

**KURT MILTON PICKETT**  
*Department of Biology*  
*120A Marsh Life Science Building*  
*University of Vermont, Burlington, VT 05405*  
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## **APPOINTMENTS**

Department of Biology, University of Vermont (January 2007–present)  
Assistant Professor  
Zadock Thompson Natural History Collection, University of Vermont (January 2007–present)  
Curator of Invertebrates  
American Museum of Natural History (May 2007–2010; reappointed May 2010–2013)  
Research Associate  
Muséum national D'Histoire naturelle  
Maître de Conférence invité (June–July 2004)  
American Museum of Natural History  
Postdoctoral Fellow, (January 2004–December 2006)

## **RESEARCH INTERESTS**

Taxonomy of Vespidae, evolution of social behavior, phylogenetic theory and methodology

## **EDUCATION**

The Ohio State University, Columbus, Ohio, Ph.D. in Entomology, December 2003  
The Ohio State University, Columbus, Ohio, M.S. in Entomology, May 1998  
Louisiana State University, Shreveport, Louisiana, B.S. in Biology, August 1996

## **PUBLISHED ARTICLES**

27. Roskens, V., J. Carpenter, K. Pickett, and B. Ballif. 2010. Preservation of field samples for enzymatic and proteomic characterization: Analysis of proteins from the trophallactic fluid of hornets and yellowjackets. *Journal of Proteome Research* 9: 5484-5491.
26. Randle, C. R., and **K. M. Pickett**. 2010. The conflation of ignorance and knowledge in the inference of clade posteriors. *Cladistics*.
25. **Pickett, K. M.** 2010. Phylogenetic inference and the evolution of behavior. In: Breed, M. D. and Moore, J., (eds). *Encyclopedia of Animal Behavior*, volume 2, pp. 707-712. Oxford: Academic Press, Oxford.
24. **Pickett, K. M.** and J. M. Carpenter. 2010. Simultaneous analysis and the origins of sociality in the Vespidae (Insecta: Hymenoptera). *Arthropod Systematics and Phylogeny* 68(1): 3–33.

23. **Pickett, K. M.**, J. M. Carpenter, and A. Dejean. 2009. “Basal” but not primitive: the nest of *Apoica arborea* de Saussure (Hymenoptera: Vespidae; Polistinae). *Zoosystema* 31(4): 945–948.
22. Andena, S. R., J. M. Carpenter, and **K. M. Pickett**. 2009. Phylogenetic analysis of species of the neotropical social wasp *Epipona* Latreille, 1802 (Hymenoptera: Vespidae; Polistinae, Epiponini). *Zookeys* 20: 385–398.
21. Held, D. W., C. Wheeler, C. Abraham, and **K. M. Pickett**. 2008. Paper wasps (*Polistes* sp.) attacking fall armyworm larvae (*Spodoptera frugiperda*) in turfgrass. *Applied Turfgrass Science*. doi:10.1094/ATS-2008-0806-01-RS.
20. Wheeler, W. C. and **K. M. Pickett**. 2008. Topology-Bayes versus Clade-Bayes in phylogenetic analysis. *Molecular Biology and Evolution* 25(2):447–453.
19. **Pickett, K. M.** and J. W. Wenzel. 2007. Revision and cladistic analysis of the nocturnal social wasp genus, *Apoica* Lepeletier (Hymenoptera: Vespidae; Polistinae, Epiponini). *American Museum Novitates* 3562: 1- 30.
18. Varón, A., L. S. Vinh, I. Bomash, W. C. Wheeler. 2007. POY 4.0.1665 Beta. New York, American Museum of Natural History. Documentation by Varón, A., L. S. Vinh, I. Bomash, W. Wheeler, I. Tëmkin, **K. Pickett**, J. Faivovich, T. Grant, and W. L. Smith. <http://research.amnh.org/scicomp/projects/poy.php> [not peer reviewed]
17. **Pickett, K.M.**, J.M. Carpenter, and W. C. Wheeler. 2006. Systematics of *Polistes* (Hymenoptera: Vespidae), with a phylogenetic consideration of Hamilton's haplodiploidy hypothesis. *Annales Zoologici Fennici* 43:390–406.
16. Steel, M. and **K. M. Pickett**. 2006. On the impossibility of uniform priors on clades. *Molecular Phylogenetics and Evolution* 39: 585–586.
15. Randle, C. P. and **K. M. Pickett**. 2006. Are non-uniform clade priors important in Bayesian phylogenetic analysis? A response to Brandley et al. *Systematic Biology*, 55 (1):147–151.
14. **Pickett, K. M.** 2005. Is the PhyloCode now roughly analogous to the actual codes? A reply to Laurin et al. *Cladistics* 21 (6): 608–610.
13. **Pickett, K. M.**, Tolman, G. L., Wheeler, W. C., and Wenzel, J. W. 2005. Parsimony overcomes statistical inconsistency with the addition of more data from the same gene. *Cladistics* 21 (5): 438–445.
12. **Pickett, K. M.**, S. R. Rissing, and J. W. Wenzel. 2005. Iconoclasts of Evolution: Haeckel, Behe and Wells and the ontogeny of a fraud. *American Biology Teacher* 67 (5): 270–277.
11. **Pickett, K. M.** 2005. The new and improved PhyloCode, now with types, ranks, and even polyphyly: a conference report from the First International Phylogenetic Nomenclature Meeting. *Cladistics* 21 (1): 79–82.
10. **Pickett, K. M.** and C. P. Randle. 2005. Strange Bayes indeed: uniform topological priors imply non-uniform clade priors. *Molecular Phylogenetics and Evolution* 34 (1): 203–211.
9. **Pickett, K. M.** and J. W. Wenzel. 2004. Phylogenetic analysis of the New World *Polistes* (Hymenoptera: Vespidae; Polistinae) using morphology and molecules. *Journal of the Kansas Entomological Society* 77 (4):742–760.
8. Simmons, M., **K. M. Pickett**, and M. Miya. 2004. How meaningful are Bayesian support values? *Molecular Biology and Evolution* 21 (1):188–199.
7. Freudenstein, J. V., **K. M. Pickett**, M. Simmons, J. W. Wenzel. 2003. From basepairs to birdsongs: Phylogenetic data in the age of genomics. *Cladistics* 19: 333–347.
6. **Pickett, K. M.** 2003. A new species of social wasp in the genus *Apoica* Lepeletier (Hymenoptera: Vespidae; Polistinae, Epiponini). *Proceedings of the Entomological Society of Washington* 105 (3): 592–598.

5. **Pickett, K. M.**, D. M. Osborne, D. Wahl, and J. W. Wenzel. 2001. An enormous nest of *Vespula squamosa* from Florida, the largest social wasp nest reported from North America, with notes on colony cycle and reproduction. *Journal of the New York Entomological Society* 109 (3–4): 408–415.
4. Blackledge, T. A. and **K. M. Pickett**. 2000. Predatory interactions between mud-dauber wasps (Hymenoptera, Sphecidae) and *Argiope* (Araneae, Araneidae) in captivity. *Journal of Arachnology*. 28: 211–216.
3. **Pickett, K. M.** and J. W. Wenzel. 2000. High productivity in haplometrotic colonies of the introduced paper wasp, *Polistes dominulus*. *Journal of the New York Entomological Society* 108 (3–4): 314–325.
2. Henderson, G. and **K. M. Pickett**. 2000. Paper Wasps. In: *Entomological Society of America Handbook of Household and Structural Insect Pests* (Roger E. Gold and Susan C. Jones, Eds.), pp. 28–29.
1. **Pickett, K. M.**, A. McHenry, and J. W. Wenzel. 2000. Nestmate recognition in the absence of a pheromone. *Insectes Sociaux* 47: 212–219.

## GRANTS AND AWARDS

- 2009 National Science Foundation, Division of Environmental Biology, Systematic Biology and Biodiversity Inventories, award number 0843505: “Taxonomy, Phylogenetics, Behavior And Proteomics Of The Social Wasp Superorganisms (Hymenoptera: Vespidae; Vespinae)” (with co-PIs B. A. Ballif and J. M. Carpenter). Awarded amount: \$385,432 (through 2012).
- 2008 National Science Foundation, NSF/CNPq supplement (to NSF-DEB 0634748), supplement to NSF-DEB 0634748 (Pickett); Pickett is lead PI, but funds flow to F. Noll (Brazil) for travel to collaborate with Pickett. Award amount: \$20,000 (through 2011).
- 2007 National Science Foundation, Division of Environmental Biology, Systematic Biology and Biodiversity Inventories, REU Supplement to award number 0634748: “Phylogeny of the New World *Polistes* (Hymenoptera: Vespidae; Polistinae, *Polistes*, *Aphanilopterus*) based on combined morphological, molecular and behavioral evidence” (with co-PIs J. M. Carpenter and W. C. Wheeler). Awarded amount: \$12,000 (through 2011).
- 2006 National Science Foundation, Division of Environmental Biology, Systematic Biology and Biodiversity Inventories, award number 0634748: “Phylogeny of the New World *Polistes* (Hymenoptera: Vespidae; Polistinae, *Polistes*, *Aphanilopterus*) based on combined morphological, molecular and behavioral evidence” (with co-PIs J. M. Carpenter and W. C. Wheeler). Awarded amount: \$329,998 (through 2011).
- 2004 American Museum of Natural History, Theodore Roosevelt Fellowship, “Phylogeny of the New World *Polistes* (emphasizing North American taxa).” Awarded amount: ~\$73,000 (through 2006).

## INVITED PRESENTATIONS

- 2010 “Large-scale phylogeny of the Vespidae,” Department of Biological Sciences, Sam Houston State University, TX, USA (declined).
- 2009 “A Comprehensive Natural History of the Vespidae: Simultaneous Analysis, Optimality,

- and the Origins of Eusociality,” Department of Biological Sciences, State University of New York, Buffalo, NY, USA (declined).
- 2008 “Large-scale phylogeny of the Vespidae,” The XXVII Annual Meeting of the International Willi Hennig Society, Tucumán, ARGENTINA (declined)
- “Conflation of Truth and knowledge in the inference of clade posteriors,” (delivered by C. Randle to) The XXVII Annual Meeting of the International Willi Hennig Society, Tucumán, ARGENTINA
- “Large-scale phylogeny of the Vespidae,” International Society of Hymenopterists, Reno, NV, USA (declined)
- “A Comprehensive Natural History of the Vespidae: Simultaneous Analysis, Logical Consistency, and the Origins of Eusociality,” Department of Biology Seminar, Burlington, VT, USA
- “A Comprehensive Natural History of the Vespidae: Simultaneous Analysis, Optimality, and the Origins of Eusociality,” A. Watson Armour Spring Symposium, Field Museum of Natural History, Chicago, IL, USA
- 2007 “The phylogeny of the Vespidae” (with co-presenter J. M. Carpenter). The 3rd Dresden Insect Phylogeny Symposium, Dresden, Germany
- “Hennigian Decadence” Banquet Speech, The XXVI Annual Meeting of the International Willi Hennig Society, New Orleans, LA, USA
- “The systematics of Vespidae, and the evolution of social behavior” Universidade de São Paulo, Ribeirão Preto, Brasil
- 2006 “The systematics of Vespidae, the evolution of sociality, and methodological advances from studies of social wasps.” American Museum of Natural History, NYC, NY, USA
- “Four billion years of altruism: From molecular alliance to superorganism.” Louisiana State University, Shreveport, LA, USA
- “Testing behavioral scenarios: The phylogenetics of New World paper wasps, and the evolution of sociality,” Louisiana State University, Shreveport, LA, USA
- “The phylogenetics of the Vespidae, the evolution of sociality, and methodological advances from studies of social wasps,” University of Vermont, Burlington, VT, USA
- “Systematic Theory, the complexity of natural data, and social wasps” University of Kansas, Lawrence, KS, USA.
- 2005 “A review of the Phylocode,” Entomological Collections Network meeting, Ft. Lauderdale, FL, USA.
- “Cladistic analysis and social behavior” at “*Polistes*: The Emergence of a Model Genus” Symposium. Tufts University European Center, Talloires, FRANCE.
- 2004 “The persistence of clade prior influence in Bayesian phylogenetic Analyses,” Methodological Advances in Cladistics Symposium, The XXIII Annual Meeting of the International Willi Hennig Society, Paris, FRANCE.
- “Understanding, tracking, and predicting the *Polistes dominulus* invasion: Traditional ecology, computer databasing, and genetic algorithms” New York Entomological Society, NY, USA.
- 2003 “Do Bayesian Support Values Reflect Probability of the Truth?” Competing methods of Phylogenetic Inference Symposium, The XXII Annual Meeting of the International Willi Hennig Society, New York, NY, USA.
- 2002 “Molecular, morphological, and behavioral phylogeny of *Aphanilopterus* (Hymenoptera: Vespidae; Polistinae, *Polistes*),” International Congress of the International Society for the Study of Social Insects, Sapporo, JAPAN

- 2001 "Exorcising the Demon: Parsimony escapes the Felsenstein Zone with the addition of more data from the same distribution," XX Annual Meeting of the International Willi Hennig Society, Corvallis, OR, USA  
 "Status of *Polistes dominulus* in the United States: Introduction, distribution and competitive considerations," Entomological Society of America National Conference, San Diego, CA, USA

## CONTRIBUTED PRESENTATIONS

- 2010 "The poverty of partitioned analyses and character-type chauvinism" (delivered remotely to the) Seventh International Congress of Hymenopterists, Kőszeg, HUNGARY  
 2004 "Non-flat influence of flat topological priors in Bayesian phylogenetic analyses" Entomological Society of America national conference, Salt Lake City, UT, USA  
 2003 "Total evidence phylogeny of the New World *Polistes* (Hymenoptera: Vespidae; Polistinae)." Entomological Society of America National Conference, OH, USA  
 2002 "From Basepairs to Birdsong: Phylogenetic Data in the Age of Genomics," International meeting of the Willi Hennig Society, Helsinki, FINLAND  
 2001 "Exorcising the Demon: Parsimony escapes the Felsenstein Zone with the addition of more data from the same distribution." Entomological Society of America National Conference, San Diego, CA, USA  
 2000 "Evolution of Peculiar Castes in the Charismatic genus *Apoica* Hymenoptera: Vespidae, Epiponini," International Union for the Study of Social Insects North American National Meeting, Huntsville, AR, USA  
 "Queens smaller than workers: Morphological and molecular phylogeny of *Apoica* (Hymenoptera; Vespidae)," Entomological Society of American National Conference, Montreal, CANADA  
 "High productivity in the introduced paper wasp, *Polistes dominulus*," Joint meeting of the Society for the Study of Evolution and the Society of Systematic Biologists, Indiana University, Bloomington, IN, USA  
 1998 "Productivity and competitive exclusion in *Polistes dominulus*," Entomological Society of American National Conference, Los Vegas, NV, USA  
 1997 "Nestmate recognition in the absence of a pheromone," Entomological Society of America National Conference, Nashville, TN, USA

## ADVISING

### Current Graduate Students

- 2010-present Ms. Yainna Hernaiz-Hernandez (Ph.D. advisor)  
 Department of Biology, University of Vermont, USA  
 2010-present Mr. Federico López-Osorio (Ph.D. advisor)  
 Department of Biology, University of Vermont, USA  
 2009-present Mr. Fernando Gelin (Ph.D. advisor)  
 Department of Biology, University of Vermont, USA  
 2010-present Ms. Stacy Jorgenen (M.S. committee member)  
 Department of Plant Biology, University of Vermont, USA

2010–present	Mr. Eduardo dos Santos (Ph.D. committee member) Instituto de Biociencias, Letras e Ciencias exatas, UNESP, Departamento de Zoologia e Botanica, Sao Jose du Rio Preto, Brasil
2009–present	Mr. Adrien Perrard (Ph.D. committee member) Paris VI et le Muséum national D'Histoire naturelle, Paris, FRANCE
2008–present	Mr. Pedro Alvarez-Oritz (Ph.D. committee member) Department of Biology, University of Vermont, USA
2008–present	Mr. Samya Chakravorty (Ph.D. committee member) Department of Biology, University of Vermont, USA
2007–present	Ms. Heather Axen (Ph.D. committee member) Department of Biology, University of Vermont, USA
2007–present	Mr. Nilanjan Lodh (Ph.D. committee member) Department of Biology, University of Vermont, USA

Graduated

2010	Ms. Violet Roskens (M.S. advisor) Department of Biology, University of Vermont, USA
2007	Mr. Sergio Andena (Ph.D. committee member) Departamento de Zoologia e Botânica, Universidade Estadual Paulista, São José du Rio Preto, BRASIL

Postdocs

2007–2009	Dr. Sergio Andena (postdoctoral advisor) Department of Biology, University of Vermont, USA
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**OTHER MENTORING**

2009	Lisa Stevens-Goodnight: NSF REU program to conduct curatorial work in the Natural History Museum (Torrey).
2009	Ms. Elizabeth Sander: UVM MathBio program, mathematical investigations in phylogenetics, especially related to the application of evolutionary models to analysis of discrete morphological variation.
2009	Mr. Adrien Perrard: Research intern, studying molecular and morphological phylogenetics of <i>Vespa</i> ; work is a collaboration with Muséum national D'Histoire naturelle in Paris, France and the American Museum of Natural History in New York.
2008	Ms. Taylor Norton and Ms. Elizabeth Sander: UVM MathBio program, mathematical investigations in phylogenetics, especially related to the application of evolutionary models to analysis of discrete morphological variation.
2008	Mr. Kevin Soares: Undergraduate summer REU intern, morphological systematics and digital photographic documentation of male genitalia characters of <i>Polistes</i> spp.
2007	Ms. Jennifer Fricke: Undergraduate summer REU intern, molecular techniques, field work (wasp collection), and introductory phylogenetic analysis.
2004–07	Ms. Drupattie Kallu: High School/College intern, molecular techniques including DNA extraction, PCR, and sequencing for a project related to the phylogeography of <i>Polistes dominula</i>

- 2006 Ms. Carissa Shipman: NSF REU intern, morphological systematics and digital photographic documentation of morphological characters for *Polistes* spp.
- 2006 Mr. Sergio Andena: Graduate Student intern, molecular techniques, including DNA extraction, PCR, and sequencing for a project related to the phylogeny of swarm-founding social wasps
- 2005–06 Mr. David Fishman: High School intern, molecular techniques (DNA extraction, PCR, and sequencing) for a project related to the phylogenetics of *Aphanilopterus*.
- 2005 Dr. Christiane Weirauch: Postdoctoral intern, molecular techniques, specifically focusing on obtaining sequences from pinned, museum material

## TEACHING EXPERIENCE

Evolutionary Biology, University of Vermont, 2007–present (non-major's undergraduate course)  
 Field Zoology, University of Vermont, 2007–present (advanced undergraduate course)  
 “Reading Darwin,” University of Vermont, 2008 (Graduate colloquium)

## FIELD EXPERIENCE (OTHER THAN ONGOING LOCAL COLLECTING IN VERMONT)

Two weeks collecting Vespidae, Belize (2008); three weeks collecting Vespidae, Paraguay (2007); Three weeks collecting *Polistes* specimens, North America (2005); three weeks collecting *Polistes* specimens, North America (2004); thirty days in Ribeirão Preto, São Paulo State and Nova Xavantina, Mato Grosso State, Brazil, conducting behavioral observations on the nocturnal social wasps in the genus *Apoica*, general vespidae collecting (1999); seven days in the Florida everglades, studying ecology of and collection of large *Vespula* nest (1999); summer field season, studying behavior and ecology of *Polistes dominula* and *Polistes metricus* colonies, Dublin, OH (1998); two weeks each year, studying behavior and ecology of *Polistes dominula* and *Polistes fuscatus* colonies in Ithaca, NY, near the site of introduction (1997–1999).

## MUSEUM VISITS

- 2009 Museum of Comparative Zoology, Harvard University, Cambridge, MA, USA  
 American Museum of Natural History, New York, NY, USA
- 2008 American Museum of Natural History, New York, NY, USA  
 Field Museum, Chicago, IL, USA
- 2007 Museum für Tierkunde Dresden, MTD, Dresden, GERMANY  
 American Museum of Natural History, New York, NY, USA  
 Museo Zoologica de Universidade de São Paulo, São Paulo, BRAZIL  
 Museo Zoologica de Universidade de São Paulo, Ribeirão Preto, BRAZIL  
 Museo Nacional de Historia Natural del Paraguay, San Lorenzo, PARAGUAY
- 2005 Monte L. Bean Life Science Museum, Brigham Young University, Provo, UT, USA  
 Muséum d'Histoire Naturelle, Geneva, SWITZERLAND
- 2004 Muséum national d'Histoire naturelle, Paris, FRANCE
- 2002 Monte L. Bean Life Science Museum, Brigham Young University, Provo, UT, USA  
 Muséum national d'Histoire naturelle, Paris, FRANCE

- American Museum of Natural History, New York, NY, USA  
 2000 American Museum of Natural History, New York, NY, USA  
 National Museum of Natural History, Washington, D.C., USA  
 1999 Carnegie Museum, Pittsburgh, PA, USA  
 Museo Zoologica de Universidade de São Paulo, Ribeirão Preto, BRAZIL

## PROFESSIONAL SOCIETY MEMBERSHIPS

Animal Behaviour Society, Entomological Society of America, Entomological Society of Washington, International Society of Hymenopterists, International Union for the Study of Social Insects, New York Entomological Society, Society of Systematic Biology, Willi Hennig Society.

## SERVICE TO SCIENCE AND SOCIETY

Editorial Service: Associate Editor, *Cladistics* (2005–present); Associate Editor, *Annales Zoologici Fennici* (2006–2010)

Referee (last three years): *American Museum Novitates*, *Annales Zoologici Fennici*, *BMC Evolutionary Biology*, *Biological Journal of the Linnean Society*, *Biology Letters*, *Cladistics*, *Journal of Hymenoptera Research*, *Molecular Biology and Evolution*, *Molecular Phylogenetics and Evolution*, *Species Diversity*, *Systematic Biology*, *Systematic Entomology*, *Zoosystema*, *Zootaxa*

Conference Organizing: Invited organizer of symposium on philosophy and methodology of phylogenetic inference, The XXVII Annual Meeting of the International Willi Hennig Society, 2008, Tucumán, Argentina; Marie Stopes Student Travel Award committee chair (travel grants to attend annual meeting of the Willi Hennig Society), 2004–2009.

NSF Panel Service: National Science Foundation, Division of Environmental Biology, Doctoral Dissertation Improvement Grant Panel, II/20–23/2007 (served); National Science Foundation, Division of Environmental Biology, Systematic Biology and Biodiversity Inventories Panel, April 2008 (invited, declined); National Science Foundation, Division of Environmental Biology, Biodiversity Surveys and Inventories and Partnerships for Enhancing Expertise in Taxonomy Panel, May 2009 (invited, declined).

NSF Ad hoc Referee Service: National Science Foundation, Division of Environmental Biology, Systematic Biology and Biodiversity Inventories, fall 2010 (two reviews);

Departmental and University Service: Advisory Committee member, 2007–2010; Visit Days, IV/6 & 9/2007, II/15/2008, IV/14 & 25/2008, II/13 & 20/2009; SURF poster judging, IV/11/2007; Departmental representation at Commencement, 2007 & 2008; Commissioner, President's Commission on LGBTQ Equity, 2008–present (attend via teleconference); Curricular Affairs Committee, Faculty Senate (College of Arts and Sciences representative), 2009–2010 (unable to attend due to health; will resume for 2011-2012).

Identification of Vespidae for: American Museum of Natural History, Cornell University Insect Collection, The Field Museum, Monte L. Bean Life Science Museum, Brigham Young University, Museo Zoologica de Universidade de São Paulo, Muséum national D'Histoire naturelle, Museum für Tierkunde Dresden, MTD, Dresden, Germany; British Museum of Natural History; Museo Nacional de Historia Natural del Paraguay, San Lorenzo, Paraguay  
Tree of Life Project: Web Project Lead scientific contributor;” <http://tolweb.org/Aculeata/11184>

Scientific Consultation and Press Coverage: “Bug Attack: Venom War,” National Geographic Channel documentary, 2005; “Pushing PhyloCode,” Discover Magazine, Vol. 26, No. 4, April 2005; “Losing Linnaeus” Living On Earth, Public Radio International, August 17, 2007; “Q&A: U Vermont Researchers Using Proteomics to Investigate Evolution of Digestive Functions in Wasp Colonies.” Proteomonitor, March 30, 2009; The Pickett Lab’s “Expedition Blog” ranked one of the Top 25 Entomology Blogs for 2010 by *Online Degree* website; National Geographic again licensed Pickett’s wasp video footage for upcoming TV series “Nat Geo's Amazing”