

## **BARBARA J. WELKER**

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Department of Anthropology  
State University of New York at Geneseo

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### **EDUCATION**

2004: Ph.D. in Anthropology, SUNY Buffalo. Dissertation Title: "Proximate mechanisms governing feeding behavior and selectivity in mantled howler monkeys, *Alouatta palliata*."

1991: M.A. in Anthropology, SUNY Buffalo. Master's project: "Maternal time budgets in Rhesus macaques".

1988: B.A. in Anthropology, SUNY Buffalo.

### **ACADEMIC EMPLOYMENT HISTORY**

2004-present: Assistant Professor, Department of Anthropology, State University of New York at Geneseo

2001-2004: Instructor, State University of New York at Geneseo

1999: Instructor State University of New York at Buffalo.

1997, 1998-2001: Full-time Visiting Instructor, State University of New York at Geneseo

1997: Scientific Consultant, Ammonite natural history film company, Bristol, England.

1996: Resident physical anthropologist, Archaeological field school, State University of New York at Buffalo

1996: Archaeological field assistant, Dean and Barbour, Assoc., Buffalo, NY.

1995: Instructor, State University of New York College at Buffalo

1994: Instructor, State University of New York at Buffalo

1994-1996: Archaeological Field Assistant, Archaeological Survey, State University of New York at Buffalo

1989-1993: Laboratory Coordinator for "Comparative Primate Anatomy" program, State

University of New York at Buffalo

1988-1996: Graduate Teaching Assistant, State University of New York at Buffalo

## **TEACHING EXPERIENCE, AWARDS, AND DEVELOPMENT**

### **I. COURSES DEVELOPED AND TAUGHT**

(Average student enrollment is in parentheses)

ANTH 101: Exploration of Human Diversity (150-200)

ANTH 105: Introduction to Physical Anthropology (70)

ANTH 201: Human Evolution (30)

ANTH 203: Human Osteology (3)

ANTH 204: Human Variation and Adaptation (30)

ANTH 233: Primate behavior (15-20)

ANTH 306: Human Growth and Development (30)

ANTH 309: Topics in Primatology (5-10)

ANTH 323: Primate Field school (3)

ANTH 399: Directed studies:

Primate cognition

Human cognition

Nutritional anthropology

Human osteology as directed study (ANTH 299)

Forensic anthropology

Human adaptation and variation as directed study (ANTH 299)

Introduction to physical anthropology as directed study (ANTH 199)

Primate behavior zoo project

Research in physical anthropology

Honor's thesis guidance

Internships:

Primate field research

Forensic research

Veterinary medicine

Chiropractic medicine

### **Developed curricula/scheduled to be taught:**

ANTH 324: Primate Behavior Lab Methods

### **II. TEACHING AWARDS**

2000: Junior Faculty Award, State University of New York at Geneseo

1994: Dean's Award for Excellence in Teaching, State University of New York at Buffalo

### **III. FACULTY DEVELOPMENT**

2006: Assessment conference, State University of New York at Buffalo

2005: “The 2005 Assessment Institute in Indianapolis”, Indianapolis, IN

2005: “Inquiry learning” workshop, SUNY Geneseo

2003: “Just in time teaching” workshop, SUNY Geneseo

2003: Dan Apple teaching workshop, SUNY Geneseo

2002-2003: New Faculty orientation program, SUNY Geneseo

1998: Media use in the classroom conference, SUNY Geneseo

### **SCHOLARLY AND CREATIVE ACTIVITY**

#### **I. RESEARCH/FIELD EXPERIENCE**

2006-2007: Field project: Use of mature leaves by mantled howler monkeys in relation to primary chemistry and tannin content, Santa Rosa National Park, Costa Rica

2006-2007: Field project: Directional movement patterns in mantled howler monkeys, joint student project, Santa Rosa National Park, Costa Rica

2006-2007: Field project: Male-female intergroup relations and spatial proximity, joint student project, Santa Rosa National Park, Costa Rica

2004-2005: Field project: Quantification of sesquiterpene levels in *Hymenaea courbaril*, Santa Rosa National Park, Costa Rica

2004-2005: Collaborative field project with three undergraduate research assistants from SUNY Geneseo and Buffalo: “A test of Milton’s foraging hypothesis”, Santa Rosa National Park and SUNY Geneseo

2003: Field project: Comparative data, to corroborate past sleeping/resting site project, collected by three SUNY Geneseo undergraduates, Santa Rosa National Park, Costa Rica

2003: Field project: Preliminary data on proximate mechanisms involved with male howling by mantled howler monkeys, joint student project, Santa Rosa National Park, Costa Rica

1999, 2000: Field project: Data on sleeping/resting site choice, in mantled howler monkeys, collected by three SUNY Geneseo undergraduates, Santa Rosa National Park, Costa Rica

1999: Phytochemical analytical training, Institute for Organic Chemistry, Hamburg, Germany

under the tutelage of Prof. Wilfred König

1997: Designed and coordinated research methodology for a post-undergraduate Fulbright scholar studying culture change in Guanacaste Province, Costa Rica

1996-2000: Field project: Proximate mechanisms governing intraspecific feeding selectivity in mantled howler monkeys (*Alouatta palliata*), Santa Rosa National Park, Costa Rica

1996: Archaeological field assistant, Dean and Barbour, Assoc., Buffalo, NY

1996: Archaeological field supervisor, Archaeological Survey, State University of New York at Buffalo

1995, 1994: Archaeological volunteer, La Quemada site, Zacatecas, Mexico

1994-1996: Archaeological field/lab assistant, Archaeological Survey, State University of New York at Buffalo

1993, 1995, 1996: Preliminary field trips for mapping, censusing, and tagging animals, Santa Rosa National Park, Costa Rica

1990: Field project (Senior Research Assistant): Mother-infant relations in rhesus macaques, Cayo Santiago, Puerto Rico

1990: Captive project: Mother-infant relations in Japanese macaques, Buffalo Zoological Gardens

1987: Captive project: Play in Japanese macaques, Buffalo Zoological Gardens

## II. PUBLICATIONS

Welker B.J., W. König, M. Pietsch, R. Adams. (in press) Feeding selectivity by mantled howler monkeys (*Alouatta palliata*) in relation to leaf secondary chemistry in *Hymenaea courbaril*, *J Chem Ecology*.

Welker B.J. 2005. Primate ecology and behavior. Pages 1929-1936 in H.J. Birx (ed.), *Encyclopedia of Anthropology*. CA: Sage Publications

Welker B.J. 2005. Primate morphology and evolution. Pages 1940-1944 in H.J. Birx (ed.), *Encyclopedia of Anthropology*. CA: Sage Publications

Welker B.J. 2004. Proximate mechanisms governing feeding behavior and selectivity in mantled howler monkeys, *Alouatta palliata*. Ph.D. Thesis, State University of New York, Buffalo, New York

## **MANUSCRIPTS SUBMITTED FOR PUBLICATION**

Welker B.J. (under review) Evidence for differential home range use, goal-directed movement, and spatial memory in mantled howler monkeys (*Alouatta palliata*). *Am J Primatol*.

## **PUBLISHED ABSTRACTS**

Welker B.J. 2006. Preliminary support for possible prophylactic medicinal plant use in mantled howler monkeys (*Alouatta palliata*), *Intl J Soc Primatol* Supplement:313.

Welker B.J. 2004. Factors involved in variation in tree and species use by mantled howler monkeys, *Alouatta palliata*. *Am J Primatol* 62(Supplement 1): 88-89.

Welker B.J. 2002. Patterns of use in leaf source species by mantled howler monkeys (*Alouatta palliata*). *Am J Phys Anthropol* Supplement 34: 163.

Welker B.J., G.V. Hunt. 2000. Variability in howler monkey choice of sleeping and resting sites. *Am J Phys Anthropol* Supplement 30: 318.

## **III. WORKS IN PROGRESS**

Welker B.J. (contracted) Human evolution. In H.J. Bix (ed.), *Encyclopedia of Time*. CA: Sage Publications.

Welker B.J. (in prep) Preliminary support for possible prophylactic medicinal plant use in mantled howler monkeys (*Alouatta palliata*), *Am J Primatol*.

Welker B.J. (in prep) Proximate mechanisms involved with sleeping site choice in mantled howler monkeys, *Alouatta palliata*, *Am J Primatol*.

“Origins of human language and theory of mind”, to be presented at G.R.E.A.T. and planned manuscript, with two SUNY Geneseo undergraduates, Pat Kenny and Katelyn Upcraft and alumnus, Sal Priore.

“A test of the Trivers-Willard hypothesis”, to be presented at G.R.E.A.T. and planned manuscript, with SUNY undergraduate, Vincent Vess.

“Niche partitioning in Plio-Pleistocene Hominins in East Africa”, to be presented at G.R.E.A.T. and planned Master’s project, with SUNY undergraduate, Christopher Grasso.

## **IV. CONFERENCE ORGANIZATION**

1998, 1999: Co-organizer and moderator, Annual meetings of the Rochester Academy of Sciences

## V. CONFERENCE PRESENTATIONS

2006: Welker B.J. Preliminary support for possible prophylactic medicinal plant use in mantled howler monkeys (*Alouatta palliata*), Meetings of the International Primatological Society, Entebbe, Uganda

2005: Welker B.J., W. König, M. Pietsch, R.P. Adams. 2005. Feeding selectivity by mantled howler monkeys in relation to sesquiterpene chemistry in the tree species *Hymenaea courbaril*. International meetings of the Animal Behavior Society

2004: Welker B.J. Factors involved in variation in tree and species use by mantled howler monkeys, *Alouatta palliata*. Annual meetings of the American Society of Primatologists (international attendance)

2002: Welker B.J. Patterns of use in leaf source species by mantled howler monkeys (*Alouatta palliata*), Annual meetings of the American Association of Physical Anthropologists (international attendance)

2001: Shibata C., B.J. Welker. Infant care-taking behaviors in captive cotton-top tamarins. Annual meetings of the Rochester Academy of Sciences

2001: Welker B.J. Evidence for intraspecific feeding selectivity in three leaf source species by mantled howler monkeys (*Alouatta palliata*). Annual meetings of the Rochester Academy of Sciences

2001: Welker B.J. The role of the anthropological ecologist as conservationist. International meetings of the Society for Applied Anthropology

2001: Simmons S., Welker B.J. Precondylar tubercles and cranial deformation as population markers. Annual meetings of the Rochester Academy of Sciences

2000: Welker B.J., G.V. Hunt. Variability in howler monkey choice of sleeping and resting sites. Annual meetings of the American Association of Physical Anthropologists (international attendance)

1999: Welker B.J., M. Bastedo. Spatial analysis of home range use in a group of mantled howler monkeys using GIS software. Annual meetings of the Northeast Anthropological Association

1999: Welker B.J., G.V. Hunt. Factors affecting howler monkey choice of sleeping and resting sites. Annual meetings of the Rochester Academy of Sciences

1998: Welker B.J. Spatial data collection in behavioral studies: Pros and cons of GPS. Annual meetings of the Rochester Academy of Sciences

1994: Trautman R.J. A weighted multi-regional age at death assessment using the Highland

Park Cemetery Collection, Annual meetings of the American Association of Physical Anthropologists (my name was omitted)

## **VI. INVITED PRESENTATIONS**

2005: "Primateology in the new millennium". St. John Fisher College

2004: "Factors involved in variation in tree use by mantled howler monkeys, *Alouatta palliata*". Symposium entitled: "New perspectives in Mesoamerican primatology: Conservation, behavior, and ecology", at the annual meetings of the American Society of Primatologists

1998: "Howler monkey feeding ecology", State University of New York at Geneseo

1998: "Life in the field", Undergraduate Anthropology Club, State University of New York at Geneseo

1997: "Feeding selectivity in mantled howler monkeys", Tropical Ecology Program, University of Costa Rica, Heredia

1996: "Intraspecific feeding selectivity in mantled howler monkeys", State University of New York at Buffalo

## **HONORS AND AWARDS**

2006: Birx Summer Research Fellowship, State University of New York at Geneseo

2000: Junior Faculty Award, State University of New York at Geneseo

1996: Summer Research Fellowship, NCGIA (National Center for Geographic Information and Analysis).

1995-1996: Research Fellowship, Graduate Group in Evolutionary Biology and Ecology, State University of New York at Buffalo

1992-1995: Dean of the Graduate School assistantships, State University of New York at Buffalo

1994: Dean's Award for Excellence in Teaching, State University of New York at Buffalo

1988-1992: Comparative primate anatomy assistantship, State University of New York at Buffalo

## **FUNDING**

### **I. EXTERNAL GRANTS FUNDED**

1997: NSF Dissertation Improvement Grant

1997: Sigma Xi Research Grant, dissertation research

1996: Equipment Grant, Trimble Navigation Limited, Sunnyvale CA, dissertation research

### **II. EXTERNAL GRANTS PENDING**

NSF Proposal 6672623: The adaptive significance of trichromacy: A study of howler monkey diet choice, \$145,153

### **III. INTERNAL GRANTS FUNDED**

2006: Incentive grant, "A comparative analysis of primary and secondary chemistry of leaves in the howler monkey diet", State University of New York at Geneseo

2006: Geneseo Foundation faculty travel grant, presentation at the meetings of the International Primatological Society, Entebbe, Uganda

2005: Geneseo Foundation faculty travel grant, presentation at the international meetings of the Animal Behaviour Society, Snowbird, Utah

2004: Incentive grant, "Quantification of sesquiterpene levels in *Hymenaea* leaves in relation to consumption by howler monkeys", State University of New York at Geneseo

2004: Geneseo Foundation faculty travel grant, presentation at the meetings of the American Society of Primatologists, Madison, Wisconsin

2003: Incentive grant, "Proximate mechanisms involved in male howling behavior, *Alouatta palliata*, State University of New York at Geneseo

2003: College Senate Grant, Comparative study of howler monkey sleeping/resting behavior, State University of New York at Geneseo

2002: Geneseo Foundation faculty travel grant, presentation at the meetings of the American Association of Physical Anthropologists

2001: Geneseo Foundation faculty travel grant, presentation at the international meetings of the Society for Applied Anthropology.

2000: Geneseo Foundation faculty travel grant, presentation at the meetings of the American Association of Physical Anthropologists.

2000: College Senate Grant, State University of New York at Geneseo, Sleep and rest site choice in mantled howler monkeys.

2000: College Senate Grant, State University of New York at Geneseo, Phytochemical analyses of leaf specimens

2000: Dean Johnston Undergraduate Assistantship, State University of New York at Geneseo

1999: Dean Johnston Undergraduate Assistantship, State University of New York at Geneseo

Collaborative Undergraduate Research grants, State University of New York at Geneseo:

2006 (one)

2005 (two)

2004 (two)

2003 (three)

2002 (two)

2001 (one)

2000 (three)

1999 (one)

1998 (four)

1997: Michael Matsumunyane Travel Grant, State University of New York at Buffalo

1996: Matching Funds Equipment Grant, State University of New York at Buffalo

1994: Mark Diamond Research Foundation Grant, Graduate Student Association, State University of New York at Buffalo

## **SERVICE**

### **I. CAMPUS SERVICE**

2007: Scheduled session chair, G.R.E.A.T. Day

2006-2007: College Senate Policy Committee

2006: External Search Committee member, Biology Department, State University of New York at Geneseo

2006: External faculty reviewer for Chemistry Department's five-year review, State University of New York at Geneseo

2005-2006: College Senate Executive Committee

2005-2006: College Senate Treasurer

2005: Faculty volunteer “Best of WNY Travel Program, Buffalo Zoological Gardens

2005: New student orientation/parent lecture: “Neandertals”, State University of New York at Geneseo

2004: Session chair, Undergraduate Research Symposium

2002-2003, 2005: College Senate, Undergraduate Curriculum Committee, State University of New York at Geneseo

2001-2003: Faculty advisor to the AΔE sorority, State University of New York at Geneseo

## **II. DEPARTMENTAL SERVICE**

2006: Requested attendance at Assessment Conference, State University of New York at Buffalo

2005: Requested attendance at “The 2005 Assessment Institute in Indianapolis”, Indianapolis, IN.

2004-2006: Annual fall welcome picnic

2003-present: Departmental assessment program.

2000-present: Faculty advisor to the SUNY Geneseo Anthropological Association.

1999: Search committee, Anthropology Department, SUNY Geneseo.

1998-1999: Web page development project, Anthropology Department, SUNY Geneseo..

1998-present: Inventory and curation of physical anthropology collection, SUNY Geneseo.

## **III. COMMUNITY SERVICE**

2006: Invited speaker, Edward Muyobokey from Uganda-based House of Hope, and established partnership between Geneseo and House of Hope.

2005: “Primate diversity, research, and career options”, Alfred-Almond School, 5<sup>th</sup> and 6<sup>th</sup> grades, Almond, NY

2005: Exchange lecture program in anthropology between St. John Fisher and SUNY Geneseo

2001: “Primate evolution, taxonomy, and diversity”, Winchester Elementary School 5<sup>th</sup> and 6<sup>th</sup> grades, West Seneca, NY

2000, 2001, 2002, 2003, 2005: Faculty supervisor Monroe County Medical Examiner Internships

2000: "Mantled howler monkey research in Costa Rica", Livonia Rotary Club.

1999-present: Human remains consultant for state and local authorities.

1999-2000: Human remains consultant for NAGPRA project, SUNY Geneseo.

1998: "Look at all the monkeys!", special education program, Steuben-Allegany County BOCES.

1997: "What are primates?", 3<sup>rd</sup> grade class, St. Bonaventure School, West Seneca, NY

1995: Human remains consultant for NAGPRA project, Marion White Museum, State University of New York at Buffalo

### **ADVISEMENT RESPONSIBILITIES**

20-25 advisees per semester

Faculty advisor to the Geneseo Anthropological Association

### **PROFESSIONAL MEMBERSHIPS**

American Association of Physical Anthropologists

American Society of Primatologists

International Society of Primatologists