.7 by 15.24 cm gridded wire would scavenge. Scavengers might include opossum, raccoon, and rat.

The cadaver was placed inside the cage in a supine extended position on December 17, 2009, 5 days postmortem. Gross observation of the cadaver, as well as weather conditions, was observed on a daily basis. Weather conditions, including temperature, relative humidity, rain quantity, barometric pressure, soil moisture, dew point, and solar radiation, were recorded every 2 h by a HOBO weather station (model U30-GSM-000-10-S100-102; Onset Computer Corporation, Bourne, MA), which was located *c*. 50 m from the research area.

As part of the daily observation, pictures were taken using a Fuji Film IS Pro digital camera (Fujifilm U.S.A., Inc., Edison, NJ) with a Tamron 18–200 mm Aspherical XR DiII lens (Tamron USA, Inc., Commack, NY) and Peca #916 IR/UV filter (Peca Products, Inc., Beloit, WI) to document any scavenging activity or changes to the body as it progressed through decomposition. In addition to the photographs, a Stealth Cam Rogue IR (Stealth Cam, LLC, Grand Prairie, TX), a motion-activated camera, was affixed to a metal ladder to capture the activity of scavengers. The ladder was stabilized at the base by cinderblocks. The camera was placed *c*. 1.83 m from the end of the cage with the view extending down the longitudinal axis from the head of the body to the feet. A 2-GB Kingston (Kingston Technology Company, Inc., Fountain Valley, CA) or PNY (PNY Technologies, Inc., Parsippany, NJ) memory card was inserted into the camera, and coverage was set halfway between near and far (an approximate 9.14 m viewing distance) on the sliding adjustment on the interior camera panel. In addition, the camera was set to capture motion 24 h per day, with 3-sec intervals between pictures.

The memory cards were collected every day or when they reached 1000 pictures. Collection of the memory cards and the regular daily photographs were taken during the day when scavengers were not present. At no time during the study did humans interact with or intentionally disturb scavengers.

The photographs were examined, and scavenger activity, as well as the frequency and time of arrival and departure, was recorded in Excel (Microsoft Corp., Redmond, WA). Time of arrival and departure by scavengers was converted into categories of duration and rounded to the nearest minute.

Approximately 3200 images were captured throughout the study. Upon examining the digital images from the Stealth camera, an atypical scavenger, *Lynx rufus*, the bobcat, was recorded feeding on the cadaver and performing other repetitive behaviors. The repetitive behaviors, captured by the camera, were grouped into general categories that included feeding, covering the cadaver, resting, scent-marking, appearing but not performing any categorized activity, and unknown.

Feeding

Any time the bobcat was seen consuming tissue from the cadaver, it was considered feeding. While feeding, the bobcat fed primarily on the adipose and muscle tissue of the lower left arm and on the fatty tissue of the left hip and thigh area.

Covering

Covering of the body consisted of the piling of leaves, pine needles, grass, dirt, and head hair onto the cadaver, as well as the rearrangement of previously placed pine needles and leaf debris (Fig. 1).

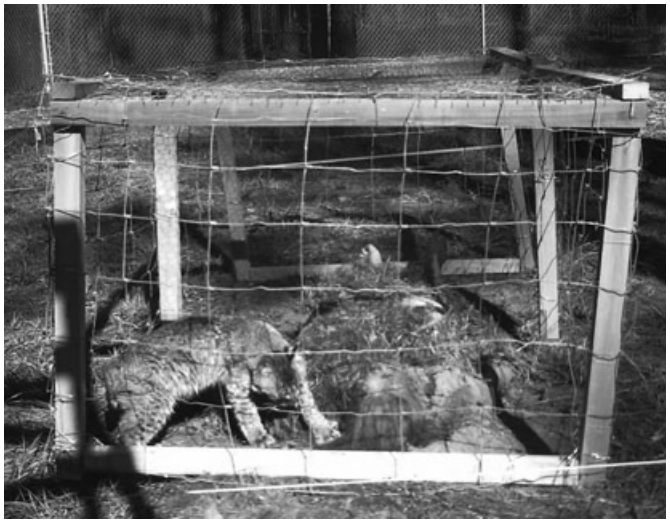

FIG. 1—*Lynx rufus*, the bobcat, is covering the body with soil, pine needles, grass, and the cadaver's own hair. Covering its food source is a typical behavior of the bobcat.

Resting

The resting category encompassed any amount of time that the bobcat napped, sat, or laid outside the cage, or when the bobcat cleaned itself.

Scent-Marking

The bobcat was observed scent-marking either on or near the cadaver eight times over the course of the study. According to research, "Adult bobcats scent mark using feces, urine, scrapes, and [oily secretions from the] anal glands" (13, p. 441). The predominant means of scent-marking was urine.

Appearing but No Categorized Activity

Within the last few days of the study, the bobcat came to the site, but did not perform any of the behavioral tasks previously described. For example, the bobcat would enter the outdoor facility, walk around the cage, and then leave. Or it would enter, smell the cadaver, and immediately depart. These instances were brief, lasting 1 min or less.

Unknown

A final category, unknown, consisted of times that the bobcat appeared, but the activity could not be determined accurately because of partial overexposure from the IR flash.

TABLE 1—*Activities performed by the bobcat and brief description of the events.*

Activity	Description
Feeding	Consuming tissue on the cadaver
Covering	Scraping leaf debris onto the body
Resting	Napping, relaxing, cleaning
Scent-marking	Territorial marking of the body by urine
Appeared but no activity	Appeared at the cadaver, but performed no activity
Unknown	IR flash overexposure

Table 1 shows the categories of repetitive behaviors of the bobcat. From January 5 through February 6, the bobcat was captured on camera a total of 88 times and performed 139 activities.

Documentation of the various behaviors and the frequency with which the bobcat appeared was analyzed to categorize the types of scavenger activity occurring during peak and nonpeak hours as defined by Buie et al. (18). Buie et al. (18) define peak hours as "04:00–10:00 in the morning and 18:00–24:00 in the evening" (p. 43). Nonpeak hours are considered between 10:01 and 17:59 and 00:00 and 03:59. Other researchers, Miller and Speake (19), define peak hours as 03:00–05:00 and 17:00–19:00. The methodology of Buie et al. (18) was more clearly defined, and the study occurred in a similar season and piney forest habitat as the present study. Therefore, definitions for peak and nonpeak hours for the present study were based on the work by Buie et al. (18).

Results

After examining the photographs captured by the Stealth camera and the photographs from the Fujifilm IS Pro, it was determined that a bobcat, *Lynx rufus*, was feeding on the body.

The bobcat was recorded visiting the body a total of 88 times between January 5 and February 6, 2010. A total of 139 activities occurred over the 88 arrival periods. Table 2 depicts the frequency of activities: feeding, covering, resting, scent-marking, appearing but no activity, and unknown. Out of 139 total activities recorded during the 88 visits, feeding occurred 58 times (41.73% of the total activity). The covering behavior of the bobcat was exhibited 38 times, accounting for 27.34% of the total activity. Resting activity occurred 23 times, 16.55% of the total activity time, and scent-marking (eight times) accounted for 9.09% of activity time. The bobcat came five times with no activity (5.68% of the total activity) and unknown activity happened seven times (7.95% of total activity).

With each appearance, the bobcat was observed performing up to four activities within the feeding, covering, resting, and scent-marking categories. For example, on January 12, the bobcat appeared just after 10:00 h and rested outside the cage, fed on the left arm, covered part of the cadaver, and then scent-marked an area by the cadaver within that single visit.

Table 3 depicts the frequency and percentage of bobcat visits to the cadaver during peak and nonpeak hours. The bobcat was documented a total of 37 times (42.05%) between morning peak hours of 04:00–10:00 but only 13 times (14.77%) between the evening peak hours of 18:00–24:00. During the nonpeak morning hours of 00:00–03:59, the bobcat appeared seven times (7.95%), and between the nonpeak daytime hours of 10:01–17:59, the animal appeared 31 times (35.23%). Out of 88 appearances, 50 visits occurred during peak hours (56.8%) and 38 occurred during nonpeak hours (43.2%). The total appearances during peak hours and nonpeak hours were analyzed to assess the difference between visits during the different time periods. Data were analyzed for normality of distribution using the Shapiro–Wilk test and was not normally distributed. Therefore, the nonparametric Wilcoxon signed-rank test was used to compare the data. Total appearances during peak and nonpeak time periods were similar in frequency and not significantly different ($z = -0.210$, $p = 0.833$).

Table 4 shows the frequency percentages of each of the activities during peak and nonpeak hours as calculated from Table 3.

The nonpeak morning hours (00:00–03:59) showed the least number of appearances and the least amount of activity in the feeding, covering, and scent-marking categories.

After feeding episodes, the bobcat would scrape dirt, grass, leaves, and pine needles onto the body in an attempt to cover the

TABLE 2—*The frequency of appearances by the bobcat during peak and nonpeak hours.*

	Hours of Arrival				
	Nonpeak Hours (00:00–03:59)	Peak Hours (04:00–10:00)	Nonpeak Hours (10:01–17:59)	Peak Hours (18:00–24:00)	Total
Feeding	2	24	22	10	58
Covering	1	18	17	2	38
Resting	1	9	13	0	23
Scent-marking	0	2	4	2	8
Appeared but no activity	2	0	1	2	5
Unknown	3	2	1	1	7

TABLE 3—*The frequency and percentages of the 139 activities that occurred during peak (PH) and nonpeak hour (non-PH) visits.*

Morning PH (04:00–10:00)	Evening PH (18:00–24:00)	Total Peak Hour Arrivals	Morning Non-PH (00:00–03:59)	Evening Non-PH (10:01–17:59)	Total Nonpeak Hour Arrivals	Total Times of Arrival
37	13	50	7	31	38	88
42.05%	14.77%	56.82%	7.95%	35.23%	43.18%	

TABLE 4—*Percent of frequencies of the 139 activities during peak and nonpeak hours as seen in Table 3.*

	Hours of Arrival			
Activities	Nonpeak Hours (00:00–03:59)	Peak Hours (04:00–10:00)	Nonpeak Hours (10:01–17:59)	Peak Hours (18:00–24:00)
Feeding (%)	3.45	41.38	37.93	17.24
Covering (%)	2.63	47.37	44.74	5.26
Resting (%)	4.35	39.13	56.52	0.00
Scent-marking (%)	0.00	25.00	50.00	25.00
Came, no activity (%)	40.00	0.00	20.00	40.00
Unknown (%)	42.86	28.57	14.29	14.29

FIG. 2—*The mass of piled debris extends from the lower part of the face to the upper thighs. The debris consists of grass, pine needles, and human head hair. The head is to the left in the image.*

cadaver. The scraping of debris toward and onto the cadaver created parallel lines in the soil around the body that extended out a distance of *c*. 20.32–30.48 cm. Along with the grass, leaves, and pine needles, the bobcat also pulled head hair from the cadaver and incorporated it into the pile of debris (Fig. 2).

The hair was not predominantly distributed in clumps but rather strands distributed fairly equally throughout the debris mass. The forensic significance of examining the debris pile is twofold. First, the incorporation of human hair into the debris would suggest a higher probability of scavenger activity than human activity. It would be less probable that a human would spend time weaving the hair into a pile of debris that would then be used to cover the body. Second, the hair could be collected for DNA analysis.

In addition to documentation of the behaviors from the digital images, sex determination was also attempted. Dimorphism is displayed in bobcats with males generally (10%) larger than females. Determining sex based on relative size requires the comparison between the male and female bobcat. As there was only one bobcat present and actual measurements were not obtained, comparison was not possible. An alternative was to examine the images for photographs of genitalia. Only four images showed the genitalia of the bobcat; however, the camera's image resolution was low, resulting in blurred images when zoomed for closer examination. As a result, neither sex nor age could be determined.

Previous literature states that bobcats are typically not scavengers but rather prefer live prey. However, during times of food scarcity, they will extend their home range to find food or resting places (13,15). According to Virchow and Hogeland (17), "On large carcasses, bobcats usually open an area behind the ribs and begin feeding on the viscera" (p. 37). In the current study, the subject was autopsied prior to arrival at STAFS and no viscera were present. Throughout the 32 days of captured activity, the bobcat was observed consuming the soft tissue of the lower arms, predominantly the left arm, as well as the soft tissue of the anterior hip region and the upper thighs.

The bobcat first fed on the left arm, consuming both adipose and muscle tissues surrounding the radius and ulna (Fig. 3). The majority of soft tissue was consumed, exposing the radius and ulna.

FIG. 3—*The bobcat fed on the soft tissue of the lower left arm exposing the radius and ulna. Margins of the skin and underlying adipose and muscle tissue, where the bobcat was feeding, are smooth, not lacerated, similar to the margins of an incised wound.*

It did not consume the tissue of the hand but eventually began consuming the soft tissue covering the left humerus. The resulting defects of the soft tissue exhibited smooth margins. This observation is consistent with reported cases of felid damage and inconsistent with lacerations caused by canids.

The bobcat also fed on the skin and adipose tissue that covered the muscle and bone of the anterior hip region and the upper thighs. As seen in Fig. 4, the margins of the skin on the thigh and hip area are also predominantly smooth, similar to the gross appearance of incised wounds caused by sharp force trauma.

On the skin of the left upper abdominal region are long scratches, measuring *c*. 1–2 mm in width and *c*. 40–70 mm in length (Fig. 5). There is no clear pattern of the scratches, and some areas were scratched twice. Although deep in some areas, there is neither bruising nor blood associated with the scratches, indicating the scratches occurred postmortem. Although the scratches, under gross observation, appear thinner than scratch marks from human fingernails, it is possible that these scratches could be mistaken for human scratch marks or marks caused by a sharp instrument.

FIG. 4—*The bobcat consumed the skin and adipose tissue of the hip and upper thigh region. Note the smooth edges of the skin, similar to edges of incised wounds.*

FIG. 5—*Scratch marks on the left upper abdominal regions measuring c*. 1–2 mm in width and 40–70 mm in length.

FIG. 6—*Damage to the left distal ulna (top, A = medial view, B = anterior view, C = anterolateral view) and the left distal second metacarpal (bottom, A = medial view, B = lateral view, C = anterior view). Puncture marks evinced by depressed cortical bone and exposure of trabeculae bone.*

Trauma to bone was found on the left distal ulna and the distal end of the left second metacarpal. Multiple puncture marks were found on the radial circumferential articulation of the left ulna, with a more extensive defect on the anterolateral surface. This defect is characterized by depressed cortical bone and exposure of spongy bone. The defect on the second metacarpal is also extensive with complete destruction of the lateral portion of the head (Fig. 6). Scavenging activity was not found on any other bone present. Although the bone characteristics at the distal ends of these bones (i.e., thin cortical bone covering trabeculae bone) make it difficult to see scavenging defect patterns (3), it is clear that there is no distinct pattern of the puncture defects and no evidence of gnawing.

This may indicate that the bobcat was predominantly interested in the soft tissue as food and not the bones. In addition to the bone defects, the motion-detecting camera captured the bobcat trying to pull the arm away from the body after it had consumed most of the forelimb soft tissue. The puncture defects may simply be the result of the bobcat's effort to remove the arm from the body using the bone as a stabilizing structure to anchor its teeth.

Southeast Texas experienced an unusually cold winter season in 2009–2010. Over the course of the study, temperatures varied from −9.68 to 21.34°C, with an average temperature of 7.34°C. Temperature and the number of arrivals during a day were analyzed to determine whether there was a correlation between frequency of visits and temperatures. The Shapiro–Wilk test for normality of data was conducted. Data were not normally distributed, so the Spearman's rho correlation coefficient was used for analysis. Results showed no significant relationship between temperature and number of times the bobcat visited the body during any given day ($p = 0.144$). For example, on one occasion, when the average daily temperature was 3.3°C, the bobcat visited four times that day; similarly, the bobcat visited fours times on another day when the temperature was 12.8°C. However, as temperatures increased and the soft tissue began to putrify, the bobcat did not return.

With minimal to no insect activity and inhibited microbial activity during late December and throughout the month of January, the early stage of decomposition was prolonged for *c*. 50 days. This allowed for the documentation of gross defects to the body from the bobcat over an extended period of time. For several days in February, toward the end of the study, temperatures increased, remaining at 10–15°C during the daytime hours. During this time, decomposition rates were accelerated.

On January 24, 25, 30, and 31, the bobcat appeared at least once without feeding. Photographic evidence recorded the felid smelling or walking around the cadaver briefly before leaving. The bobcat did not appear on January 28 or 29. Rain on February 3 flooded the opening under the fence, preventing the bobcat's entrance on the 4th and 5th. The bobcat's final visit occurred on February 6, 2010. By this time, the cadaver's tissue was putrifying. The cadaver's feet were turning green, the body was leeching body fluids, and a strong odor was present.

As the body continued to decompose, the tissue desiccated and blackened, obscuring the scratch marks on the left abdominal region. In addition, although the body was covered by the wire cage, avian scavengers, the Turkey and American Black vulture, were able to reach through the wire and began pulling limbs away from the body, disrupting the debris covering the body and picking at the remaining soft tissue, destroying the smooth margins created by the bobcat.

Discussion

When bodies are found in later stages of decomposition in outdoor settings, it is difficult to ascertain postmortem interval and the events that occurred during that time. Consideration of the many possibilities that could occur makes reconstructing the event tentative. This taphonomic study records one such possibility, scavenging by the bobcat, *Lynx rufus*. The bobcat, *Lynx rufus*, is not typically a scavenger; however, this study documents scavenging behavior as well as covering of the body. Scratches on the skin, appearance of incised wounds of the skin and tissue, and covering of the body could all be mistaken as a human nefarious act. When recovery of a body is from an outdoor setting, scavenging should not be ruled out when body alterations (e.g., scratches, torn tissue, etc.) are present. Understanding the behavior of local or regional wildlife and the destruction they can cause to a body is important and helpful to the medical examiner.

In Southeast Texas, vultures are predominant scavengers and will scavenge remains throughout the various decomposition stages (authors' personal observations). If a body was found at the later stages of decomposition, after both bobcat and avian scavenging, there may be little or no evidence of the bobcat scavenging activity. In this study, prior to late stages of decomposition, the characteristics on the body, as a result of the bobcat scavenging, were quite distinct and could be very helpful in assessing the events associated with the death. Anthropologists would be most useful to medical examiners in distinguishing between not only defects on soft tissue and bone as a result of human manipulation, but also the possibility of scavenging by one or by a variety of different scavengers.

Understanding the Bobcat, Lynx rufus

Predominantly, both adult male and female bobcats behave similarly with the exception of acquiring some types of food and with certain aspects of establishing territories. Typically, it is only the juveniles that tend to scavenge because of their level of experience in hunting and their search for a home range. During the winter months, adults tend to scavenge as well.

Buie et al. (18) suggested that peak hours of bobcat activity were 04:00–10:00 and 18:00–24:00 and that "this trend was maintained by both sexes regardless of season, although it tended to become less distinct during the winter season" (p. 43). In the present study, arrivals during peak and nonpeak hours were not significantly different. The considerable number of arrivals during nonpeak hours may be attributed to the winter season in which this study was conducted. Texas Parks and Wildlife (http://www.tpwd.state.tx.us/huntwild/wild/species/bobcat [accessed July 2010]). stated that the "The bobcat is active largely at night, although they frequently leave their place of cover and begin hunting long before sundown." The behavioral pattern of bobcats, stated by Texas Parks and Wildlife, is similar to the documented activity of the bobcat at the STAFS facility as recorded in the number of arrivals during dusk.

On many occasions, the bobcat stayed at the body for prolonged periods of time. In the "resting" images, the bobcat appeared very tranquil and relaxed. Bailey (11) stated in his 1979 study that "shrubs and trees provide adequate stalking and escape for bobcats. In these habitats, bobcats are probably always in a place of safety" (p. 67). The outdoor research facility at STAFS is an enclosed one-acre parcel with privacy slats in the chain link fence giving clear vision across the enclosed area with minimal distraction from the outside. Within the enclosure, there are several large trees that provide coverage and shade. With the foliage and minimal distraction, it appeared that the bobcat felt secure enough to relax close to the cadaver and stay for extended periods of time.

Future Scavenging Studies

This type of study is dependent on the appearance and scavenging activity of the bobcat; therefore, repeating it may not be feasible. However, if this study could be repeated, we would like to use a nonautopsied body to explore the possibility that the bobcat might choose the viscera as a food source and not the upper thigh and arms. As it was an unusually cold winter for Southeast Texas, we would like to repeat the study in the more typical winter temperatures to determine whether scavenging by the bobcat is common during the winter months. However, if in a new study a bobcat would not appear, it would be difficult to determine whether

it was due to a milder, more average temperature winter, and perhaps the bobcat would not need to scavenge, or the bobcat was apprehensive in entering the area, or there was no bobcat in the area. In a new study, we would also like to prevent scavenging by other animals or birds after the bobcat has scavenged and monitor more closely the changes of the damaged tissue as the body continues to decompose.

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