

## **CURRICULUM VITAE**

### **Harald Beck, Ph.D.**

Assistant Professor

#### **DEPARTMENTAL ADDRESS**

Towson University  
Department of Biological Sciences  
8000 York Road  
Towson, MD 21252-0001  
Phone: (410) 704-3125  
E-mail: [hbeck@towson.edu](mailto:hbeck@towson.edu)  
<http://www.towson.edu/biology/TU%20Biology%20H%20Beck.htm>  
<http://towson.academia.edu/HaraldBeck>

#### **PERSONAL INFORMATION**

Place of Birth: Nuremberg, Germany

#### **EDUCATIONAL BACKGROUND**

2002-2005 Research Associate, Duke University, Durham, North Carolina  
2002 Ph.D. University of Miami, Coral Gables, Florida. Biology  
1994 M.S. University of Erlangen-Nuremberg, Germany. Major in Zoology

#### **PROFESSIONAL MEMBERSHIPS**

IUCN The World Conservation Union, Peccary Specialist Group (since 2009)  
Sigma XI The Scientific Research Society (since 2006)  
IUCN The World Conservation Union, Tapir Specialist Group (since 2004)  
Ecological Society of America (since 2002)  
American Association for the Advancement of Science (since 2002)  
Association for Tropical Biology and Conservation (since 1996)  
American Society of Mammalogists (since 1996)

#### **PROFESSIONAL ADMINISTRATIVE POSITION**

Chair IUCN Peccary Specialist Group (since 2010)

#### **ASSOCIATE EDITOR**

Journal of Mammalogy (since 2008)

#### **REVIEWER**

Australian Journal of Zoology  
Biotropica  
Community Ecology  
Ecotropica  
Journal of Mammalogy  
Journal of Tropical Ecology  
Mammalia  
Plant Ecology

**PEER-REVIEWED PUBLICATIONS**

- Altrichter, M., A. Taber, **H. Beck**, R. Reyna-Hurtado, L. Lizarraga, K. Keuroghlian, E. W. Sanderson (in press). *A report of range-wide declines for a key Neotropical ecosystem architect, the white-lipped peccary*. Oryx.
- Taber, A, **H. Beck**, S. Gonzalez, M. Altrichter, M. Barbanti, and R. Reyna-Hurtado (in press). *Conservation's orphans –threatened livelihoods: Neotropical forest ungulates*.
- Taber, A., M. Altrichter, **H. Beck** and J. Gongora. (in press). The *Tayassuidae*. Pages x-y. In D. E. Wilson and R. A. Mittermeier (eds.). Handbook of the Mammals of the World: Hoofed Mammals. Vol. 2. Lynx Edicions Barcelona.
- Beck, H.**, P. Thebpanya, and M. Filiaggi. 2010. *Do Neotropical peccary species (Tayassuidae) function as ecosystem engineers for anurans?* Journal of Tropical Ecology 26:407-414.
- Beck, H.** 2008. *Tropical Ecology*. Pages 3616-3624. In: S.E. Jorgensen and B. Fath (eds.). Encyclopedia of Ecology. Elsevier, Elsevier B.V., Oxford.
- Paine, C.E. T. and **H. Beck**. 2007. *Seed predation by Neotropical rainforest mammals increases diversity in seedling recruitment*. Ecology 88:3073-3087.
- Beck, H.** S. McKean and J. S. Carrillo. 2007. *Liophis reginae (Reticulated Snake)*. Diet. Herpetological Review 38:90.
- Beck, H.** 2007. *Synergistic impacts of ungulates and falling palm fronds on saplings in the Amazon*. Journal of Tropical Ecology 23:599-602.
- Beck, H.** 2006. *A review of peccary-palm interactions and their ecological ramifications across the Neotropics*. Journal of Mammalogy 87:519-530.
- Beck, H.** 2005. *Seed predation and dispersal by peccaries throughout the Neotropics and its consequences: a review and synthesis*. Pages 77-115. In P-M. Forget, J. E. Lambert, P.E. Hulme and S. B. Vander Wall (eds.). Seed fate: predation, dispersal and seedling establishment. CABI Publishing, Wallingfort, UK. Pp. 410.
- Beck, H.**, M. S. Gaines, J. E. Hines and J. D. Nichols. 2004. *Comparative dynamics of small mammal populations in treefall gaps and surrounding understorey within Amazonian rainforest*. Oikos 106:27-38.
- Leite-Pitman, R., **H. Beck** and P. M. Velazco. 2003. *Mamíferos terrestres y arbóreos de la selva baja de la Amazonía peruana: entre los ríos Manu y Alto Purús*. Pages 109-122. In R. Leite-Pitman, N. Pitman and P. Alvarez (eds.). Alto Purús: Biodiversidad, Conservación y Manejo. Impreso Grafica S.A. Lima, Peru. Pp. 350.

Nassar, J. M., **H. Beck**, L. da S. L. Sternberg and T. H. Fleming. 2003. *Dependence on cacti and agaves in nectar-feeding bats from Venezuelan arid zones*. Journal of Mammalogy 84:106-116.

Gaines, M. S., J. E. Diffendorfer, C. R. Sasso and **H. Beck**. 2002. *Effects of tree island size and hydroperiod on the population dynamics of small mammals in the Everglades*. Pages 429-444. In F. H. Sklar and A. van der Valk (eds.). Tree Islands of the Everglades. Kluwer Academic Publishers, Dordrecht, The Netherlands. Pp. 541.

**Beck, H.** and J. Terborgh. 2002. *Groves vs. isolates: how spatial aggregation of *Astrocaryum murumuru* palms affects seed removal*. Journal of Tropical Ecology 18:275-288.

**Beck-King, H.**, O. v. Helversen and R. Beck-King. 1999. *Home range, population density, and food resources of *Agouti paca* (Rodentia: Agoutidae) in Costa Rica: a study using alternative methods*. Biotropica 31:675-685.

#### PEER-REVIEWED BOOKS

**Beck, H.** 2008. *Linking Amazon forest dynamics with mammalian diversity*. Vdm Verlag Dr. Müller Germany. Pp. 128.

#### SUBMISSIONS TO PEER-REVIEWED JOURNALS

Bressette, J., **Beck, H.** and V Beauchamp. *Complex cascade effects within forest food webs mediated by white-tailed deer*. Submitted to OIKOS.

#### IN PREPARATION

**Beck, H.**, J. J. Li, J. Bressette, D. Ellis, and W. J. McShea. *The impact of high deer densities on seedling survival, understory vegetation, and leaf litter biomass in temperate forests*.

#### NON-PEER REVIEWED PUBLICATIONS

**Beck, H.** and J. Bressette 2010. Quantifying the impact of high deer density in Shenandoah National Park. Investigator's annual report.

**13<sup>th</sup>** of 58 coauthors. 2008. *El destino de los arquitectos de los bosques Neotropicales: Evaluación de la distribución y el estado de conservación de los pecaríes labiados y los tapires de tierras bajas*. IUCN, Wildlife Trust, New York. 181 pp.

**Beck, H.**, A. Taber, M. Altrichter, A. Keuroghlian and R. Reyna. 2008. *Pecari tajacu*. In: IUCN 2008. 2008 IUCN Red List of Threatened Species.

<http://www.iucnredlist.org/details/41777>

Reyna-Hurtado, R., A. Taber, M. Altrichter, J. Fragoso, A. Keuroghlian and **H. Beck**. 2008. *Tayassu pecari*. In: IUCN 2008. 2008 IUCN Red List of Threatened Species. <http://www.iucnredlist.org/details/41778>

#### STUDENT THESIS ADVISOR

- 2010 – present John Zaharick. Ms. student. *Comparing the influence of small mammal and wind activities on mycorrhizal recovery from a fungicide treatment*
- 2009 – present Caitlin Graff. Ms. student. *Surrogate habitats in an urbanized landscape: Mammal communities of stormwater retention ponds?*
- 2009 – 2010 Sylvia Pardonnet. Ms. student from Linköping University, Sweden. *Butterfly community in treefall gaps and undisturbed understory in an Amazonian rainforest.*
- 2008 – 2010 Jim Bressette. Ms. student. *Quantifying trophic cascade effects in forests with high White-tailed deer (*Odocoileus virginianus*) densities.*
- 2008 – 2009 Björn Johansson. Ms. student from Linköping University, Sweden. *Invertebrate seed predation on the palm *Mauritius flexuosa* in the Peruvian Amazonas.*
- 2006 – 2009 Chara Batchelder. Ms student. *Tracking infection rates of *Borrelia burgdorferi* in Maryland at a spatial-temporal scale using GIS.*
- 2006 – 2008 Melissa Cameron. Ms student. *Do peccaries functions as ecosystem engineers?*
- 2006 – 2007 Kristin Farris. Honors Undergraduate Thesis: *The impact of large mammals on the plant community in the Western Amazon.*

#### GRANT ACTIVITIES

- 2005 The role of peccaries as ecosystem engineers and its effect on tropical species diversity. Towson University, \$6,750.
- 2004 The impact of the megafauna on forest structure and plant community; with an emphasis on peccary-plant interactions at Los Amigos and Cocha Cashu. Amazon Conservation Association, \$11,200.
- 2003 Travel grant for attending a special symposium of the British Ecological Society and the Annual Meeting of the Association for Tropical Biology and Conservation, University of Aberdeen, in the United Kingdom, \$1,000.
- 2001 Effects of heterogeneous landscapes on habitat selection, dispersal, and population dynamics of small tropical mammals. Travel grant for a presentation at the 8<sup>th</sup> International Theriological Congress, in South Africa. Department of Biology, University of Miami, \$1,500.
- 1999 Effects of heterogeneous landscapes on habitat selection, dispersal, and population dynamics of small tropical mammals. NSF Dissertation Improvement Grant, \$10,000.
- 1999 Effects of heterogeneous landscapes on habitat selection, dispersal, and population dynamics of small tropical mammals. Tropical Biology Fellowship Award, Department of Biology, University of Miami, \$11,350.
- 1998 Effects of heterogeneous landscapes on habitat selection, dispersal, and population dynamics of small tropical mammals. Departmental Graduate Research Support Award, \$300, Graduate Dean Fellowship, \$1,000 and Grant-in-Aid of Research from the National Academy of Science through Sigma Xi, The Scientific Research Society, \$700.

**INVITED SEMINARS**

- 2009 **Beck, H.** *Ecosystem Services of Peccaries in the Amazonas*. University of Delaware DE (September 09).
- 2009 **Beck, H.** *Insights into trophic- and non-trophic species interactions, using Amazonian White-lipped peccaries as a model system*. Departmental Seminar at St. Lawrence University NY (March 26).
- 2009 **Beck, H.** *Trophic & non-trophic interactions of neotropical megafauna*. Departmental Seminar at Franklin & Marshall College PA (April 15).
- 2008 **Beck, H.** *Tropical disturbance ecology*. Departmental Seminar at Mc Daniels College MD (October 3).
- 2007 **Beck, H.** *Bulldozing through the jungle: Peccaries as ecosystem engineers*. Towson University Sigma XI Seminar Series (April 25).
- 2006 Gaines, M., **Beck, H.** et al. *Effects of patch size and population dynamics and genetic structure of small mammals in the Everglades*. Greater Everglade Ecosystem Restoration Conference: Planning, Policy and Science. (June 5-9).
- 2006 **Beck, H.** *The ecological role of peccaries: Examples from Manu National Park*. Department of Conservation Biology, Smithsonian National Zoological Park, Washington DC (May 26).
- 2006 **Beck, H.** *Tropical disturbance ecology*. Departments of Vertebrate and Invertebrate Zoology Smithsonian National Museum of Natural History (April 5).
- 2006 **Beck, H.** *Responses of mammals to disturbances and consequences of mammal mediated disturbances*. Patuxent Wildlife Research Center, MD (November 15).
- 2005 **Beck, H.** *The effects of disturbance on population dynamics and species diversity*. Smithsonian Environmental Research Center, Edgewater, MD (October 4).
- 2005 **Beck, H.** *Peccary-plant interactions*. Invited symposium speaker at the IX International Mammalogical Congress, in Sapporo, Japan (August 2).
- 2005 **Beck, H.** *The impact of disturbances on population dynamics and species diversity*. Department of Biological Sciences, Duke University, North Carolina (February 18).
- 2005 **Beck, H.** *The impact of disturbance on mammal populations and communities*. Department of Biology, Towson University, Maryland (February 2).
- 2003 **Beck, H.** *Population dynamics and biodiversity of small mammals in treefall gaps within an Amazonian rainforest*. Department of Biology, Savannah State University, Georgia (March 18).
- 2002 **Beck, H.** *Population dynamics and biodiversity of small mammals in treefall gaps within an Amazonian rainforest*. Department of Biological Sciences, Florida International University (October 1).

**ORAL PRESENTATIONS**

- 2009 **Beck, H.** *Peccaries synecology: A holistic review of their interactions with Neotropical fauna and flora.* 10<sup>th</sup> International Mammalogical Congress, Mendoza, Argentina.
- 2009 **Beck, H.** *Trophic and non-trophic ecosystem engineering– interactions of peccaries (Tayassuidae).* 10<sup>th</sup> International Mammalogical Congress, August, Mendoza, Argentina.
- 2009 **Beck, H.** (coauthored not presented) *A range-wide conservation status assessment of the white-lipped peccary*". 10<sup>th</sup> International Mammalogical Congress, August, Mendoza, Argentina.
- 2009 **7<sup>th</sup> of 10 coauthors (not presented).** Using GIS and expert opinion to assess the conservation status of White-lipped peccaries and lowland tapir in Latin America. 23rd Society for Conservation Biology, Beijing, China.
- 2005 **Beck, H.** *Peccaries in the Amazon, more than just disturbance.* 9th International Mammalogical Congress, in Sapporo, Japan.
- 2004 **Beck, H.** *Regresar a la ecología significa avanzar en la conservación.* Congreso Internacional sobre Manejo de Fauna Silvestre en la Amazonía y Latinoamérica: Lecciones Aprendidas, in Iquitos, Peru.
- 2003 **Beck, H.** *Treefall gaps within an Amazonian rainforest lead to source-sink dynamics in small mammals.* Special Symposium of the British Ecological Society and the Annual Meeting of the Association for Tropical Biology and Conservation, University of Aberdeen, UK.
- 2002 **Beck, H.** *Treefall gaps in the Amazon rainforest are mammal biodiversity hotspots.* Second Bi-annual Symposium of the Coalition for Excellence in Tropical Biology, in Miami.
- 2002 **Beck, H.** *Population dynamics of small mammals in treefall gaps within an Amazonian Rainforest.* 87<sup>th</sup> Annual Meeting of the Ecological Society of America, in Tucson.
- 2002 **Beck, H.** *Are treefall gaps biodiversity hotspots within Amazon hotspots?* 20<sup>th</sup> Annual Meeting of the Association for Tropical Biology, in Panama City, Panama.
- 2001 **Beck, H.** *The effects of heterogeneous landscapes on habitat selection, dispersal, and population dynamics of small tropical mammals.* 8<sup>th</sup> International Theriological Congress, in Sun City, South Africa.
- 2001 **Beck, H.** *Habitat selection in Peromyscus and Sigmodon.* 8<sup>th</sup> International Theriological Congress, in Sun City, South Africa.

**POSTER PRESENTATIONS**

- 2010 Graff, C. and **H. Beck.** *Surrogate habitats in an urbanized landscape: Mammal occupancy of stormwater retention ponds.* 10<sup>th</sup> Annual Student Research and Scholarship Expo Towson University.
- 2010 Bressette, J. and **H. Beck.** *Effects of white-tail deer on woody species density and composition.* 10<sup>th</sup> Annual Student Research and Scholarship Expo Towson University.
- 2010 Neihaus, M. and **H. Beck.** *Do mammals use Stormwater retention ponds as habitat?* 10<sup>th</sup> Annual Student Research and Scholarship Expo Towson University.

- 2009 7<sup>th</sup> of 48 coauthors (not presented). *A range-wide assessment of the conservation status of lowland tapir (Tapirus terrestris) in South America*. 10<sup>th</sup> International Mammalogical Congress, Mendoza, Argentina.
- 2009 Ellis, D., J. Bressette, and **H. Beck**. *Are arthropod communities affected by high deer density?* 9<sup>th</sup> Annual Student Research and Scholarship Expo Towson University.
- 2009 **Beck, H.**, K. Stinchcomb, S. Brown, and D. Ellis. *Testing experimentally the effects of defaunation in undisturbed forests*. 1<sup>st</sup> Symposium Living in a defaunated world. Stanford University, California.
- 2006 Cameron, M. and **H. Beck**. *Evaluating wallows as dry season breeding habitat for frogs in the Peruvian Amazon*. 8<sup>th</sup> Annual Student Research and Scholarship Expo Towson University.
- 2006 Farris, K. and **H. Beck**. *The impact of large mammals on the plant community in the western Amazon*. 8<sup>th</sup> Annual Student Research and Scholarship Expo Towson University.
- 2003 **Beck, H.** *Seed dispersal and predation by peccaries and suidae. A call for personal field observations*. Special Symposium of the British Ecological Society and the Annual Meeting of the Association for Tropical Biology and Conservation, University of Aberdeen, in the UK.
- 1996 **Beck, H.** *Home range estimation: a comparison between two methods*. 76<sup>th</sup> Annual Meeting of the American Society of Mammalogists, North Dakota.

#### **BOOK REVIEWER**

Review of a new environmental science textbook, proposal "Global change: human and scientific dimensions" for W. H. Freeman & Co.

#### **GRANT PROPOSAL REVIEWER**

National Science Foundation (Population and Community Ecology Cluster).  
Earthwatch Institute, 3 Clock Tower Place, Suite 100, Maynard, MA 01754.

#### **RESEARCH EXPERIENCES**

- 2010 – present: Mammal communities in storm water retention ponds in Maryland.
- 2007 – present: An experimental approach to quantify the impact of varying deer densities on seedling survival and growth. Front Royal Virginia.
- 2005 – present: Assistant Professor Towson University. Peccary-plant interactions within the Amazon. Peccaries as ecosystem engineers.
- 2006 – 2009 Collaboration with my graduate student Chara Bachelder: Spatial-temporal variation in Lyme disease infection in small, medium, and large mammals and ticks across Maryland.
- 2003 – 2005: Post Doctoral Fellow with Dr. John Terborgh, Duke University, Center for Tropical Conservation. Peccary-plant interactions within the Amazon.
- 2002 – 2003: Post Doctoral Fellow with Dr. Michael Gaines, Department of Biology, University of Miami: Mammal biodiversity and communities in Key Biscayne National Park, Florida.
- 2001 – 2003: Collaboration with Dr. Michael Gaines, Department of Biology, University of Miami: The effects of tree island size and hydroperiod on the population dynamics of small mammals in the Everglades National Park, Florida.

- 2001 – 2002: Collaboration with Dr. Michael Gaines, Department of Biology, University of Miami: The effects of pre- and post-fire disturbance on habitat selection and population dynamics of small mammals in Pineland and Hardwood Hammock habitats within the Everglades National Park, Florida.
- 1999 – 2001: Collaboration with Dr. John Terborgh, Duke University: Experimental seed exclosures to test whether spatial aggregation of *Astrocaryum murumuru* palms affects peccary seed removal.
- 1998 – 2002: Ph.D. Research: The effects of heterogeneous landscapes on habitat selection, dispersal, and population dynamics of small mammals, in Cocha Cashu, Peru.
- 1996 – 1997: Stable isotope analysis of muscle tissues from two bat species to determine their trophic levels across seasons and habitats.
- 1996 – 2002: Research Assistant, with Dr. Michael Gaines, Department of Biology, University of Miami: The effects of tree island size and water level on demography and movement of small mammals in the Everglades National Park, Florida.
- 1995 – 1995: Research Assistant, with Dr. Carol Horvitz, Department of Biology, University of Miami: Plant community changes after Hurricane Andrew in Florida.
- 1994 – 1994: Master's Research: "Home range, population density, and food resources of *Agouti paca* (Rodentia) in Costa Rica.
- 1993 – 1993: Research Assistant, with Dr. Bernhard Ronacher, Department of Zoology II, University of Erlangen-Nuremberg, Germany: Acoustic orientation in grasshoppers.
- 1992 – 1993: Research Assistant, with Dr. Otto v. Helversen, Department of Zoology II, University of Erlangen-Nuremberg, Germany: Foraging behavior in honey bees.

#### **TEACHING EXPERIENCES AT TOWSON UNIVERSITY**

- Biol 447 / 547, Tropical Field Ecology. Study abroad course for majors. Summer 2010, 2009 & 2008.
- Bio 204, Career & Educational Planning. Online course for majors. Summer 2010, 2009, Spring 2010, 2008 & Mini 2009.
- Biol 446 /546, Tropical Ecology & Conservation. Lecture course for majors. Spring 2010, 2008.
- Biol 213, Human Anatomy & Physiology I. Lecture & laboratory for majors. Fall 2009 to 2005, Spring 2006.
- Biol 458 /558, Mammalogy. Lecture & laboratory for majors. Spring 2011, 2009 & 2007

#### **TEACHING EXPERIENCES AT OTHER INSTITUTIONS**

- Esc 103, Seminar in Environmental Science. Lecture, team taught with Dr. Gaines. University of Miami, Fl. Spring 2003.
- Bio 299, Seminar in Research Problems. Lecture, team taught with Dr. Gaines. University of Miami, Fl. Spring 2003.
- Esc 101, Environmental Science. Lecture for majors and non-majors. University of Miami, Fl. Fall 2002.
- Biol 161, Ecological Biodiversity Laboratory, Teaching Assistant. University of Miami, Fl. 2001 – 2002.

- Graduate Research Mentor for Research in Ecology. Howard Hughes Medical Institute & National Science Foundation. Young Scholars, 6<sup>th</sup> grade students, University of Miami, Fl. Spring 2000.
- General Biology. Lecture for non-majors. Miami Dade Community College, Fl. Fall 1999.
- Biol 266, Teaching Assistant Physiology Laboratory. University of Miami, Fl 1996 – 1998.
- Biol 161, Teaching Assistant Ecological Biodiversity Laboratory. University of Miami, Fl. Spring 1996.
- Teaching Assistant NSF-Young Scholars, 6<sup>th</sup> grade students, University of Miami, Fl. Fall 1996.
- Human Anatomy & Physiology. Lecture and laboratory for majors. Miami Dade Community College, Fl. 1995.
- General Biology & Environmental Science, Lecture for non-majors. Miami Dade Community College, Fl. Fall 1995.
- Ecology for majors. Teaching Assistant. University of Erlangen-Nuremberg, Germany. 1991 – 1993.

### PROFESSIONAL ACTIVITIES

- 2009 – Symposium co-organizer *Old World pigs and New World peccaries – conservation statuses, management and health*. Held at the 10<sup>th</sup> International Mammalogical Congress, 9–14 August, Mendoza, Argentina.
- 2009 – Chair of the symposium *Living in a defaunated World: The role of large Mammals in key ecological processes*. Held at the 10<sup>th</sup> International Mammalogical Congress, 9–14 August, Mendoza, Argentina.
- 2007 – present IUCN (The World Conservation Union) Peccary Specialist Group Member.
- 2005 Invited by the Wildlife Conservation Society to participate in a workshop entitled *Identificar prioridades de conservación a escala de distribución para Tayassu pecari*.
- 2005 Symposium organizer *Mammals as Ecosystem Engineers* Held at the 9<sup>th</sup> International Mammalogical Congress, in Sapporo, Japan.
- 2003 Judge, Student Poster Awards. 10<sup>th</sup> Annual Meeting of the Florida-Georgia Louis Strokes Alliance for Minority Participation in Science, Engineering & Mathematics, in Tampa.
- 2002 Invited by the Royal Society of London to participate in a workshop on measuring biodiversity. Royal Society of London, Carlton House Terrace, London, UK.
- 2002 Judge, Student Paper Awards. 87<sup>th</sup> Annual Meeting of the Ecological Society of America, in Tucson.
- 1997 – 1998 President, Biology Graduate Student Association, Department of Biology, University of Miami.
- 1997 – 1998 Graduate student representative at faculty meetings. Department of Biology, University of Miami.