

Sherry V. Nelson

Anthropology

December 2009

Educational History:

B.S. 1994 Duke University Durham, North Carolina Biology (with a concentration in Evolutionary biology) / Biological Anthropology and Anatomy, *cum laude*

Ph.D. 2002 Harvard University Cambridge, Massachusetts Anthropology
“Faunal and Environmental Change Surrounding the Extinction of *Sivapithecus*, a Miocene Hominoid, in the Siwaliks of Pakistan,” David Pilbeam, advisor

Employment History:

Postdoctoral research associate 2002-2004 University of Michigan Museum of Paleontology Ann Arbor, Michigan

Department Affiliate 2004-2007 Department Affiliate Harvard University Department of Anthropology Cambridge, Massachusetts

Assistant Professor 2005-2007 Boston University Department of Anthropology Boston, Massachusetts

Assistant Professor 2007-current University of New Mexico Department of Anthropology Albuquerque, New Mexico

Professional Honors:

1996 Distinction in Teaching Award Harvard University

1997 Distinction in Teaching Award Harvard University

2002 American School of Prehistoric Research Award for Outstanding Ph.D. Thesis

Short Description of Research, Teaching, and Service Interests:

I am interested in fossil ape and hominid paleoecology. My research incorporates dental microwear and isotopic analyses to reconstruct paleohabitats, climates, and dietary adaptations. Most of my research has focused on the interaction of climate, vegetation, and faunal changes in a 20 million year fossil sequence in Pakistan, particularly the roles that changing habitat and climate played in the extinction of the Miocene ape *Sivapithecus*. A goal of my research is to determine whether Miocene apes had habitat requirements similar to those of modern apes and thereby understand what role changing climate played in the extinction of most hominoid species at the end of the Miocene. In addition to the Siwaliks, I am conducting research in other Miocene hominoid sites, including localities bearing the last European hominoids in order to determine whether these species differed in habitat and dietary requirements or instead were living in forest refugia. I am also collaborating with a Chinese paleoanthropologist to reconstruct habitat and diet for *Gigantopithecus*, one of the largest primates to have ever lived and a contemporary of the hominid *Homo erectus*.

I work with modern faunas, including a chimpanzee site in Uganda and Hadza foragers in Tanzania. My goal is to have a direct comparison between fossil and modern data to better interpret fossil ape and hominid adaptations. My isotopic analysis of chimpanzee faunas has provided a means of directly comparing Miocene hominoids and their ecosystems to chimpanzee adaptations and ecosystems. This analysis will be useful in future studies of the chimpanzee-human last common ancestor as well. One of my goals is to understand what kind of habitat could drive the changes we see from ape to hominid but at the same time support the earliest hominids whose ancestors required rainforest and a year-round supply of fruit.

I am also conducting a microwear study of modern forager diets in order to reconstruct hominid diets. I am focusing on two questions – when does meat become a major component of hominid diets, and when did hominids begin to cook? I have collected comparative microwear from Tanzanian Hadza foragers whose diet includes wild tubers and meat. The Hadza are an ideal comparison to fossil hominid diets because their tubers are wild and therefore mimic potential hominid foods in fiber content, and Hadza roasting techniques do not require any sophisticated methods not available to early hominids provided they had controlled use of fire. I am currently comparing Hadza microwear to that of South African hominids.

I teach lecture and seminar courses to undergraduate and graduate students, including science and non-science majors. Many of my courses focus on understanding human behavior and ecology through the process of evolution, the paleontological record, primate socioecology, and modern foragers. I am also excited to offer students opportunities to gain hands-on experience in the laboratory and in the field, working with fossils and modern ecosystems.

Books Authored:

2003 Nelson, S. *The Extinction of Sivapithecus: Faunal and Environmental Changes Surrounding the Disappearance of a Miocene Hominoid in the Siwaliks of Pakistan. American School of Prehistoric Research Monograph 1.* Boston: Brill Academic Publishers.

Articles in Refereed Journals:

2005 Nelson, S., C. Badgley, and E. Zakem. Microwear in modern squirrels in relation to diet. *Paleontologica Electronica* vol 8, issue 1, 14A, 15p.

2005 Nelson, S. Paleoseasonality inferred from equid teeth and intra-tooth isotopic variability. *Palaeogeography, Palaeoclimatology, Palaeoecology* 222: 122-144.

2007 Nelson, S. Isotopic reconstructions of habitat change surrounding the extinction of *Sivapithecus*, a Miocene hominoid, in the Siwalik Group of Pakistan. *Palaeogeography, Palaeoclimatology, Palaeoecology* 243: 204-222.

2008 Badgley, C., J. Barry, M. Morgan, S. Nelson, A. Behrensmeyer, T. Cerling, and D. Pilbeam. Ecological changes in Miocene mammalian record show impact of prolonged climatic forcing. *Proceedings of the National Academy of Sciences* 105: 12145-12149.

2009 Morgan, M, A. Behrensmeyer, C. Badgley, J. Barry, S. Nelson, D. Pilbeam. Lateral trends in carbon isotope ratios reveal a Miocene vegetation gradient in the Siwaliks of Pakistan. *Geology* 37: 103-106.

Articles Appearing in Edited Volumes:

2004 Bernor, R., T. Kaiser, and S. Nelson. The oldest Ethiopian Hipparion (Equinae, Perissodactyla) from Chorora: systematics, paleodiet, and paleoclimate. *Senckenberg Courier Special Volume* 246: 213-226.

2005 Badgley, C., S. Nelson, J. Barry, A. Behrensmeyer, and T. Cerling. Testing models of faunal turnover with Neogene mammals from Pakistan. In *Interpreting the Past: Essays on Human, Primate and Mammal Evolution in Honor of David Pilbeam. American School of Prehistoric Research Monograph.* Boston: Brill Academic Press.

2005 Nelson, S. Habitat requirements and the extinction of the Miocene ape, *Sivapithecus*. In *Interpreting the Past: Essays on Human, Primate and Mammal Evolution in Honor of David Pilbeam. American School of Prehistoric Research Monograph.* Boston: Brill Academic Publishers.

Invited and Refereed Abstracts / Presentations at Professional Meetings:

Reconstruction of paleoprecipitation regimes, and associated forests inhabited by *Sivapithecus*; S. Nelson; New England Biological Anthropology Symposium; Yale University; 2002.

Paleoenvironmental reconstructions with respect to the extinction of *Sivapithecus* in Pakistan; S. Nelson; American Association of Physical Anthropologists; Buffalo, New York; 2002.

The preferred habitats of *Sivapithecus* in the Siwaliks of Pakistan and paleoenvironmental changes leading to its extinction; S. Nelson; Asian Paleoprimatology Symposium; Primate Research Institute of Kyoto University, Japan; 2003.

Miocene paleoseasonality inferred from equid teeth and intra-tooth isotopic profiles; S. Nelson; Society of Vertebrate Paleontology; Minneapolis, Minnesota; 2003.

Dental microwear analyses of *Sivapithecus* and contemporaneous fauna; S. Nelson; American Association of Physical Anthropologists; Tampa, Florida; 2004.

A comparison of *Sivapithecus* and modern chimpanzee habitats, and environmental changes associated with the extinction of *Sivapithecus*; S. Nelson; International Geological Congress; Florence, Italy; 2004.

Testing models of faunal turnover with Neogene mammals from Pakistan; Badgley, Nelson, Barry, Behrensmeyer, and Cerling; Society of Vertebrate Paleontology; 2004

Isotopic reconstructions of Late Miocene climate, vegetation, and faunal change in the Siwaliks of Pakistan; S. Nelson; International Paleontological Congress, Beijing, China; 2006.

Evidence for habitat gradients using lateral variation in stable carbon isotope ratios within the Miocene Siwalik Sequence of Pakistan; Morgan, Behrensmeyer, Badgley, Nelson, and Barry; Society of Vertebrate Paleontology; 2006.

Dietary reconstructions of the Middle and Late Miocene ungulate communities in the Siwaliks, Pakistan; Belmaker, Nelson, Morgan, Flynn, Barry, Pilbeam, and Badgley; Paleoanthropology Society; 2007

Mesowear analysis of selenodont ungulates in the Middle to Late Miocene of the Siwaliks, Pakistan: dietary and paleoenvironmental implications; Belmaker, Nelson, Morgan, Barry, and Badgley; Society of Vertebrate Paleontology; 2007.

Reconstructing *Oreopithecus*' paleoecology by means of stable isotopic analyses. Preliminary data; European Fossil Primates Colloquium; Italy; 2008.

Paleoecology of *Oreopithecus bambolii* faunas (Tuscany and Sardinia): stable isotopic analyses results; Rook and Nelson; Regional Committee on Mediterranean Neogene Stratigraphy; Italy; 2009.

Systematics and paleoecology of diverse species of Equidae from the Pleistocene locality of Makayuni, Northern Tanzania; Wolf, Bernor, Kaiser, Nelson, and Semprebon; Society of Vertebrate Paleontology; Great Britain; 2009.

Field Research:

Paleontological excavations / surveys:

1995 Kromdraai, South Africa

1996 Can Llobateres, Spain

1996 Sinap and Pasalar, Turkey

1996, 2000 Siwalik sediments, Pakistan

1993-1994 Behavior of Black-and-White Ruffed Lemurs, Duke University Primate Center (Natural Habitat Enclosures)

1994 Communication in Carolina Chickadees, North Carolina

1994 Study of diet and behavior of howler monkeys, Costa Rica

2002, 2004 Chimpanzee behavior and isotopic analyses of fauna, Kibale Forest, Uganda

2003 Dental microwear analyses of Hadza diets, Tanzania

Funding:

Delta-Kappa Educational Foundation Scholarship Grant for Prospective Educators

Sherry Nelson

1990

Behavior of Black-and-White ruffed lemurs, Duke University Primate Center

Sherry Nelson

Pew-Cosen Research Fellowship

1993

\$3200

Diet and behavior of howler monkeys, Costa Rica

Sherry Nelson

Undergraduate Research Fellowship

1994

\$2500 plus travel

National Science Foundation Graduate Research Fellowship;

Sherry Nelson

1994-1997

\$43,200 plus tuition

Excavation of Kromdraai, a fossil hominid locality

Sherry Nelson

Mellon Research Grant

1995

\$3000

Training in dental microwear and analysis of Siwalik fauna

Sherry Nelson

American School of Prehistoric Research

1998

\$571

Training in stable isotope ecology

Sherry Nelson

American School of Prehistoric Research

1999

\$2490

Cora Dubois Fellowship

Sherry Nelson

2000

\$8000

Mellon Dissertation Completion Fellowship
Sherry Nelson
2001
\$8674

American School of Prehistoric Research Award for Outstanding Ph.D. Thesis
Sherry Nelson
2002
\$1000

Intra-tooth isotopic variability of modern equid teeth
Sherry Nelson
Scott Turner Award in Earth Science
2003
\$3000

Dental microwear analyses of Hadza diets
Sherry Nelson
Women's International Science Collaboration (underwritten by National Science
Foundation)
2003
\$5000

International Travel Award
Sherry Nelson
University of Michigan Museum of Paleontology
2004
\$1000

International Travel Award
Sherry Nelson
Boston University Graduate School of Arts and Sciences
2006
\$2210

Development of laboratory materials for biological anthropology courses
Sherry Nelson
Teaching Allocations Subcommittee grant, University of New Mexico
2007
\$4980

Undergraduate Student Mentoring:

2003 Undergraduate Research Opportunity Program, University of Michigan

Emily Zakem; 2003-2004; Dental microwear of rodents; University of Michigan

Catherine Mitchell; 2007; Dental microwear and stable isotope laboratory techniques; Boston University

Judy Hartline; 2008-2009; Honors thesis – Dental microwear of South African australopithecines; University of New Mexico

Joshua Vallejos; 2009-present; Honors thesis – Dental microwear of Kibale primates

Clayton Pilbro; 2009-present; Honors thesis – New Mexico proto-prosimians and true primates

Graduate Student Mentoring:

Catherine Mitchell; 2008-present; primary advisor

Keiko Kitagawa; 2008-present; dissertation committee member

Shawn Whiteman; 2008-present; dissertation committee member

Classroom Teaching:

Harvard University teaching fellow:

1996-1998; ANTH 117; Human Evolution; 50-60 students each class

Boston University courses:

2005 Fall ANTH 552; Primate Evolution and Anatomy; 4 students

ANTH 102; Human Behavior and Evolution; 150 students

2006 Fall ANTH 705; Graduate Proseminar in Anthropology; 3 students

ANTH 331; Human Origins; 19 students

2007 Spring ANTH 102; Human Behavior and Evolution; 150 students

ANTH 534; Advanced Topics in Human Behavioral Evolution; 9 students

University of New Mexico courses:

2007 Fall ANTH 357 Human Origins 15 students

2008 Spring ANTH 450/550 Topics in Human Behavioral Evolution; 18 students

ANTH 150 Human Emergence; 103 students

BIO 402/502 Topics in Paleoecology; 26 students

Guest lecture BIO 503 Seminar in Interdisciplinary Biology and Biomedical Sciences

Guest lecture ANTH 570 Science in Archaeology

2008 Fall ANTH 450/550 Primate Evolution; 13 students
ANTH 457/557 Paleoanthropology; 17 students
BIO 503 Topics in Interdisciplinary Biology and Biomedical Sciences

2009 Spring ANTH 150 Human Emergence; 108 students
ANTH 450/550 Topics in Human Behavioral Evolution; 11 students
ANTH 497 Individual Study; 2 students
ANTH 698 Advanced Research; 1 student
Guest lecture ANTH 570 Science in Archaeology

2009 Fall ANTH 698 Advanced Research; 1 student
(Maternity Leave)

Service:

1995-1999 Harvard Earth History and Paleontology (EHAP) seminar series coordinator

1999 Instructor, University of Connecticut “Aquanaut” Whale Communication and Oceanography Program

2003 Consultant for television series “Miracle Planet – the Evolution of Our World”

2006 Mentor, Weston High School Senior Internship Program

2007-current University of New Mexico Anthropology departmental seminar series coordinator

2008 “*Sivapithecus*: the life and death of a Miocene ape.” Ancestors Lecture, Maxwell Museum of Anthropology, University of New Mexico.

2008 Consultant in workshop to develop new Maxwell Museum human evolution exhibit.

2008 “*Sivapithecus*: Reconstructing the life of a Miocene ape.” Summer Science Program, Socorro, New Mexico.

2009 “Miocene: Dawn and demise of the apes.” Seminar series, Department of Earth and Planetary Sciences, University of New Mexico.

Peer reviews:

2003 *Anthropological Science*

2004 *Paleobiology*

2006 *Journal of Mammalogy*

2007 *Human Nature*

2007 Grant proposal reviewer for the Academy of Finland and the National Natural Science Foundation of China

2008 *Palaeogeography, Palaeoclimatology, Palaeoecology*

2008 *Mammalian Biology*

2008 *Naturwissenschaften*

2008 *Paleobiology*

2009 *Paleobiology*

2009 *Palaeogeography, Palaeoclimatology, Palaeoecology*

2009 *Journal of Human Evolution*

2009 National Science Foundation