



EXPLORING DESERT ADAPTATIONS AT SPITZKLOOF ROCKSHELTER B, SOUTH AFRICA

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DIRECTOR:

Dr. Genevieve Dewar, University of Toronto Scarborough (gdewar@utsc.utoronto.ca)



INTRODUCTION

Spitzkloof is a series of three neighboring rockshelters in the Richtersveld region of Namaqualand, a coastal desert in the northwest corner of South Africa. Namaqualand is a semi-arid southern extension of the Namib Desert of Namibia. Extremely rugged and remote, the Richtersveld is known for its spectacularly strange and desolate landscapes, its extraordinarily diverse plant and animal life, and, though the local inhabitants are generally impoverished, its immense mineral wealth. Although desolate, transhumant pastoralists, the descendants of whom still live here, thrived in this landscape for some 2000 years. Until last century, the region was home to desert-dwelling hunter-gatherer groups for at least 60,000 years and probably much longer.

Our work at Spitzkloof is part of a larger comparative project entitled, *Adaptations to Marginal Environments in the Middle Stone Age* (AMEMSA). This project aims to understand how some of the world's earliest fully modern human societies adapted to challenging African environments. Project AMEMSA is exploring two such environments: (1) the Namaqualand desert and (2) the Lesotho Highlands (in southeastern southern Africa). We are particularly interested in the evolution, over the past 200,000 years, of the behavioral flexibility that so epitomizes our species – flexibility that enabled us to colonize the globe and in the process out-compete our less versatile archaic cousins, including the Neanderthals, Denisovans and Hobbits.

The three Spitzkloof Rockshelters – designated A, B and C – form the ‘backbone’ of our research in Namaqualand. Spitzkloof A was excavated over the course of two field seasons in 2010 and 2011. These excavations uncovered a three-meter deep stratigraphic sequence with archaeological deposits stretching back to roughly 60,000 years ago. Excavations at Spitzkloof B, just next door, began in 2012. To our delight, we discovered that the deposits have superb stratigraphic integrity, excellent organic

preservation, and extremely rich cultural remains. Based on this and the shape of the shelter floor, we are anticipating a deep, well-stratified Holocene and later Pleistocene sequence. The finely bedded stratigraphy, high artifact densities, and rigorous excavation methods necessitated a slow pace of excavation from 2013 to 2017, resulting in the removal of ~1 m of deposit by end of the 2017 season.

The goal of the 2019 field season is to continue excavating Spitzkloof B, and to conduct archaeological and geomorphological surveys in the surrounding area. We will begin excavating in layers dating to 45,000 years ago with the aim to study how people lived in the desert during a period of environmental flux. We expect to find Middle Stone Age artefacts (blades and points) as well as animal remains. The goal of our survey will be to look for open sites with artefacts that are also present in the rockshelter and to find raw material sources near the site. Together the data will help us pull together a regional model of how people used this desert landscape in the past.

ACADEMIC CREDIT UNITS & TRANSCRIPTS

Credit Units: Attending students will be awarded 8 semester credit units (equivalent to 12 quarter credit units) through our academic partner, Connecticut College. Connecticut College is a private, highly ranked liberal arts institution with a deep commitment to undergraduate education. Students will receive a letter grade for attending this field school (see grading assessment and matrix). This field school provides a minimum of 160 direct instructional hours. Students are encouraged to discuss the transferability of credit units with faculty and registrars at their home institution prior to attending this field school.

Transcripts: An official copy of transcripts will be mailed to the permanent address listed by students on their online application. One more transcript may be sent to the student home institution at no cost. Additional transcripts may be ordered at any time through the National Student Clearinghouse: <http://bit.ly/2hvurkl>.

COURSE OBJECTIVES

The objectives of this field school are to educate, engage and empower students through archaeological fieldwork. After receiving a firm, lecture-based background in southern African prehistory, the environment and culture of Namaqualand, and archaeological method and theory, students will put this knowledge into practice at the ancient Spitzkloof Rockshelters in South Africa's rugged Richtersveld. In the process, students will receive training in archaeological excavation techniques and survey methods. Students will be engaged with the prehistoric archaeological record through rockshelter excavation and landscape survey, and with the directors, TA's and their peers through the very nature of living together in a camping environment. Finally, the experience of working together towards generating high-quality archaeological data will empower students to be confident in future studies and improve life skills.

Specifically, students will participate in the following research activities:

Excavation - Students will learn to excavate the rockshelter sediments by working closely alongside the directors and TA's. Students will have the opportunity to work on various archaeological units to gain broad experience dealing with different issues that can arise when conducting single context recording. Students will also have a chance to use the total station to piece-plot *in situ* artifacts >2.5 cm.

Survey – When high valley winds prevent us from excavating carefully, which happens frequently, we will conduct foot surveys of the immediate surroundings to identify open-air occupation sites, lithic scatters, raw material outcrops and other geomorphological features of interest.

Drawing and note taking – Every student will be responsible for completing detailed electronic context sheets as they excavate, including sediment, feature and artifact descriptions, and profiles and plan views illustrations of the excavation unit. This will all be verified by one of the directors.

Photography – Students will have a chance to assist with the photography of all contexts as well as artifacts of importance.

Post excavation – Students will learn about the various artifact types by spending time sorting through the sieved material. This will familiarize the students with the artifact classes as well as laboratory techniques.

Students will fly to Cape Town for two days of lectures and a trip to the museum. From there, we will transport everyone to Spitzkloof where we will engage in the hands-on aspect of the field school. Students will learn dynamically by working on the excavation of the site, conducting survey in the surrounding landscape and organizing the resulting material.

There will be scientific specialists who join us and if students have an interest in their work, you will be able to assist them in collecting samples, such as paleobotany and micromorphology. We will also be conducting field analysis of the faunal material during which students will learn about zooarchaeology. Friday mornings are left open for implementing field experiments or collecting reference materials, and Friday afternoons are completely free. The team's specialties include lithic analysis, zooarchaeology, GIS, and palaeo-environmental reconstruction through the use of pollen, phytoliths and sediment analysis.

DISCLAIMER – PLEASE READ CAREFULLY

Our primary concern is with education. Traveling and conducting field research involve risk. Students interested in participating in IFR programs must weigh whether the potential risk is worth the value of education provided. While risk is inherent in everything we do, we do not take risk lightly. The IFR engages in intensive review of each field school location prior to approval. Once a program is accepted, the IFR reviews each program annually to make sure it complies with all our standards and policies, including student safety.

We do our best to follow schedule and activities as outlined in this syllabus. Yet local permitting agencies, political, environmental, personal, or weather conditions may force changes. This syllabus, therefore, is only a general commitment. Students should allow flexibility and adaptability as research work is frequently subject to change.

Archaeological field work involves physical work in the outdoors. You should be aware that conditions in the field are different than those you experience in your home, dorms or college town. This program operates in a desert environment in South Africa where snakes and scorpions have been observed. While it will be winter, the temperatures during the day can reach up to 80⁰F and at night the temperature may drop close to freezing. Humidity is relatively low, but flying insects such as mosquitoes, bees and flies may be close to the excavation area. In order to be protected from sunburn and/or insects please bring a hat, sunscreen, sunglasses and insect repellent.

If you have medical concerns, please discuss them with your doctor. All other concerns may be discussed with project director – as appropriate.

PREREQUISITES

None. This is hands-on, experiential learning and students will study on-site how to conduct archaeological research. Archaeology involves physical work and exposure to the elements and thus, requires a measure of acceptance that this will not be the typical university learning environment. You

will get sweaty, tired, occasionally cold, and you will have to work and live in the outdoors. Students are required to come equipped with sufficient excitement and adequate understanding that the archaeological endeavor requires real, hard work – in the sun, on your feet, and with your trowel.

GRADING MATRIX

60%: Participation – Being actively involved in the excavation of the site, lab work and survey.

20%: Field notebook – You will keep a daily journal of your excavation progress, thoughts and discoveries.

20%: Short assignment – At the end of the field season you will submit a short essay on the progress of the excavation, discoveries that were made and how they contribute to the interpretation of the site and cultures who deposited it.

TRAVEL & MEETING POINT

Hold purchasing your airline ticket until six (6) weeks prior to departure date. Natural disasters, political changes, weather conditions and a range of other factors may require the cancelation of a field school. The IFR typically takes a close look at local conditions 6-7 weeks prior to program beginning and make Go/No Go decisions by then. This time frame still allows the purchase of discounted airline tickets while protecting students from potential loss of airline ticket costs if we decide to cancel a program.

All students will be met at the Cape Town International Airport (CPT) on July 7th, 2019. Classes will begin at 9:00am on July 8th and we shall meet at the foyer of 'The Back Pack' hotel (<http://backpackers.co.za/>).

We will spend two days in Cape Town, leaving for Spitzkloof on the morning of July 10th. At the conclusion of the field season, we will return to Cape Town on the evening of August 7th. Students may depart Cape Town beginning the following day – August 8th.

If your flight is delayed or you miss your connection, please call/text/email immediately to the project directors. The project local cell phone numbers will be provided to enrolled students.

VISA REQUIREMENTS

A valid passport for at least six months is required to enter and depart South Africa. US Citizens do not require visas for stays of up to 90 days. Travelers are also urged to carry proof of their return ticket (e.g. a print out of their flight itinerary) when entering South Africa. Border officials at the airports frequently request to see such document. South African law requires travelers to have one totally blank (unstamped) visa page in their passport in order to enter the country. In practice, however, travelers often need to have more than one blank page. There have been numerous instances in which South African immigration officers required travelers to have two fully blank pages. Travelers without the requisite blank visa pages in their passports may be refused entry into South Africa, fined, and returned to their point of origin at their own expense.

Citizens of other countries are asked to check the South Africa Embassy website page at their home country for specific visa requirement.

ACCOMMODATIONS

Cape Town – In Cape Town, students will stay at 'The Back Pack' (<http://backpackers.co.za/>) situated in the heart of the city. The Backpack has an airport shuttle that will collect you directly from Cape Town International Airport. The Backpack is an approximately 20 minute drive from the airport. We will stay at the same venue on the night that we return to Cape Town from the site (Aug 7th).

Spitzkloof – On site, where the majority of the field school will take place, we will be camping. You will be required to bring your own tent, sleeping bag, air mattress etc. You will receive an information package before we leave detailing the equipment for which you will be responsible.

We bring all food and water for drinking/washing into the field. This is a rugged, isolated desert environment with absolutely no supermarkets or stores in the immediate area; the closest supermarket is a 1.5 hour drive away over rough terrain. We thus cook our own meals in the field. We take turns cooking and doing the washing up, allowing budding chefs an opportunity to wow us all. We have also built our own rock-and-sand pizza oven at the site (it works!) that we use on Sunday evenings. We eat very well with typical meals consisting of risotto, pasta, curry, pizza and even calzones. As we do not have a fridge, most meals are vegetarian with the exception of tinned tuna and dried meat (jerky, known locally as *biltong*). We do, however, have the occasional barbeque (meat and/or fish) on days we return from town with fresh produce and water (approximately once per week). Those who enjoy milk in their coffee/tea will also be happy to know we do have long life milk in camp. We can accommodate vegetarians, people with lactose intolerance, or who require Halal or Kosher food.

Toilet and shower facilities are very basic but functional. Our toilets are frequently renewed, open-air (but secluded) long-drops. We wash using solar showers to heat water, which everyone should bring. There is enough water for everyone to wash at the end of every workday.

EQUIPMENT LIST

- Tent (preferably four, but by all means three-season)
- Sub-zero sleeping bag (it must be able to handle temperatures below 0°C – I recommend -7 or -10°C).
- Camping mat (preferably thermarest type inflatable mat – keeps the chill out – this is essential)
- Small pillow
- Solar shower
- Hiking boots
- Soft bottomed shoes (i.e. trainers/sneakers)
- Headlamp and/or torch/flashlight
- Plenty of back-up batteries for any electronics (esp. headlamps)
- Work clothes
- Warm and cold weather clothing, including clean evening wear (i.e. non-working clothes) and sleeping wear
- Toiletries including sunscreen, lip balm, soap, shampoo and moisturizing cream
- Hat (both sun and warm) and sunglasses
- Raingear
- A small backpack (for hiking)
- Water bottle/canteen
- Camera (if you want!)
- Work gloves for digging
- Bathing suit
- Any prescription medicines
- A towel!

COURSE SCHEDULE

All IFR field schools begin with safety orientation. This orientation includes proper behavior at the field area, proper clothing, local cultural sensitivities and sensibilities, potential fauna and flora hazards, review of IFR harassment and discrimination policies, and review of the student Code of Conduct.

Week 1 (July 8-14)

Monday Morning: Lecture – Intro to southern African archaeology I
Afternoon: Lecture – Intro to southern African archaeology II
Afternoon: Visit the Iziko South African Museum
Readings: Mitchell 2002, Chapters 1-5

Tuesday Morning: Lecture – The Middle Stone Age southern Africa

Afternoon: Lecture – Later Stone Age southern Africa

Afternoon: Visit the Cape Castle

Readings: Mitchell 2002, Chapters 6-10

Wednesday All day: Drive to Spitzkloof

Thursday Morning: Lecture – Introduction to Project AMEMSA

Afternoon: Lecture – Namaqualand: environment, history and culture

Readings: Cowling et al. 1999, Chase & Meadows 2007, Desmet 2007, Odendaal & Suich 2007, Hoffman et al. 2007, Webley 2007, Dewar & Stewart 2012, 2016a, 2016b

Friday All day: Construct camp at Spitzkloof, directors to Port Nolloth for supplies

Saturday Morning: Organize camp

Afternoon: Remove backfill from archaeological trench

Sunday Morning: Clean trench in preparation for excavation

Afternoon: Student training – principles of excavation & ‘trench etiquette’

Week 2-4 (July 15-August 4th)*

Daily Schedule with a half day on Fridays

7 am Breakfast

8 am Begin work

12 pm Lunch

1 pm Return to work

5 pm Discussion of findings of the day

7pm Dinner

*Sunday July 21st, morning: Lecture – Life in the desert: ethnography and theory

Afternoon: Lecture – Life in the desert: archaeological evidence

Readings: Yellen 1977, Wiessner 1982, Smith 2005, Veth 2005, Vogelsang et al 2010, McCall et al. 2011, Dewar & Orton 2013, Dewar & Stewart 2012, 2016a, 2016b

Week 5 (August 4th - Aug 8th)

Sunday Photographs & Drawing

Monday Drawing & Sampling

Tuesday Backfill

Wednesday Drive back to Cape Town

Thursday Fly home

REQUIRED READINGS

Chase, B. M. & Meadows, M. E. (2007). Late Quaternary dynamics of southern Africa's winter-rainfall zone. *Earth-Science Reviews* 84: 103-138.

Cowling, R.M., Esler, K.J. & Rundel, P.W. (1999). Namaqualand, South Africa: an overview of a unique winter-rainfall desert ecosystem. *Plant Ecology* 142: 3-21.

Desmet, P.G. (2007). Namaqualand: a brief overview of the physical and floristic environment. *Journal of Arid Environments* 70: 570-587.

- Dewar, G. & Stewart, B.A. (2012). Preliminary results of excavations at Spitzkloof Rockshelter, Richtersveld, South Africa. *Quaternary International* 270: 30-39.
- Dewar, G. & Orton, J. (2013). Subsistence, settlement, and material culture on the central Namaqualand coastline In: Jerardino, A., Braun, D. & Malan, A. (Eds.), *The Archaeology of the West Coast, South Africa*. Cambridge Monographs in African Archaeology 84, BAR 2526 109-123.
- Dewar G. & Stewart, B.A. (2016). Paleoenvironments, sea levels and land use in Namaqualand, South Africa, during MIS 6-2. In: Jones, S. and Stewart, B.A. (Eds.), *Africa from MIS 6-2: Population Dynamics and Paleoenvironments*. Springer, Dordecht.
- Dewar G. & Stewart, B.A. (2017). Early maritime desert dwellers in Namaqualand, South Africa: A Holocene perspective on Pleistocene peopling. *Journal of island and coastal Archaeology*. DOI: 10.1080/15564894.2016.1216476
- Hoffman, M.T., Allsopp, N. & Rohde, R.F. (2007). Sustainable land use in Namaqualand, South Africa: key issues in an interdisciplinary debate. *Journal of Arid Environments* 70: 561-569.
- McCall, G et al. (2011). Erb Tanks: a Middle and Later Stone Age Rockshelter in the Central Namib Desert, Western Namibia. 2011. *Palaeoanthropology*: 398-421
- Mitchell, P. (2002). *The Archaeology of Southern Africa*. Cambridge University Press, Cambridge.
- Odendaal, F. & Suich, H. (2007). *Richtersveld. The Land and Its People*. Struik, Cape Town
- Smith, M. (2005). Moving into the southern deserts: an archaeology of dispersal and colonization. In: Smith, M., Hesse, P. (Eds.), *23 S: Archaeology and Environmental History of the Southern Deserts*. National Museum of Australia Canberra, Canberra.
- Stewart, B.A. et al. (2012). Afromontane foragers of the Late Pleistocene: site formation, chronology and occupational pulsing at Melikane Rockshelter, Lesotho. *Quaternary International* 270: 40-60.
- Stewart, B.A. & Dewar G. (n.d.). *Adaptations to Marginal Environments in the Middle Stone Age (Project AMEMSA): Research Design and Goals*. Unpublished report.
- Veth, P. (2005). Cycles of aridity and human mobility risk minimization among late Pleistocene foragers of the western desert, Australia. In: Veth, P., Smith, M., Hiscock, P. (Eds.), *Desert Peoples: Archaeological Perspectives*. Blackwell Publishing, Victoria.
- Vogelsang et al (2010). New excavations of Middle Stone Age deposits at Apollo 11 Rockshelter, Namibia: Stratigraphy, Archaeology, Chronology and Past Environments. *Journal of African Archaeology* 8: 185- 218.
- Webley, L.E. (2007). Archaeological evidence for pastoralist land-use and settlement in Namaqualand over the last 2000 years. *Journal of Arid Environments* 70: 629-640.
- Wiessner, P. (1982). Risk, reciprocity and social influences on !Kung San economics. In Leacock, E. & Lee, R. (Eds.), *Politics and History in Band Societies*, pp 61-84. Cambridge University Press, Cambridge.
- Yellen, J. (1977). Long term hunter-gatherer adaptation to desert environments: a biogeographical perspective. *World Archaeology* 8: 262-274.

RECOMMENDED READINGS

- Barham, L. & Mitchell, P. (2008). *The First Africans: African Archaeology from the Earliest Toolmakers to Most Recent Foragers*. Cambridge University Press, Cambridge.

Gamble, C. (1994). *Timewalkers: the Prehistory of Global Colonization*. Harvard University Press, Cambridge.