

Aaron D. Smith

Curriculum Vitae

American Museum of Natural History, Division of Invertebrate Zoology, Central Park West at 79th St.,
New York, New York 10024-5192, **Phone:** (517) 974-5773, **Email:** pimeliinae@gmail.com,

Web: tenebrionidbase.org, insectbiodiversitylab.org

EDUCATION

Michigan State University, 2006 – 2010

Ph.D., August 2010

Dual degree in Entomology and Ecology, Evolutionary Biology, & Behavior

Advisor: Dr. Anthony Cognato

University of Texas at Austin, 2001-2003

Bachelors of Science in Biology, May 2003

Concentration in Evolutionary Biology

Advisor: Dr. John Abbott

RESEARCH INTERESTS

Speciation and patterns of biodiversity; Coleopteran systematics, especially within Tenebrionidae (darkling beetles); ecology and phylogeography of flightless insects; the evolution of defensive mechanisms, particularly defensive chemistry and mimicry complexes; and the development of biological databases, phenotypic ontologies, and matrix-based tools to increase taxonomic output and impact.

RESEARCH EXPERIENCE

Arizona State University and American Museum of Natural History

Postdoctoral Research Scholar, International Institute for Species Exploration (IISE) and Division of Invertebrate Zoology, June 2010 – Present

Coleopteran taxonomy, curation, phylogenetics, and use in outreach programs.

Michigan State University

Research Assistant, A.J. Cook Arthropod Research Collection, 2006 – 2010

Database management and curation of Coleoptera.

Research Assistant, Early Detection Rapid Response Project, 2007 – 2009

Invasive Scolytine and Siricidae detection in Michigan and Ohio.

University of Nebraska at Lincoln

Research Assistant, UNSM – Division of Entomology, August 2004 – May 2005

Data management and curation of Sericini.

University of Texas at Austin

Research Assistant, Geodatabasing Texas Air National Guard facilities, June 2003-August 2004

TEACHING INTERESTS

General Entomology, Immature Insects, Systematic Entomology, Field Entomology, Phylogenetic Inference and Methodologies, Evolution, Biogeography, Curation in Natural History Collections, Biodiversity: Patterns and Analysis

TEACHING EXPERIENCE

Michigan State University

Guest Lecturer, LB490B (The Darwinian Revolution), Summer 2009

Guest Lecturer, Bug Camp (Systematics and Taxonomy), Summer 2009

Teaching Assistant, ISB 208L (Applications of Bio. Sci. Lab), Spring 2007

Texas A&M University

Teaching Assistant, Medical and Veterinary Entomology, Fall 2005 – Spring 2006

University of Texas at Austin

Specialist (Teaching Assistant), General Entomology, Spring 2004

Specialist (Teaching Assistant), Aquatic Entomology, Fall 2003

PUBLICATIONS

Smith, A.D., R. Dornburg, and Q.D Wheeler. (in review). Larvae of the Genus *Eleodes* (Coleoptera, Tenebrionidae): Matrix-Based Descriptions, Cladistic Analysis, and Key to Late Instars. ~40pp. Zookeys.

Smith, A.D. 2013. Phylogenetic revision of the North American Asidini (Coleoptera: Tenebrionidae). *Systematic Entomology*, **38**: 585–614.

Aalbu, R.A, **A. D. Smith**, C. A. Triplehorn. 2012. A revision of the *Eleodes* subgenus *Caverneleodes* with new species and notes on cave breeding *Eleodes* (Tenebrionidae: Amphidorini). *Annales Zoologici*, 62: 199-216.

Smith, A.D., K.B. Miller, Q.D. Wheeler. 2011. A new species of *Stenomorpha* Solier (Coleoptera: Tenebrionidae: Pimeliinae: Asidini) from Cuatrociénegas with a key to the *furcata* species group. *Zootaxa*, 2909: 27-37.

Cognato, A. I., N. Barc, M. Philip, R. Mech, **A. D. Smith**, E. Galbraith, A. J. Storer, L. R. Kirkendall. 2010. The Native and Introduced Bark and Ambrosia Beetles of Michigan (Coleoptera: Curculionidae, Scolytinae). *Great Lakes Entomologist*, 42: 101-120.

Paulsen, M.J. and **A.D. Smith**. 2005. A new species of stag beetle from sand dunes in west Texas, and a synopsis of the genus *Nicagus* (Coleoptera: Lucanidae: Aesalinae: Nicagini). *Zootaxa*, 1050: 45-60.

MANUSCRIPTS IN PREPARATION

Smith, A.D. Revision of the genus *Pelecyphorus* Solier, 1836 (Coleoptera: Tenebrionidae: Asidini). ~100pp. Target journal: *Zoological Journal of the Linnean Society*.

Smith, A.D. and A.I. Cognato. The evolution of contrasting defensive strategies within the North American Asidini (Coleoptera: Tenebrionidae). ~20pp.

Target journal: Cladistics.

Smith, A.D. and P. Bouchard. Revision of the deep browed Cnodalonini (Coleoptera: Tenebrionidae: Stenochiinae) genera *Bothynoccephalus*, *Cnephalura*, and *Glyptotus* using matrix-based descriptions and an ontology-linked vocabulary. ~35-40pp.

Target journal: Systematic Entomology.

Smith, A.D. A new species of *Edrotes* LeConte (Coleoptera: Tenebrionidae: Edrotini) from the Big Bend region of Texas with a revised key to the genus. ~10pp.

Target journal: Zootaxa.

PRESENTATIONS

Smith, A.D. 2012. The asidine genera (Coleoptera: Tenebrionidae: Asidini) of North America. New York Entomological Society. New York, NY. (invited talk)

Aalbu, R.L., C.A. Triplehorn, and **A.D. Smith**. 2011. Patterns in *Eleodes*. Annual Meeting, Entomological Society of America. Reno, NV. (invited talk)

Franz, N.M., **A.D. Smith**, and J. Hulcr. 2011. Developing a beetle anatomy ontology based on the HAO model - lessons for inter-ordinal ontology integration. Annual Meeting, Entomological Society of America. Reno, NV. (invited talk)

Smith, A.D. 2011. The asidine genera (Coleoptera: Tenebrionidae: Asidini) of North America. Annual Meeting, Entomological Society of America. Reno, NV. (invited talk)

Smith, A.D. & A.I. Cognato. 2009. Implementation of Specify for databasing the A.J. Cook Arthropod Research Collection. Annual Meeting, Entomological Collections Network. Indianapolis, IN. (submitted talk)

Smith, A.D. & A.I. Cognato. 2009. Evolution of Contrasting Defensive Strategies within the North American Asidini (Coleoptera: Tenebrionidae). Annual Meeting, Entomological Society of America. Indianapolis, IN. (submitted talk)

Smith, A.D. 2008. Revision of the North American Asidini (Coleoptera: Tenebrionidae). Annual Meeting, Entomological Society of America. Reno, NV. (submitted talk)

Smith, A.D. 2007. Phylogeny of the North American Asidini (Coleoptera: Tenebrionidae) based on morphology. Annual Meeting, Entomological Society of America. San Diego, CA. (submitted poster)

Smith, A.D. & A.I. Cognato. 2006. Towards a phylogenetic revision of the North American Asidini (Coleoptera: Tenebrionidae). Annual Meeting, Entomological Society of America. Indianapolis, IN. (invited talk)

PROFESSIONAL AFFILIATIONS

Coleopterists Society (2002-present)

Entomological Collections Network (2005-present)
Entomological Society of America (2005–present)
Society for Systematic Biologists (2008-present)
Willi Hennig Society (2008-present)

PROFESSIONAL ACTIVITIES

Associate Editor (2011-present), *Zootaxa*, Tenebrionoidea
Councilor (2009-2010), Coleopterists Society
Manuscript Review: *Annals of the Entomological Society of America*, *Annales Zoologici*, *Coleopterists Bulletin*, *Evolutionary Biology*, *Revista Mexicana de Biodiversidad*, *Zookeys*, *Zootaxa*.

FELLOWSHIPS, GRANTS, AND AWARDS

11. NSF – Advancing Revisionary Taxonomy and Systematics Program [2013-2015]
DEB-1258154 Systematics of the darkling beetle genus *Eleodes*: Integrating morphology, DNA, and biodiversity informatics to resolve a taxonomically impeded genus. PI **Aaron Smith**; co-PIs Nico Franz & Quentin Wheeler; \$458,104
10. NSF – Advancing Digitization of Biological Collections Program [2012-2015]
EF-1207107 Southwest Collections of Arthropods Network (SCAN): A Model for Collections Digitization to Promote Taxonomic and Ecological Research. PI Nico Franz; co-PIs **Aaron Smith**, Quentin Wheeler, & James Hanken; \$284,612
9. Hutson Travel Grant [2009] - \$400 (Michigan State University)
8. Carolyn Rice Bartlett Grant [2009] - \$2340 (CRB Foundation)
7. Dissertation Continuation Fellowship [2009] - \$6000 (MSU, College of Natural Science)
6. Hutson Research Grant [2008] - \$1200 (Michigan State University)
5. Hutson Travel Grant [2008] - \$400 (Michigan State University)
4. Hutson Travel Grant [2007] - \$350 (Michigan State University)
3. Hutson Travel Grant [2006] - \$300 (Michigan State University)
2. Ernst Mayr Travel Grant in Animal Systematics [2006] - \$1160 (Harvard University)
1. Theodore Roosevelt Memorial Grant [2006] - \$1500 (American Museum of Natural History)

Computer Skills

Databasing: Specify 5.2.3 and Specify 6, MS SQL Server, MySQL, MS Access

Web design: Dreamweaver, MS FrontPage, HTML, PHP

Phylogenetics: PAUP* 4.0b10, TNT, NONA, WinClada, MrBayes, Modeltest, MrModeltest, Mesquite, MEGA4, Bioedit, PHYML, Treeview, FigTree, TreeRot.

General: MS Office (Word, PowerPoint, Excel), Adobe Creative Suite (Photoshop, Illustrator, Acrobat), Google Collaborative Tools (Docs, Sites, Picasa, Refine, Earth, etc.)

Field Experience

Trinidad, July 2004 (4 weeks)

Western US: AZ, NM, TX, CA, October 2005 (2 weeks)

Western US: AZ, NM, TX, CO, CA, WY, ND, MT, July-August 2006 (6 weeks)

Western US: AZ, NV, CA, December 2007 (2 weeks)

New Mexico and Arizona, June 2008 (2 weeks)

Mexico: Puebla, Federal District, Puebla, Tlaxcala, Oaxaca, Morelos, July 2008 (3 weeks)

Panama, August 2008 (4 weeks)
Mexico: Baja Sur, August 2009 (3 weeks)
Western US: AZ, NM, TX, CA, July-August 2010 (4 weeks)
Mexico: Sonora, August 2011 (1 week)
Western US: AZ, NM, TX, August-September 2011 (2 weeks)

Entomological Collections Visited

American Museum of Natural History. New York, NY
California Academy of Sciences. San Francisco, CA
Essig Museum of Entomology. Berkeley, CA
Field Museum of Natural History, Chicago, IL.
Natural History Museum. London, UK
Museum of Comparative Zoology. Cambridge, MA
Smithsonian Tropical Research Institute Collection. Panama City, Panama
National Museum of Natural History. Washington, D.C.
University of Michigan Museum of Zoology. Ann Arbor, MI
Illinois Natural History Survey. Champaign, IL
University of Nebraska State Museum. Lincoln, NE
Texas A&M Insect Collection. College Station, TX
Frank M. Hasbrouck Insect Collection. Tempe, AZ
C.A. Triplehorn Insect Collection. Columbus, OH
UCR Entomological Research Museum. Riverside, CA
California State Collection of Arthropods. Sacramento, CA
University of the West Indies Collection. St. Augustine, Trinidad
Colección Nacional de Insectos. Mexico City, Mexico
Museum of Southwestern Biology. Albuquerque, NM

REFERENCES

Quentin D. Wheeler, Virginia A. Ullman Professor
Director, International Institute for Species Exploration
Arizona State University
Email: Quentin.Wheeler@asu.edu

David A. Grimaldi, Curator
Division of Invertebrate Zoology
American Museum of Natural History
Email: grimaldi@amnh.org

Anthony I. Cognato, Associate Professor
Director of the A.J. Cook Arthropod Research Collection
Department of Entomology
Michigan State University
Email: cognato@msu.edu