



Urban scavenging of skeletal remains by the slender mongoose (*Galerella sanguinea*) in Johannesburg, South Africa

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INTRODUCTION

- Unidentified human remains are frequently recovered in urban velds (open grassland fields surrounded by industrial &/or residential developments) in South Africa¹⁻³.
- These remains often exhibit animal bite marks and are scattered by animals.
- The slender mongoose (*Galerella sanguinea*)

(Figure 1) is a common scavenger in urban and rural sub-Saharan Africa, particularly in the Highveld of South Africa²⁻³.

AIM: To determine the scattering pattern of skeletonized remains by the slender mongoose and to describe their bite marks on bone.

METHODS

SITE OF STUDY: Frankenwald Research Site (University of the Witwatersrand) found in the Highveld of South Africa.

DATA COLLECTION:

- Six fresh pig carcasses were placed in a large veld in Frankenwald - a suburb of Johannesburg, South Africa – and left to decompose until fully skeletonized.
- Motion-activated cameras were used to record the scavenging of the pig carcasses; particularly

to identify the scavenging species, time of scavenging activity, and the body region scavenged upon.

- The site was visited weekly to record and map the progress of skeletal scattering.
- Descriptions of the bite marks on the bones were recorded.

ETHICAL APPROVAL: Animal Ethics Screening Committee (AESC) (Waiver 17-04-2018-O).

RESULTS

- Mongooses fed on maggot masses in the early stages of decomposition and actively scavenged and scattering the flesh and bones in the advanced stage of decomposition.
- Mongooses were diurnally active (09h00-16h59) with activity peaking in the afternoon (14h00-16h59) (Figure 2).
- The scapula, ribs, vertebrae and whole limbs (before the individual limb bones were fully disarticulated) were commonly scattered.
- Skeletal remains were scattered two general directions (north-western and south-eastern

directions – assumed to be in the direction of the mongoose burrows).

- Scattered remains were retrieved within a maximum radius of 10.49 m/34.42 ft. (Figure 3).
- Bite marks were commonly observed on the ribs, vertebrae, and mandible (Figure 4).
- Sternal and costal ends of the ribs were gnawed off with a crushed appearance (Figure 4).
- Gnawing on the mandible was concentrated on the angle of the mandible with multiple parallel scores on the flat surfaces and the angle margin having a stepped appearance (Figure 4).

CONCLUSION

- The described scattering pattern will assist in a more thorough recovery of scattered skeletal remains in South African velds and the description of mongoose bite marks on bone will assist in differentiating between perimortem bone trauma and taphonomic alterations.

REFERENCES

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Figure 1: Slender Mongoose (*Galerella sanguinea*)



Figure 4: Mongoose bite marks on mandible (left), scapula (middle), and rib (right)

Figure 2: Time of the day mongooses scavenge

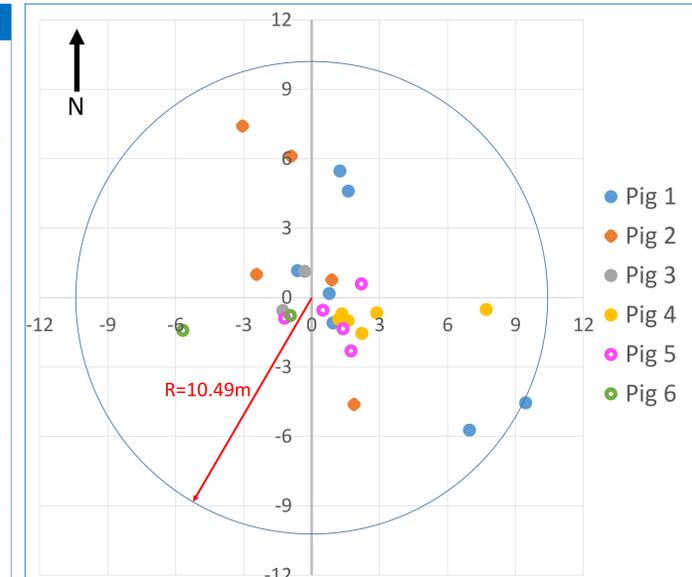
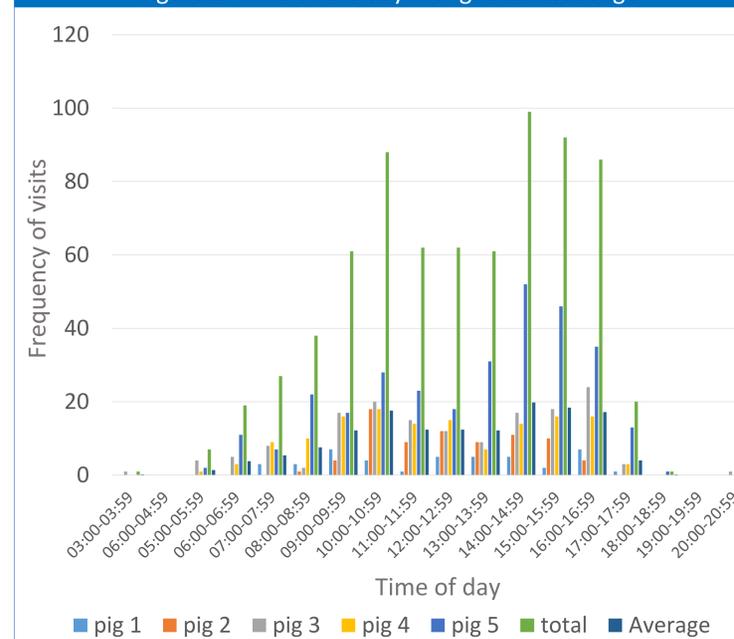


Figure 3: Scatter plot showing the distance (in meters) and direction of the scattering of elements by mongoose (origin 0,0 represents the original position of each body)

ACKNOWLEDGMENTS

The authors acknowledge Dries Du Plessis and GHB Farms for providing the pigs, and Allison Gilbert, Tracy Reindorp, and Rethabile Masiu for assisting in the mapping of the scattered remains. This study was funded by the National Institute of Justice and the Forensic Technology Center of Excellence and American Academy of Forensic Sciences Humanitarian and Human Rights Resource Centre.