

## TEXAS STATE VITA

### I. Academic/Professional Background

**A. Name:** Marilyn Rhett Banta

**Title:** Lecturer

### B. Educational Background

Degree	Year	University	Major	Thesis/Dissertation
Ph.D.	2000	University of Nevada, Reno	Ecology, Evolution, and Conservation Biology	
M.S.	1991	Texas A&M University	Zoology	
B.A.	1989	Willamette University	Biology, Spanish	

### C. University Experience

Position	University	Dates
Lecturer	Texas State University	2008-current
Assistant Professor	University of Northern Colorado	2002-2008
Postdoctoral Fellow	Indiana State University	2000-2002
Lecturer	Indiana State University	2000-2002
Teaching Assistant	University of Nevada, Reno	1994-2000
Teaching Assistant	Texas A&M University	1990-1991

### D. Relevant Professional Experience

Position	Entity	Dates
Senior Research Technician	Johns Hopkins School of Medicine, Division of Pulmonary and Critical Care Medicine	1993-1994
Lab Technician II	Johns Hopkins School of Medicine, Division of Pulmonary and Critical Care Medicine	1991-1993

## II. TEACHING

### A. Teaching Honors and Awards:

Mortar Board – Outstanding Teacher Award (University of Northern Colorado)  
Distinguished Teaching Assistant (University of Nevada)

### B. Courses Taught:

#### Classes and Labs – Primary Instructor of Record:

Modern Biology II – BIO 1421 (Texas State University)  
Modern Biology I – BIO 1320 (Texas State University)  
Animal Physiological Ecology - BIO 466/566 (University of Northern Colorado)  
Mammalian Physiology I – BIO 552 (University of Northern Colorado)  
Human Physiology lecture - BIO 350 (University of Northern Colorado)  
Human Physiology laboratory – BIO 350 (University of Northern Colorado)  
Human Anatomy lecture - BIO 341 (University of Northern Colorado)  
Human Anatomy laboratory – BIO 341 (University of Northern Colorado)  
Biological Perspectives lecture – BIO 101 (University of Northern Colorado)  
Advanced Human Anatomy and Physiology lecture BIO 246 (Univ. Northern Co.)  
Advanced Human Anatomy and Physiology lab BIO 246 (Univ. Northern Co.)  
Success in Biology II – BIO 103 (Univ. Northern Colorado)  
Human Aspects of Biology – LIFS 112 (Indiana State University)

#### Labs and Recitations – Graduate Teaching Assistant:

Human Anatomy and Physiology I – BIOL 223 (University of Nevada)  
Human Anatomy and Physiology II – BIOL 224 (University of Nevada)  
Principles of Biological Investigation - BIOL 192 (University of Nevada)  
Comparative Animal Physiology – BIOL 316 (University of Nevada)  
Population Genetics – BIOL 404/604 (University of Nevada)  
Mammalian Anatomy (Texas A&M University)

### C. Graduate Theses/Dissertations or Exit Committees (if supervisor, please indicate):

Supervisor: James Dye and Greg Mullen (Masters), Deanna Dapolito (Ph.D.- did not finish)  
Doctoral Student Committee Member: Bill Heyborne, Jason Katzmann, David Hydock,  
Jason Shaw, Mark Hayes  
Master's Student Committee Member: Cale Czismadi, Jessie Czismadi, Jessica Kiser

### D. Courses Prepared and Curriculum Development:

2008 – Designed and taught Success in Biology II – BIO 103, 1 credit (University of Northern Colorado) – this course was introduced as part of the curriculum under a Department of Education STEP grant, but it had never been taught until I taught 2 sections in Spring 2008

2004 – Animal Physiological Ecology BIO466/566, 3 credits (University of Northern Colorado) – I developed this double-numbered course (and an accompanying lab) as a new addition to the biology curriculum

**E. Funded External Teaching Grants and Contracts:**

n/a

**F. Submitted, but not Funded, External Teaching Grants and Contracts:**

n/a

**G. Funded Internal Teaching Grants and Contracts:**

n/a

**H. Submitted, but not Funded, Internal Teaching Grants and Contracts:**

n/a

**I. Other:**

2002-2008 - Supervised Research for Undergraduates:

M. Roehrs, D. Heikes, R. Eales, K. Carlsten, A. Wiegand, J. Walsh, A. Delgado,  
A. Littman, B. Phipps, S. Stout, A. Perado, S. Cihura, B. Pelton

2005-2006 McNair Scholar Advisor: Nicki Smith

**III. SCHOLARLY/CREATIVE**

**A. Works in Print**

**1. Books (if not refereed, please indicate)**

a. Scholarly Monographs:

n/a

b. Textbooks:

n/a

c. Edited Books:

n/a

d. Chapters in Books:

Banta, M.R., T. Joanen, and P.J. Weldon. 1992. Foraging responses by the American alligator to meat extracts. In, R.L. Doty and D. Muller-Schwarze (eds.), Chemical Signals in Vertebrates 6, Plenum Press, New York.

e. Creative Books:

n/a

## 2. Articles

### a. Refereed Journal Articles:

- Sears, M.W., J.P. Hayes, M.R. Banta, and D. McCormick. In Press. Out in the cold: physiological capacity influences behavior in deer mice. *Functional Ecology*.
- Bakken, G.S., M.R. Banta, C.M. Higginbotham, and A.J. Lynott. 2006. It's just ducky to be clean: the water repellency and water penetration resistance of swimming mallard ducklings. *J. Avian Biology* 37:561-571.
- Bakken, G.S., M.J. VanSant, A.J. Lynott, and M.R. Banta. 2005. Predicting small endotherm body temperatures from scalp temperatures. *Journal of Thermal Biology* 30:221-228.
- Banta, M.R., A J. Lynott, M.J. VanSant, and G. S. Bakken. 2004. Partitioning heat loss from Mallard ducklings swimming on the air-water interface. *Journal of Experimental Biology* 207:4551-4557
- Banta, M.R., R. Brewer, A. Hansen, H. Ku, K. Pacheco, R. Powers, J. Robinson, and G. Tucker\* (\*The order of authorship is alphabetical and all authors contributed equally). 2004. An innovative program for cultivating grant writing skills in new faculty members. *Journal of Research Administration* 35(1):17-24.
- Banta, M.R. 2003. Merriam's kangaroo rats (*Dipodomys merriami*) voluntarily choose temperatures that conserve energy rather than water. *Physiological and Biochemical Zoology* 76:522-532.
- Banta, M.R. and D.W. Holcombe. 2002. The effects of thyroxine on various aspects of metabolism and water turnover in Merriam's kangaroo rat (*Dipodomys merriami*). *Journal of Comparative Physiology* 172:17-25.
- Wiener, C.M., M.R. Banta, M.S. Dowless, N.A. Flavahan, and J.T. Sylvester. 1995. Mechanisms of hypoxic vasodilation in ferret pulmonary arteries. *American Journal of Physiology* 269:L351-L357.

### b. Non-refereed Articles:

- Smith, N. and M.R. Banta. 2005. Understanding basal metabolic rate and conductance in Ord's kangaroo rat, *Dipodomys ordii*. *McNair Research Journal*. 10:37-50.

**3. Abstracts:**

- Banta, M.R. and N. Smith. 2006. Variation in metabolic rate and thermal conductance in a northern population of a desert-adapted rodent, Ord's kangaroo rat (*Dipodomys ordii*). *The Physiologist* 49(6):C1-45.
- Hayes, J.P., M.W. Sears, M.R. Banta, and C.S O'Connor. 2005. Out in the cold: Physiological performance affects behavior of deer mice. *Integrative and Comparative Biology* 45(6):1009.
- Banta, M.R., J.R. Katzmann and S.P. Mackessy. 2004. Evaporative water loss during ecdysis in snakes from a broad range of habitats. *Integrative and Comparative Biology* 44(6):674.
- Banta, M.R., M.J. Van Sant, and G.S. Bakken. 2004. Evidence for metabolic substitution in swimming mallard (*Anas platyrhynchos*) ducklings. *Integrative and Comparative Biology* 43(6):1039.
- Banta, M.R., A.J. Lynott, C. Higgenbotham, M.J. Van Sant, and G.S. Bakken. 2003. Thermoregulation on the air-water interface: heat loss from swimming mallard ducklings. *Integrative and Comparative Biology* 42(6):1190-1191
- Lynott, A.J., M.R. Banta, and G.S. Bakken. 2003. Estimating the body temperature of swimming mallard ducklings (*Anas platyrhynchos*) with infrared thermography. *Integrative and Comparative Biology* 42(6):1269.
- Banta, M.R. 2001. The effects of temperature on seed movement in the caching rodent, Merriam's kangaroo rat. *American Zoologist* 41(6):1384-1385.
- Lynott, A.J., M.R. Banta, C. M. Higginbotham, and G.S. Bakken. 2001. Thermoregulation in swimming mallard ducklings. *American Zoologist* 41(6):1512.
- Banta, M.R. 1999. Does Merriam's kangaroo rat (*Dipodomys merriami*) select ambient temperatures that allow it to conserve water or energy? *American Zoologist* 39:A345.
- Banta, M.R. and J.P. Hayes. 1998. Manipulation of thyroxine in a desert-dwelling rodent (*Dipodomys merriami*): ecological and evolutionary implications. *American Zoologist* 38:A191.
- Banta, M.R. 1997. Are field and laboratory water turnover correlated in individual Merriam's kangaroo rats (*Dipodomys merriami*)? *American Zoologist* 37:A85.
- Wiener, C.M., M.R. Banta, and J.T. Sylvester. 1993. Effects of potassium channel inhibitors on hypoxic vasodilation in ferret pulmonary arteries. *American Review of Respiratory Disease* 147:A272 Supplement S.

Wiener, C.M., M.R. Banta, and J.T. Sylvester. 1993. Effects of glucose on vasomotor responses to severe hypoxia in ferret pulmonary arteries. *FASEB Journal* 7:A189.

Weldon, P.J. and M.R. Banta. 1990. Chemoreception in the feeding behavior of the American alligator (*Alligator mississippiensis*) *American Zoologist* 30:A93.

#### 4. Reports:

n/a

#### 5. Book Reviews:

Fox, S. I., *Human Physiology* 8<sup>th</sup> Edition

Pruitt, N.L., L.S. Underwood and W. Surver, *Bioinquiry* 2<sup>nd</sup> Edition

Alters, S. *Biology: Living and Learning* 1<sup>st</sup> Edition

Longenbaker, S.N. *Understanding Human Anatomy and Physiology* 6<sup>th</sup> Edition

#### 6. Manuscripts in Revision or Preparation

Dye, J. and M.R. Banta. Species abundance and activity patterns of rodents in a northern Colorado grassland. To be submitted *J. Mammalogy*

Dye, J. and M.R. Banta. The frequency and duration of torpor bouts in two species of pocket mice. To be submitted to *Physiological and Biochemical Zoology*

Smith, N. and M.R. Banta. Seasonal variation in basal metabolic rate and conductance in a northern population of Ord's kangaroo rat. To be submitted to *J. Mammalogy*

Banta, M.R and J.P.Hayes. Is physiological performance in the laboratory ecologically informative? (In revision)

Banta, M.R. and J.P. Hayes. Experimental manipulation of thyroxine in Merriam's kangaroo rat (*Dipodomys merriami*): an attempt to detect natural selection (In revision)

Banta, M.R., M.J. VanSant, and G.S. Bakken. Metabolic substitution in swimming Mallard ducklings (*Anas platyrhynchos*).

Barber, A.M., S. H. Jenkins, and M.R. Banta. Validation of a method for measuring corticosterone levels in the feces of kangaroo rats. (In revision)

#### B. Works not in Print

1. Papers Presented at Professional Meetings: (\* indicates that I gave the presentation)

2008\* Banta, M.R. and J.L.Dye. Variability in the use of torpor by two species of pocket mice (*Perognathus*) in northern Colorado. Society for Integrative and Comparative Biology, San Antonio, TX.

- 2006\* Banta, M.R and N. Smith. Variation in metabolic rate and thermal conductance in a northern population of a desert-adapted rodent, Ord's kangaroo rat (*Dipodomys ordii*). American Physiological Society Intersociety Meeting: Comparative Physiology 2006, Virginia Beach, VA.
- 2006 Hayes, J.P., M.W. Sears, C.S. O'Connor, and M.R. Banta. Out in the cold: physiological capacity influences behavior in deer mice Society for Integrative and Comparative Biology, Orlando, FL.
- 2005 Dye, J.L. and M.R. Banta . 2005. Historical and current trapping records for heteromyid rodents in northern Colorado . 7th Shortgrass Steppe Symposium, Fort Collins, Colorado
- 2005\* Banta, M.R., J.R. Katzmann and S.P. MacKessy. Evaporative water loss during ecdysis in snakes from a broad range of habitats. Society for Integrative and Comparative Biology, San Diego, CA.
2004. VanSant, M.J., M.R. Banta, and G.S. Bakken. Importance of heat loss from the legs of mallard ducklings (*Anas platyrhynchos*). Ecological Society of America, Portland, OR.
- 2004\* Banta, M.R., M.J. Van Sant, and G.S. Bakken. Evidence for metabolic substitution in swimming mallard (*Anas platyrhynchos*) ducklings. Society for Integrative and Comparative Biology, New Orleans, LA.
- 2003\* Banta, M.R., A.J. Lynott, C. Higgenbotham, M. Van Sant, and G.S. Bakken. Thermoregulation on the air-water interface: heat loss from swimming mallard ducklings. Society for Integrative and Comparative Biology. Toronto, Canada.
- 2003 Lynott, A.J., M.R. Banta, and G.S. Bakken. Estimating the body temperature of swimming mallard ducklings (*Anas platyrhynchos*) with infrared thermography. 2003 Society for Integrative and Comparative Biology, Toronto, Canada.
- 2002\* Banta, M.R. The effects of temperature on seed movement in the caching rodent, Merriam's kangaroo rat. Society for Integrative and Comparative Biology, Anaheim, CA.
- 2002 Lynott, A.J., M.R. Banta, C. M. Higginbotham, and G.S. Bakken. Thermoregulation in swimming mallard ducklings. Society for Integrative and Comparative Biology, Anaheim, CA.
- 2000\* Banta, M.R. Does Merriam's kangaroo rat (*Dipodomys merriami*) select ambient temperatures that allow it to conserve water or energy? Society for Integrative and Comparative Biology, Atlanta, GA.

- 1999\* Banta, M.R. and J. Auger. Are the mountain ranges of the Great Basin barriers to dispersal for the desert kangaroo rat (*Dipodomys deserti*)? Great Basin Biological Research Conference, Reno, NV.
- 1999\* Banta, M.R. The effects of exogenous thyroxine on the physiology of Merriam's kangaroo rat (*Dipodomys merriami*). American Society of Mammalogists, Seattle, WA.
- 1999\* Banta, M.R. The effects of thyroxine manipulation in a desert-dwelling rodent (*Dipodomys merriami*). Physiological Ecologists Meeting, Bishop, CA.
- 1999\* Banta, M.R. and J.P. Hayes. Manipulation of thyroxine in a desert-dwelling rodent (*Dipodomys merriami*): ecological and evolutionary implications. Society for Integrative and Comparative Biology, Denver, CO.
- 1998\* Banta, M.R. The effects of thyroxine on metabolism and water balance in Merriam's kangaroo rat. Physiological Ecologists Meetings, Bishop, CA.
- 1998\* Banta, M.R. Are field and laboratory water turnover correlated in individual Merriam's kangaroo rats (*Dipodomys merriami*)? Society for Integrative and Comparative Biology, Boston, MA.
- 1994 Wiener, C.M., M.R. Banta, N.A. Flavahan, and J.T. Sylvester. Adenosine does not activate ATP-dependent K<sup>+</sup> channels or contribute to hypoxic vasodilation in isolated ferret pulmonary arteries. American Lung Association/American Thoracic Society International Conference, Boston, MA.
- 1993 Wiener, C.M., M.R. Banta, and J.T. Sylvester. Effects of potassium channel inhibitors on hypoxic vasodilation in ferret pulmonary arteries. American Lung Association/American Thoracic Society International Conference, San Francisco, CA.
- 1993 Wiener, C.M., M.R. Banta, and J.T. Sylvester. Effects of glucose on vasomotor responses to severe hypoxia in ferret pulmonary arteries. National FASEB Conference, New Orleans, LA.
- 1990 Weldon, P.J. and M.R. Banta. Chemoreception in the feeding behavior of the American alligator (*Alligator mississippiensis*) American Society of Zoologists, San Antonio, TX.

## 2. Invited Talks, Lectures, Presentations:

James Madison University  
 University of Nevada, Reno  
 University of North Florida  
 University of Central Oklahoma  
 Middle Tennessee State University

Butler University  
 Indiana State University (2)  
 University of Northern Colorado (2)  
 University of Texas, Pan American  
 University of Arkansas, Little Rock

**3. Consultancies:**

n/a

**4. Workshops:**

n/a

**5. Other:**

n/a

**C. Grants and Contracts****1. Funded External Grants and Contracts:**

- 2008 Colorado Division of Wildlife (funded, \$39,000 – 50% match from UNC)
- 2007 Colorado Division of Wildlife (funded for \$53,000 – 50% match from UNC)
- 2006 Audubon Society of Greater Denver, Lois Webster Fund (funded \$1100)
- 2004 National Science Foundation Supplemental Grant (funded \$9900)
- 1999 Society for Integrative and Comparative Biology, Grants-in-Aid of Research (\$454)
- 1998 American Society of Mammalogists, Grants-in-Aid of Research (funded \$802)
- 1997 Sigma Xi, Grants-in-Aid of Research (funded \$497)
- 1997 American Museum of Natural History, Theodore Roosevelt Memorial Grant in Aid of Research (funded \$502)
- 1996 American Museum of Natural History, Theodore Roosevelt Memorial Grant in Aid of Research (funded \$850)

**2. Submitted, but not Funded, External Grants and Contracts:**

- 2008 National Science Foundation (Co-PI) *not funded* (\$204,700)
- 2007 National Science Foundation (Co-PI) *not funded* (\$156,000)
- 2006 Colorado Division of Wildlife *not funded* (\$60,000)
- 2005 National Science Foundation (Co-PI) *not funded* (\$619,000)
- 2004 National Science Foundation, (PI) *not funded* (\$520,000)

**3. Funded Internal Grants and Contracts:**

- 2008 UNC, Scholarly Activity Travel Fund Grant (funded \$800)
- 2006 UNC, Scholarly Activity Travel Fund Grant (funded \$400)
- 2005 University of Northern Colorado, Summer Graduate Research Assistant Award (funded \$3200)
- 2005 UNC Faculty Research and Publications Board Grant (funded \$2489)
- 2004 UNC, Summer Faculty Research Fellowship (funded \$4500)
- 2003 UNC, Scholarly Activity Travel Fund Grant (funded \$400)
- 2003 UNC Faculty Research and Publications Board Grant (funded \$2453)
- 2002 UNC, Scholarly Activity Travel Fund Grant (funded \$300)

**4. Submitted, but not Funded, Internal Grants and Contracts:**

2008 UNC, Provost Fund for Faculty Scholarship & Professional Development not funded (\$9800) – note, this proposal was reviewed and recommended for funding, but I then tendered my resignation at UNC and so funding was withdrawn

**D. Fellowships, Awards, Honors:**

2008 Alpha Delta Pi Favorite Professor (Texas State University)  
 2005 National Society of Collegiate Scholars Distinguished Member Award  
 2004 Mortar Board – Outstanding Professor Award

2003 University of Northern Colorado, Sponsored Projects Development Award  
 Fellow (2 year fellowship for professional grantsmanship development)  
 2000 Distinguished Teaching Assistant (university wide teaching award - \$500, UNR)  
 2000 First Place, Graduate Student Association Poster Competition (\$1000, UNR)  
 2000 Second Place, Graduate Student Association Paper Competition (\$667, UNR)  
 1999 Certificate of achievement in recognition for outstanding performance in  
 teaching, Graduate School Instructional Development Office (UNR)  
 1998-1999 Travel Awards (3), Graduate Student Association (UNR) (\$100-200 each)  
 1998 Jerry and Betty Wilson Scholarship (\$4000, UNR)  
 1996 American Association of University Women (AAUW) Scholarship (\$300)  
 1989 Regent's Fellowship, Texas A&M University (\$12,000)

**IV. SERVICE****A. University:**

Co- Pre-Health Advisor, Texas State University  
 Grant Reviewer – Sponsored Programs Summer Research Fellowship (UNC)  
 Faculty Advisor – National Society of College Scholars (UNC)  
 College of Natural and Health Sciences – Roles and Rewards Task Force (UNC)  
 College of Natural and Health Sciences – Associate Dean Search Committee (UNC)  
 College of Natural and Health Sciences – Student Evaluation Development Committee (UNC)

**B. Departmental:**

School of Biological Science – School Evaluation Committee (2008) (UNC)  
 School of Biological Sciences – Graduate Committee member (2004-2008),  
 chair (2005-2007) (UNC)  
 Transfer Evaluator – all Biology majors and minors (since 2002) (UNC)  
 Undergraduate advising – biomedical sciences emphasis (~30 students/semester) (UNC)  
 Search committees for plant physiologist and microbiologist positions (UNC)  
 Seminar organizer – multiple semesters (UNC)  
 Search committee (student member) for evolutionary biologist (Univ. Nevada)

**C. Community:**

Secretary, Parents Association, Texas State University Child Development Center (San Marcos, TX)

Board of Directors, Friends of Retired Greyhounds (non-profit organization that rescued retired racing greyhounds) 2004-2008

**D. Professional:**

Reviewer for: Physiological and Biochemical Zoology, Oecologia, Journal of Mammalogy  
Member of Diversity Committee, Society for Integrative and Comparative Biology  
Student talk/poster judge – multiple years for both Division of Ecology and Evolution and Division of Comparative Physiology and Biochemistry, Society for Integrative and Comparative Biology

**E. Organizations**

1. Honorary:

n/a

2. Professional:

Society for Integrative and Comparative Biology (SICB)  
    Division of Comparative Physiology and Biochemistry  
    Division of Ecology and Evolution  
National Science Teachers Association (NSTA)  
Association for Women in Science (AWIS)  
Human Anatomy and Physiology Society (HAPS)  
National Association for Advisors of Health Professions (NAAHP)

F. Service Honors and Awards:

n/a