Early hominin meat consumption

Our Ref:

an agency of the
Department of Arts and Culture

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Enquiries: Phillip Hine
Tel: 021 462 4502
Email: phine@sahra.org.za
CaseID: 13608

Date: Wednesday March 27, 2019

Letter

In terms of Section 32(19) of the National Heritage Resources Act (Act 25 of 1999)

Attention: Dr Bernhard Zipfel
Evolutionary Studies Institute
University of Witwatersrand
PO Wits

Objectives: The overarching goal for this project is to reconstruct the tropic level of southern African Australopithecus and how much meat – compared to plant-based resources – these early hominins consumed in the Pleistocene. These essential deficits of knowledge can be addressed by nitrogen isotopes (?15N) studies, because it can inform about the individuals position in the (paleo)food chain. Until now, determination of ?15N data was only possible on (hominin) specimens younger than 100,000 years due to the need of large quantities of fossil collagen which were only insignificantly geochemically changed due to postmortem alteration. In recent years, a new biogeochemical method measures ?15N values with high precision on extremely small sample sizes, which finally permits to analyze Pleistocene samples, e.g., fossil (hominin) enamel. In cooperation with the Max Planck Institute for Chemistry (MPIC) in Mainz (Germany), A baseline ?15N values of faunal elements which were potentially available to Australopithecus will be established to then ultimately analyze the hominin tooth enamel itself. The new ?15N results will be unique and, for the first time, allow the reconstruction of trophic level and meat consumption of hominins from the Pleistocene.

Dear Dr Zipfel,

Thank you for your application to sample and export 57 samples (1-5mg dental powder) of faunal material from Member 4 of Sterkfontein for isotopic analysis. It is noted that the analysis will be undertaken in collaboration with the Max Planck Institute for Chemistry (MPIC) in Mainz, Germany.

SAHRA Archaeology, Palaeontology and Meteorites (APM) Unit has reviewed your application and decided to approve it.

We wish you every success with this project.

Should you have any further queries, please contact the designated official using the case number quoted

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above in the case header.

Yours faithfully

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Phillip Hine
Acting Manager: Archaeology, Palaeontology and Meteorites Unit
South African Heritage Resources Agency

ADMIN:
Direct URL to case: http://www.sahra.org.za/node/521685

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