

Accumulation Behaviours and
Taphonomic Signatures for Extant
Verreaux's Eagle Nests, *Aquila verreauxii*,
in Southern Africa

Stephanie Edwards Baker

A Dissertation submitted to the Faculty of Science, University of the
Witwatersrand, Johannesburg, in fulfilment of the requirements for
the degree of Master of Science.

April, 2013

ABSTRACT

Recognising the mechanisms that led to the deposition of the Plio-Pleistocene caves of South Africa provide an irreplaceable window into the environment at the time. Differentiating between various accumulating agents based on the markings and accumulation variances has become an integral part of palaeontological research. Large birds of prey have been investigated for their connection to the *Australopithecus africanus* type specimen, commonly, the Taung Child. The verreaux's eagle, *Aquila verreauxii*, was investigated in this study to establish whether it produced a taphonomic signature that would be distinguishable from other similarly sized raptors and small mammalian carnivores. Prey remains were collected from 11 nesting-sites in the Gauteng and Northwest Provinces as well as nesting-sites from across the Northern and Western Cape Provinces. The objective was to illustrate how prey selection was directly influenced by the immediate environmental stresses.

Prey was analysed in terms of prey choice, skeletal part representation and the markings that the skeletal elements bore. Of the total of 886 specimens that were collected, rock hyrax (*Procavia capensis*), hares (*Lepus* sp.), Smith's red rock rabbit (*Pronolagus rupestris*) and helmeted guineafowl (*Numida meleagris*) were the most common. The skeletal part representation directly mirrors the feeding behaviour of Verreaux's eagles: body parts with larger muscle attachments and skeletal elements covering choice meat options were most often targeted and damaged. Finally, ten damage types were recorded as well as the combinations thereof, of which chewed and crenulated edges, V-nicks, removal of bone and punctures featured prominently. The results showed that verreaux's eagles do leave a characteristic taphonomic signature in terms of the assemblage composition as well as the markings on bone surfaces.