

Border Cave Resin aDNA

Interim Comment

**IN TERMS OF SECTION OF THE NATIONAL HERITAGE RESOURCES ACT (ACT 25 OF 1999)
AND SECTION 40(8) OF THE KWAZULU-NATAL AMAFA AND RESEARCH INSTITUTE ACT (ACT
05 OF 2018)**

Attention: Dr Ashley Kruger
Swedish Museum of Natural History

Aim/rationale: The purpose of this project is to further our understanding of hafting mastics, chewing gums and residue manufacture during the African Middle Stone Age. To accomplish this, we will sample residues and chewing gums from the southern African archaeological record and conduct state-of-the-art genetic analyses on them. We will investigate the genetic component of the plant, animal and other organic material found in the samples, to evaluate their origin. We will test the hypothesis that human aDNA can also be recovered from African chewing gums, as has been shown to be true for Scandinavian chewing gums. We have the following objectives: 1. Investigate the potential for aDNA extraction from hafted lithic residues (including chewing gums) from southern African Middle Stone Age archaeological sites. 2. Decipher the components used in the adhesive recipes by pinpointing biological and plant material based on genetic data extraction. This will be an entirely new aspect of methodology as to date, mostly microscopy and a few chemical analyses have been used to identify these components. 3. Use recovered aDNA to investigate the genetic migration / movement of people on the landscape during the African Middle Stone Age. 4. Identify ancient proteins found within the samples and map the associated potential health effects they would have posed to the human populations at that time.

The case was tabled on the 10th of August 2023 and it was decided that since Border Cave is a National Heritage Site, SAHRA must issue the permit. However, the KZN Amafa & Research Institute would not have any objection.

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

Yours faithfully



KWAZULU-NATAL
AMAFA
& RESEARCH INSTITUTE

HERITAGE IDENTIFICATION, MANAGEMENT & PROTECTION

Enquiries: Celeste Rossouw
Email: celrossouw@gmail.com
Tel: 033 394 6543
Date: Friday August 11, 2023

CaseID: 21452

Our Ref: SAH23/21452 & 23/053

Celeste Rossouw
Senior Heritage Officer: Rock Art
KwaZulu-Natal Amafa and Research Institute

Mxolisi Dlamuka
Head of Secretariat and Administration
KwaZulu-Natal Amafa and Research Institute

ADMIN:

Direct URL to case: <https://sahris.sahra.org.za/node/618147>

Terms & Conditions:

1. This approval does not exonerate the applicant from obtaining local authority approval or any other necessary approval for proposed work.
2. If any heritage resources, including graves or human remains, are encountered they must be reported to the Institute immediately.
3. The Institute reserves the right to request additional information as required.