

Tracing human population history through ancient DNA: Pretoria bone collection

Sampling of human remains curated at the Pretoria Bone Collection (Department of Anatomy, University of Pretoria).

PermitID 2804

Team members

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For this project, we aimed to sample several skeletons housed in the Pretoria Bone Collection, in order to (a) do radiocarbon dating where not available, and (b) conduct aDNA assessment. It should, however, be kept in mind that the dates and aDNA in themselves can never represent the site and the people who inhabited it, and therefore it needs to be accompanied by full skeletal analysis of the sampled individual as well as others from the site. As I (M Steyn) worked at UP before, I am familiar with most of the skeletons and have conducted skeletal analyses on most of them during the past 30 years. Most of the skeletons date from the Early or Late Iron Age.

In this regard, all specimens have been sampled during the past two years, as applied for. The full list of sampled skeletons is shown below – the dates shown here are those which were known before this project commenced. The remains were transferred from University of Pretoria (with permission) to the University of the Witwatersrand in order to do the sampling under sterile conditions to avoid contamination. All skeletons were subsequently returned to the University of Pretoria by M Steyn by hand, where they continue to be curated.

Skeleton	aDNA ID no	Bones sampled	Provenance
UP001	UPS001	Petrous bone	Happy Rest, Limpopo, 1310 ± 50 BP direct date
UP002	UPS002	Phalange	Happy Rest, Limpopo, not dated, similar context as above
UP013	UPS013	Tooth, phalange	Hole-in-the-wall, Eastern Cape
UP17a	UPS017a	Molar, petrous bone	Eggo Cave, Limpopo
UP17b	UPS017b	Molar, petrous bone	Eggo Cave, Limpopo
UP29	UPS029	Petrous bone	Skukuza Rock Shelter, Mpumalanga
UP32	UPS032	Incisor, long bone	Schuinsdraai, Mpumalanga, ±AD 1500
UP47	UPS047	Phalange	Schuinsdraai, Mpumalanga, ±AD 1500
UP77	UPS077	Molar	Kon Stayt, Limpopo, Pta 4363: AD 1227(1264)1283
UP130	UPS130	Molar, petrous bone	Nwanetsi, Mpumalanga, AD 1410 direct date
UP132	UPS132	Molar, petrous bone	Ben Alberts, Limpopo, AD 1485-1628
UP139	UPS139	Molar	Pilanesberg, Northwest Province, AD 1433 (1451) 1487

All the radiocarbon dates have been finalized and are available (also including isotope analysis), and we are awaiting the results of the aDNA analysis which may take several years. We will report fully on each, in published format, once the data becomes available.

We are grateful towards the University of Pretoria for allowing us access to the remains.

Prof. M Steyn