

## Rebecca M. Clark

### Curriculum Vitae

**Department of Entomology**  
 Texas A&M University  
 TAMU 2475  
 College Station, TX 77843

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[www.acromyrmex.net](http://www.acromyrmex.net)

**Expertise in** Nutritional physiology, behavioral ecology, social evolution, social insects, leafcutter ants, crickets

#### APPOINTMENTS

2011- Postdoctoral Research Associate, Department of Entomology, Texas A&M University:  
 Nutrient regulation and physiological allocation in wing-dimorphic crickets (Supervisors:  
 Spencer Behmer and Anthony Zera)

#### EDUCATION

2011 Ph.D., Arizona State University (Biology; Supervisor: Jennifer H. Fewell)  
 2003 B.A., Tufts University (Bio-Psychology; Supervisor: Klaus Miczek)

#### PUBLICATIONS

##### Refereed Articles

9. Clark, R.M., and Fewell, J.H. (2014). Transitioning from unstable to stable colony growth in the desert leafcutter ant *Acromyrmex versicolor*. *Behavioral Ecology and Sociobiology* 68:163-171.
8. Clark, R.M., and Fewell, J.H. (2014). Social dynamics drive selection in cooperative associations of ant queens. *Behavioral Ecology* 25:117-123.
7. Overson, R., Gadau, J., Clark, R.M., Pratt, S.C., and Fewell, J.H. (2014). Behavioral transitions with the evolution of cooperative nest founding by harvester ant queens. *Behavioral Ecology and Sociobiology* 68:21-30.
6. Clark, R.M., McConnell\*, A., Zera, A.J., and Behmer, S.T. (2013). Nutrient regulation strategies differ between cricket morphs that trade-off dispersal and reproduction. *Functional Ecology* 27:1126-1133.
5. Kang, Y., Clark, R., Makiyama, M., and Fewell, J. (2011). Mathematical modeling on obligate mutualism: Interactions between leaf-cutter ants and their fungus garden. *Journal of Theoretical Biology* 289:116-127.
4. Holbrook, C.T., Clark, R.M., Moore, D., Overson, R.P., Penick, C.A., and A.A. Smith. (2010). Social insects inspire human design. *Biology Letters* 6(4): 431-433.
3. Holbrook, C.T., Clark, R., Jeanson, R., Bertram, S., Kukuk, P., and Fewell, J.H. (2009). Emergence and consequences of division of labor in forced associations of the normally solitary halictine bee *Lasioglossum* (Ctenonomia) NDA-1. *Ethology* 115:301-310.

2. Jeanson, R., Clark, R., Holbrook, C.T., Bertram, S., Fewell, J.H., and Kukuk, P. (2008) Division of labour and socially-induced changes in response thresholds in associations of solitary Halictine bees. *Animal Behavior* 76:593-602.
1. Clark, R., Anderson, K.E., Gadau, J., Fewell, J.H. (2006) Behavioral regulation of genetic caste determination in a *Pogonomyrmex* population with dependent lineages. *Ecology* 87(9): 2201-2206.

### Book Chapters

1. Clark, R., Fewell, J.H. (2004) Eusociality. In: Beckoff, M., ed. *The Encyclopedia of Animal Behavior*. Greenwood Press: Connecticut. 992-993.

### Other Publications

1. Clark, R.M. and C.T. Holbrook. (2010) Ant Farm: Ask-a-Biologist activity for the classroom and home. *Ask-A-Biologist* [http://askabiologist.asu.edu/sites/default/files/resources/activities/ant\\_farm/ant\\_farm\\_activity\\_packet.pdf](http://askabiologist.asu.edu/sites/default/files/resources/activities/ant_farm/ant_farm_activity_packet.pdf)
2. Clark, R.M. (2009) Ant Farm. *Ask-A-Biologist* [http://askabiologist.asu.edu/explore/ant\\_farm](http://askabiologist.asu.edu/explore/ant_farm)
3. Clark, R.M. (2009) Collecting Ants. Ask a Biologist <http://askabiologist.asu.edu/explore/collecting-ants>
4. Clark, R.M. (2009) Cool Ant Experiments. *Ask-A-Biologist* <http://askabiologist.asu.edu/ant-experiments>
5. Holbrook, C.T. and R.M. Clark. (2009) Secrets of a superorganism. *Ask-A-Biologist* <http://askabiologist.asu.edu/content/secrets-superorganism>

### TALKS

#### Invited Talks

- 2007            The sociality paradox: Social organization in *Pogonomyrmex* queen associations. HexaPodium, Center for Insect Science, University of Arizona and Arizona State University

#### Departmental Talks

- 2013            Nutrition in insects: A tale of two paradigms. Department of Entomology Seminar, Texas A&M University.

### AWARDS AND HONORS

- 2010            First Place, Student Competition, Entomological Society of America Annual Meeting

### GRANTS AND FELLOWSHIPS

- 2013            NSF REU (supplement to NSF IOS-1121960) "Diet composition and feeding strategies of *Gryllus texensis* crickets," Co-PI: Spencer Behmer; \$3200
- 2010-2012    NSF IOS-1011171 "Dissertation Research: Regulation of colony growth in leafcutter ants," Co-PI: Jennifer Fewell (\$13,334)
- 2010-2011    NSF IOS-0964277 "Conference Grant: Social Biomimicry: Conference on Insect Societies and Human Design," PI: Jennifer Fewell (\$16,838)
- 2009-2010    Arizona State University, Frontiers in Life Sciences Conference Grant: "Social Biomimicry: Insect Societies and Human Design," Co-PI with C.T. Holbrook,

- 2009-2010 D. Moore, R.P. Overson, C.A. Penick, and A.A. Smith (\$29,975)  
Arizona State University, Graduate and Professional Students Association  
Event Grant, “Social Biomimicry: Insect Societies and Human Design,” Co-PI  
with C.T. Holbrook, D. Moore, R.P. Overson, C.A. Penick, and A.A. Smith  
(\$2,000)
- 2007 Sigma Xi Grants-in-Aid of Research, “Nutritional dynamics of leafcutter ant  
colonies: Characterizing the relationship between the fungal substrate and  
fungus growth,” (\$400)
- 2006 Arizona State University, Graduate and Professional Students Association,  
“Regulation of leafcutter and colony growth by its mutualist fungus: A  
stoichiometric approach,” (\$2000)

## TEACHING

### Biostatistics Workshops

- 2014 Open-Source for Open Science, Ecology and Evolutionary Biology Program, Texas  
A&M University.
- 2012 Using R for Behavioral Analysis. School of Life Sciences, Arizona State University.

### Teaching Assistant, Arizona State University

- General Genetics (Summer 2010, Spring 2011).  
General Biology I (Fall 2006-2007, 2008-2010, Spring 2010).  
Honors Lab Instructor, General Biology I. (Fall 2008).  
Human Anatomy and Physiology (Fall 2004-2005, Spring 2005-2006, Summer 2009).  
Introductory Biology for Non-Majors (Fall 2003, Spring 2004).

### Drop-in Tutor, Arizona State University

American Indian Institute. (Fall 2005-Summer 2006) Writing, Biology, Psychology, and Statistics for  
undergraduate Native American students.

### Writing Fellow, Tufts University

Writing, Thinking, and Speaking Center (Fall 2000 - Spring 2003) Taught effective writing and  
revision strategies to students in history, biology, psychology, and engineering.

## MENTORING

### Honors Thesis

- 2005-2010 Kimberly Shaffer, ASU, “Identification of an exudate produced by fungal gardens of  
the desert leafcutter ant *Acromyrmex versicolor*,” (co-mentored with Jennifer Fewell);  
Master’s of Business, ASU
- 2007-2009 Jennifer Hale, ASU, “Division of labor as a function of *A. versicolor* worker size,” (co-  
mentored with Jennifer Fewell); Master’s in Biology, The Ohio State University  
Leah Drake, ASU, “Division of labor scales with colony size in desert leafcutter ants,”  
(co-mentored with Jennifer Fewell); Master’s in Teaching, University of San Francisco
- 2004-2005 Eric Ovalle, ASU, “The division of labor in small social groups of the seed harvester  
ant *Pogonomyrmex barbatus*.” (co-mentored with Jennifer Fewell)

## Research Students

- 2013 Lewis Sherer, TAMU  
2012 Kerstin Alander, TAMU, "Diet composition and feeding strategies of *Gryllus texensis* crickets," <http://summerofcrickets.wordpress.com/>  
Emily Franco, TAMU  
2011 Matthew Barnard, ASU  
2010 Daeho Pak, ASU  
2009 Sarah Drayer, ASU  
Rini Parekh, ASU  
2008 Aaron Bynum, ASU; now D.M.D.  
2005 Carmenlita Chief, ASU; Currently earning a Master's of Public Health at the University of Arizona  
Antonio Benavidez, ASU; Master's of Public Policy, Harvard Kennedy School of Government

## SERVICE

### Peer Review

*Functional Ecology*, the *Journal of Insect Physiology*, *Ecological Entomology*, *Behavioral Ecology and Sociobiology*, *Insectes Sociaux*, *Behavioural Processes*, *Oecologia*, *Physiological and Biochemical Zoology*

### Grant Review

Graduate and Professional Students Association, Arizona State University, 2005

### Student Committee Representative

North American Section to the International Committee, International Union for the Study of Social Insects (IUSI), 2010

Research and Training Initiatives Committee, School of Life Sciences, 2005-2008

Animal Behavior Student Rep, School of Life Sciences, Arizona State University, 2004-2006

### Web Administrator

Graduate Student Blackboard Site. Created and managed a site for over 200 graduate students in the School of Life Sciences, 2008-2009

Social Insect Research Group, Arizona State University, 2006-2009

## PROFESSIONAL AFFILIATIONS

Society for Integrative and Comparative Biology (SICB)

International Union for the Study of Social Insects, North American Section (NAS-IUSI)

Entomological Society of America (EntSoc)

Association for Women in Science (AWIS)

Phi Beta Kappa National Honors Society