

## Danny L. McDonald, Ph. D.

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Texas Research Institute for Environmental Studies  
Invertebrate Toxicology Laboratory  
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### Education

- 2012 (Dec.) Ph.D. Entomology – Texas A&M University – Dissertation Title: Investigation of an invasive species: *Nylanderia fulva* colony extraction, management, diet preference, fecundity, and mechanical vector potential. Committee Members – Drs. Roger E. Gold [Chair], Bart M. Drees, Jerry L. Cook, Robert Coulson, and Leon Russell.
- 2008 (Aug.) M.S. Agriculture – Tarleton State University – Thesis Title: Effects of accumulated degree days on the population of *Homalodisca vitripennis* in Texas vineyards. Committee Members – Drs. Forrest Mitchell [Chair], David Kattes, and John Calahan.
- 2005 (May) B.S. Horticulture and Landscape Management – Tarleton State University

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### Research Interests

Invasive Ant Ecology  
Social Insect Behavior  
Ant Biogeography  
Urban Entomology  
Geographic Information Systems

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### Professional Experience

- 2013-Present **Research Scientist**, Institute for the Study of Invasive Species, Sam Houston State University. Primary research involves; 1) *Nylanderia fulva* reproductive phenology and mating flights, 2) Thermal limits of worker survival and reproduction, and 3) Applied laboratory and field research regarding *N. fulva* management.

- 2013-Present    **Operations Manager**, Invertebrate Toxicology Laboratory, Sam Houston State University. ) Applied laboratory and field research regarding urban pest management.
- 2011-2013      **Research Assistant**, Center for Urban and Structural Entomology, Department of Entomology, Texas A&M University. Primary research involves; 1) Crazy ant (*Nylanderia fulva*) biology, behavior and management and, 2) Laboratory and field research on management of urban pests. Supervisor: Dr. Roger E. Gold and Dr. Robert T. Puckett.
- 2009-2011      **Graduate Research Assistant**, Center for Urban and Structural Entomology, Department of Entomology, Texas A&M University, College Station, TX  
Research involvement: Crazy ant (*Nylanderia* sp. nr. *pubens*) biology, behavior and management. Supervisor: Dr. Roger E. Gold
- 2008-2011      **Teaching Assistant**, Insects in Human Society (ENTO 322) and Urban Entomology (ENTO 413). Department of Entomology, Texas A&M University, College Station, TX. Responsibilities: present lectures, write tests, grade assignments, conduct reviews, and lead field trips and pinning sessions. Supervisor: Dr. Roger E. Gold.
- 2005-2008      **Agricultural Research Technician II**, Texas AgriLife Research, Stephenville, TX. Responsibilities: Field research regarding *Homalodisca vitripennis*, *Acrobasis nuxvorella*, and *Paratrioza cockerelli*. Supervisor: Dr. Forrest Mitchell

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## Publications

- McDonald, D.L.** 2014 (In Press). Identifying the regions of Texas under sampled for myrmecofauna. Southwest. Entomol.
- McDonald, D.L.** 201X. (In Prep). The reproductive flight phenology of *Nylanderia fulva* in Texas.
- McDonald, D.L.** 201X. (In Prep). The reproductive flight phenology of ant assemblages in the Texas Gulf Coast prairies and marshes.
- McDonald, D.L.** 201X. (In Prep). A modified drip technique for extracting *Nylanderia fulva* (Hymenoptera: Formicidae) from substrates.
- McDonald, D.L.** 201X. (In Prep). Effects of Advance Carpenter ant bait on *Nylanderia fulva* (Hymenoptera: Formicidae) population density in East Columbia, Texas.
- McDonald, D.L.** 201X. (In Prep). Diel and seasonal foraging preference of *Nylanderia fulva* (Hymenoptera: Formicidae) in Texas.

**McDonald, D.L.** 201X. (In Prep). Fecundity of *Nylanderia fulva* under laboratory conditions (Hymenoptera: Formicidae).

**McDonald, D.L.** 201X. (In Prep). Mechanical vector potential and microbiota assemblages on *Nylanderia fulva* (Hymenoptera: Formicidae).

Puckett, R. T., A. A. Calixto, J.J. Reed, **D. L. McDonald**, B. M. Drees, and R. E. Gold. **2013**. Comparison of multiple steam treatment durations for control of bed bugs (*Cimex lectularius* L.). *Environ. Entomol.* 42(4):763-769.

**McDonald, D.L.** 2013 PestWorld Guest Columnist – The Tawny Crazy Ant.  
<http://www.pestworld.org/news-and-views/guest-columnists/posts/the-tawny-crazy-ant/>. *Extension Publication*

**McDonald, D.L.** 2013 Texas Parks and Wildlife brochure – The Ants of Lake Corpus Christi State Park. *Extension Publication*

Puckett, R.T., A. Calixto, D.L. **McDonald**, J. Reed, B. M. Drees, R. E. Gold. **2012**. Effectiveness comparison of multiple sticky-trap configurations for sampling *Pseudacteon* spp. Phorid flies. *Pest Manag. Sci.* 69(9): 1061-1065

Drees, B.M., and **D.L. McDonald**. 2010 IPM Handbook - Evaluation of sampling methods for the Raspberry crazy ant. Pp 85-89. *Extension Publication*

Drees, B.M., **D.L. McDonald**, B. Summerlin. 2010 IPM Handbook - Linear regression for number of Raspberry crazy ants and volume in milliliters. Pp 90-92. *Extension Publication*

Drees, B.M., **D.L. McDonald**, A. Calixto, P. Nester, C. Bowen, T. Raspberry, and R. Gold. 2010 IPM Handbook - Evaluation of bait attractiveness for the Raspberry crazy ant Pp 93-95.  
*Extension Publication*

Drees, B.M., and **D.L. McDonald**. 2010 IPM Handbook - Evaluation of Prescription Treatment® Advance® Granular Carpenter Ant Bait (0.011% abamectin B1) applied in a grid-based pattern using ant perimeter bait stations for suppression of Raspberry crazy ants in East Columbia, TX. Pp 96-107. *Extension Publication*

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## Presentations

### Invited Seminars

2013 **Greater Houston Pest Control Association**. Houston, TX. Understanding and managing invasive ant species.

- 2013 **T Bar M Extension Entomology/IPM Professional Improvement Conference.** New Braunfels, TX. Ant Identification.
- 2013 **Target Specialty Products 41<sup>st</sup> Annual Winter Seminar Series.** Houston, TX. Understanding and managing rover and hairy crazy ants.
- 2012 **Sam Houston State University.** Huntsville, TX. Examination of an invasive ant species: *Nylanderia fulva* (Hymenoptera: Formicidae) biology, behavior, and management
- 2012 **Travis County Raspberry Crazy Ant Informational Meeting.** Austin, TX. Biology behavior and control of *Nylanderia* sp. nr. *pubens*: (Raspberry crazy ant, Caribbean crazy ant, hairy crazy ant?)
- 2011 **Texas Pest Control Association.** Bryan, TX. Crazy Ant Management.
- 2010 **BASF Raspberry Crazy Ant Workshop.** Houston, TX. *Nylanderia* sp. nr. *pubens* biology, behavior, and control.
- 2009 **Raspberry Crazy Ant Workshop.** West Columbia, TX. Biology of the Raspberry crazy ant (*Paratrechina* sp. nr. *pubens*).
- 2009 **West Columbia Rotary Club.** West Columbia, TX. Research efforts toward the management of the Raspberry crazy ant (*Paratrechina* sp. nr. *pubens*) in southeastern Texas.
- 2008 **Highland Middle School.** Saginaw, TX. Careers in Entomology.
- 2008 **Texas AgriLife Research.** Stephenville, TX. Ag in the Classroom.
- 2008 **Crop Science Course.** Tarleton State University. Stephenville, TX. Effects of accumulated degree days on the population of *Homalodisca vitripennis* in Texas vineyards.
- 2007 **2<sup>nd</sup> Howard Davies Grape Days.** Temperature effects on glassy-winged sharpshooter trap counts in Texas vineyards.

#### Presentations

- 2013 **Imported Fire Ant and Invasive Pest Ant Conference.** Virginia Beach, VA. Current Management Strategies and Future Concepts for *Nylanderia fulva* (Hymenoptera: Formicidae).
- 2013 **67th Texas A&M University Urban Pest Management Conference and Workshop.** College Station, TX. Managing the crazy ant, *Nylanderia fulva*.

- 2013 **67th Texas A&M University Urban Pest Management Conference and Workshop.** College Station, TX. Ant identification.
- 2012 **60th Entomological Society of America.** Knoxville, TN. Mechanical vector potential and microbiota assemblages of *Nylanderia* sp. nr. *pubens* (Hymenoptera: Formicidae)
- 2012 **60th Entomological Society of America.** Knoxville, TN. Spatiotemporal patterns of arthropod density in white-tailed deer (*Odocoileus virginianus*) production facilities.
- 2012 **National Conference on Urban Entomology.** Atlanta, GA. Realized natality of *Nylanderia* sp. nr. *pubens* under laboratory conditions. Abstract Published in Proceedings
- 2012 **Texas A&M Dissertation Seminar.** Investigation of an invasive species: *Nylanderia fulva* colony extraction, management, diet preference, fecundity, and mechanical vector potential.
- 2012 **Southeastern/Southwestern Branch ESA Joint Annual Meeting.** Little Rock, AR. Using GIS interpolation to depict efficacy of Advance® Carpenter Ant Bait as a stand-alone treatment against *Nylanderia* sp. nr. *pubens*. Abstract Published in Proceedings
- 2012 **67th Annual Texas A&M University Urban Pest Management Conference.** College Station, TX. Effectiveness of Advance Carpenter Ant Bait® against *Nylanderia* sp. nr. *pubens* in East Columbia, TX.
- 2011 **59th Southwestern Branch: Entomological Society of America.** Amarillo, TX. Seasonal foraging activity and diet preference of *Nylanderia* sp. nr. *pubens* (Hymenoptera: Formicidae).
- 2011 **66th Annual Texas A&M University Urban Pest Management Conference.** College Station, TX. Research efforts elucidating biology, behavior, and control of *Nylanderia* sp. nr. *pubens* in southeastern Texas.
- 2011 **Imported Fire Ant and Invasive Pest Ant Conference.** Galveston TX. Interspecific competition between two invasive ant species in Texas: *Nylanderia* sp. nr. *pubens* and *Solenopsis invicta*. Abstract Published in Proceedings
- 2010 **National Conference on Urban Entomology.** Portland, OR. Mechanical Transmission of *Escherichia coli* by Raspberry Crazy Ants (*Nylanderia* sp. nr. *pubens*) in Texas. Abstract Published in Proceedings
- 2010 **58th Entomological Society of America.** San Diego, CA. Mechanical transmission potential of *Nylanderia* sp. nr. *pubens* (Hymenoptera: Formicidae) using fluorescently labeled *Escherichia coli*.

- 2010 **Entomology Science Conference.** College Station, TX. Mechanical transmission potential of *Nylanderia* sp. nr. *pubens* (Hymenoptera: Formicidae) using fluorescently labeled *Escherichia coli*.
- 2010 **Texas A&M University Research Proposal Seminar.** College Station, TX. Investigations of *Nylanderia* sp. nr. *pubens* biology, behavior and control.
- 2010 **65<sup>th</sup> Annual Texas A&M University Urban Pest Management Conference.** College Station, TX. Research efforts toward the management of the Raspberry crazy ant (*Paratrechina* sp. nr. *pubens*) in southeastern Texas.
- 2010 **Imported Fire Ant and Invasive Pest Ant Conference.** Little Rock, AR. Applied Research Update: Raspberry Crazy Ant. Abstract Published in Proceedings
- 2009 **57<sup>th</sup> Entomological Society of America.** Indianapolis, IN. Research efforts toward the management of the Raspberry crazy ant (*Paratrechina* sp. nr. *pubens*) in southeastern Texas.
- 2009 **Entomology Science Conference.** College Station, TX. Research efforts toward the management of the Raspberry crazy ant (*Paratrechina* sp. nr. *pubens*) in southeastern Texas.
- 2009 **64<sup>th</sup> Annual Texas A&M University Urban Pest Management Conference.** College Station, TX. Impact of the Raspberry crazy ant on vertebrates/invertebrates.
- 2008 **Tarleton State University Thesis Seminar.** Stephenville, TX. Effects of accumulated degree days on the population of *Homalodisca vitripennis* in Texas vineyards.
- 2008 **56<sup>th</sup> Southwestern Branch Entomological Society of America.** Effects of accumulated degree days on the population of *Homalodisca vitripennis* in Texas vineyards.
- 2006 **55<sup>th</sup> Southwestern Branch Entomological Society of America.** Temperature effects on glassy-winged sharpshooter trap counts in Texas vineyards.
- 2006 **55<sup>th</sup> Entomological Society of America.** Indianapolis, IN. Distribution and abundance of xylem-feeding insects captured in Texas vineyards. Poster Presentation
- 2006 **54<sup>th</sup> Southwestern Branch Entomological Society of America.** Austin, TX. Statewide distribution and abundance of putative insect vectors of Pierce's disease of grape. Poster Presentation

### Press/Web Releases/Radio Interviews

- 2013 Crazy Ants Targeted by SHSU-Based Invasive Species Institute;  
<http://www.shsu.edu/dept/academic-affairs/research/crazy-ants.html>
- 2009 Times Record News – ‘Texas' crazy ants: Ag pest or urban annoyance?’ – Written by:  
Linda Stewart Ball of The Associated Press – 8/9/09
- 2009 Lubbock Avalanche Journal – ‘Texas' crazy ants: Ag pest or urban annoyance?’ – Written  
by: Linda Stewart Ball of The Associated Press– 8/9/09
- 2009 Denton Record-Chronicle – ‘Rasberry ant targets honeybees in South Texas’ – Written  
by: The Associated Press – 8/6/09
- 2009 Newsvine – ‘Texas' crazy ants: Ag pest or urban annoyance?’ – Written by: Linda Stewart  
Ball of The Associated Press– 8/5/09
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### Grants Awarded

- 2013 Texas Department of Agriculture. Imported fire ant survey. \$15,000
- 2009-2010 Caps09-004. USDA/APHIS/PPQ. 09-8412-1238-CA *Paratrechina pubens*.  
*Paratrechina* (= *Nylanderia*) sp. nr. *pubens* survey in Texas counties. \$76,944.
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### Industry Funded Projects

- 2014 Total = \$19,500  
Central LifeSciences - Attractiveness of two experimental bait formulations to *Solenopsis invicta* (Hymenoptera:Formicidae).
- Bayer® Crop Sciences - Efficacy and attractiveness of Maxforce® Complete Granular Insect Bait and a new experimental bait against *Nylanderia fulva*.
- Bayer® Crop Sciences - Laboratory transference, and initial and residual efficacy of Topchoice® and two experimental granules against the tawny crazy ant (*Nylanderia fulva*) (Hymenoptera: Formicidae).
- Bayer® Crop Sciences - Field efficacy of Topchoice® and Maxforce® Complete treatments against the tawny crazy ant (*Nylanderia fulva*) (Hymenoptera: Formicidae).

2013 Total = \$53,750

Neudorff - Efficacy of spinosad bait formulations against *Solenopsis invicta*, *Linepithema humile*, and *Nylanderia fulva* (Hymenoptera: Formicidae).

BASF® Specialty Products – Efficacy of Alpine WSG insecticide and Harmonix insect spray on *Nylanderia fulva*, carpenter ants, and cellar spiders in TX.

BASF® Specialty Products – Efficacy of Alpine® WSG insecticide, Termidor® SC termiticide/insecticide and Arilon™ insecticide on *Nylanderia fulva* in TX.

Bayer® Crop Sciences - Efficacy of Maxforce® Complete Granular Insect Bait, Maxforce® Quantum Ant Bait, and Temprid®SC as a modified 2-step treatment for tawny crazy ants (*Nylanderia fulva*) (Hymenoptera: Formicidae).

Neudorff® - Efficacy of Neudorff Bug Bait against red imported fire ants (*Solenopsis invicta*) (Hymenoptera: Formicidae).

Rescue® - Candidate alarm pheromones to attract *Nylanderia fulva* to traps.

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## Teaching Experience

- 2010-Fall Teaching Assistant – Entomology 322: Insects in Human Society. Texas A&M University. Department of Entomology. Professor of Record – Dr. Roger Gold.
- 2010-Spring Teaching Assistant – Entomology 322: Insects in Human Society. Texas A&M University. Department of Entomology. Professor of Record – Dr. Roger Gold.
- 2010-Spring Teaching Assistant – Entomology 403: Urban Entomology. Texas A&M University. Department of Entomology. Professor of Record – Dr. Roger Gold.
- 2009-Fall Teaching Assistant – Entomology 322: Insects in Human Society. Texas A&M University. Department of Entomology. Professor of Record – Dr. Roger Gold.
- 2009-Spring Teaching Assistant – Entomology 322: Insects in Human Society. Texas A&M University. Department of Entomology. Professor of Record – Dr. Roger Gold.
- 2008-Fall Teaching Assistant – Entomology 322: Insects in Human Society. Texas A&M University. Department of Entomology. Professor of Record – Dr. Roger Gold.

## Graduate Students

Lance C. Umlang. December 2014. Effects of temperature on oviposition of the crazy ant  
*Nylanderia fulva* (Hymenoptera: Formicidae).

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## Awards and Honors

- 2012 Ph.D Oral Presentation 2<sup>nd</sup> place. Joint Meeting of the Southeastern and Southwestern Branches of the Entomological Society of America. Little Rock, AR.
- 2012 Linnaean Games 2<sup>nd</sup> place. Joint Meeting of the Southeastern and Southwestern Branches of the Entomological Society of America. Little Rock, AR.
- 2012 Target Specialty Products Scholarship - \$2,300. Target Specialty Products. Santa Fe Springs, CA.
- 2012 Richard Boyd Memorial Scholarship - \$750. Cypress Creek Pest Control. Houston, TX.
- 2012 COADC - Clayton Wright Endowment Scholarship - \$989.79
- 2012 COADC-R.W. Jenkins Endowment Scholarship - \$354.38
- 2011 COADC-Clay Stroope Endowment Scholarship - \$1,344.17
- 2011 Dr. Roger Walker Meola Memorial Scholarship - \$300.00
- 2011 COADC-R.W. Jenkins Endowment Scholarship - \$900.00
- 2011 COADC-Alice & George Novy Memorial Scholarship - \$49.32
- 2011 Dr Harry Howell CDC Jr. Endowment Scholarship - \$400.00
- 2011 COADC-Clayton Wright Endowment Scholarship - \$1,713.92
- 2011 Entomology Scholarship - \$1,900
- 2010 COADC-Clayton Wright - \$2,000
- 2010 COADC-Alice & George Novy Memorial Scholarship - \$1,100.00
- 2010 COADC-Clay Stroope Endowment Scholarship - \$1,264.24

2009	COADC-Clay Stroope Endowment Scholarship - \$1,164.24
2009	COADC-Clay Stroope Endowment Scholarship - \$1,227.90
2009	Gib Witten Scholarship - \$1919.25
2009	COADC-Alice & George Novy Memorial Scholarship - \$2,000.00
2009	Entomology Department Endowment Scholarship - \$500.00
2008	COADC- Clayton Wright Endowment Scholarship - \$392.44
2008	Dr Harry Howell CDC Jr. Endowment Scholarship - \$97.55
2008	C.R. Butler & W.J. Patrick Entomology Scholarship - \$730.36
2004	National Dean's List
2001-2002	Texas Nursery and Landscape Association Scholarship - \$1000
2001	Who's Who Among American High School Students

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**Service**

2014	Peer review for The Southwestern Naturalist
2013	Peer review for Insect Science
2013	ESA Ethics and Rules Committee
2012	Seminar Chair: Entomology Graduate Student Organization (EGSO). Department of Entomology. Texas A&M University
2006-2008	President & Founder: Tarleton Entomology Society. Tarleton State University
2007	Dragonfly Tour Guide: Bitter Lakes National Wildlife Refuge. Roswell, New Mexico
2003-2005	President & Vice President: Tarleton Horticulture Club. Tarleton State University
2004	Coach: Little League Baseball. Stephenville, TX

- 2000 Rio Bravo, Mexico Mission Trip: Silver Creek United Methodist Church. Azle, TX
- 1996 Colima, Mexico Mission Trip: Silver Creek United Methodist Church. Azle, TX

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### **Professional Societies/Organizations**

Entomological Society of America  
Texas Nursery and Landscape Association  
Alpha Gamma Rho Fraternity

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### **Certifications/Licenses**

- 2013 Noncommercial Political Subdivision Applicator License. Navasota, TX.
- 2011 Ant Course: California Academy of Science. Portal, AZ.
- 2011 Geographic Information Systems Certification: Texas A&M University. College Station, TX
- 2000 Texas Certified Nursery Professional: Texas Nursery and Landscape Association. Austin, TX

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### **References**

- Dr. Jerry L. Cook      Professor of Biology  
Associate Vice President  
Office of Research and Sponsored Programs  
Sam Houston State University  
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- Dr. Bart M. Drees      Department of Entomology  
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