Title: Forensic taphonomy: Vertebrate scavenging in the temperate southwestern Cape, South Africa

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Forensic taphonomy: Vertebrate scavenging in the temperate southwestern Cape, South Africa

Abbreviated Title: Scavenging in the Cape, South Africa

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Highlights

- Rapid increase in porcine decomposition rate due to vertebrate scavenging
- Cape grey mongoose (*Galerella pulverulenta*) only observed scavenger
- Feeding pattern begins near anus and continues cranially
- Early skeletonisation reached in 14 days; >93 days for control
- PMI estimation methods must take scavenging into account

Abstract

Vertebrate scavenging can significantly accelerate the rate of decomposition, which can hinder the understanding of the post-mortem interval (PMI). Patterns of decomposition and scavenging are highly specific to different environments in a forensic context, with no known data for South Africa. A better understanding of local decomposition patterns, taking scavenging into account, could increase the accuracy of PMI estimation and improve identification of human remains. Using a porcine model in the forensically significant thicketed Cape Flats Dune Strandveld habitat, the effect of vertebrate scavenging on the decomposition process was examined. This part of Cape Town suffers from poor socioeconomic conditions and a high murder rate, which is due in part to the dense population. Human decomposition was simulated using three small (~20kg) domestic pig