

*Curriculum Vitae*  
**Tanja McKay**

**Director of the Environmental Sciences Graduate Program, Director of the Molecular Bioscience Graduate Program and Professor of Entomology in the Department of Biological Sciences  
Arkansas State University  
Jonesboro, Arkansas**

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**PROFILE SUMMARY**

Entomologist with academic leadership, teaching and research experience, have more than 15 years of experience in active research, mentoring undergraduate, graduate students as well as teaching undergraduate and graduate level courses in entomology and biological sciences, with the knowledge of setting up and running a very well-funded, inter-disciplinary, collaborative research program specializing in Integrated Pest Management of stored rice. I also have research experience in heartworm mosquito interactions, dung beetles, and controlling muscid flies using parasitoids, specializing in the biology of Pteromalidae. Successfully secured research grants from the USDA-NIFA, NSF and other resources, with significant record of publications and presentations. I currently direct the Environmental Sciences and Molecular Biosciences Graduate Programs at Arkansas State University.

**POST SECONDARY EDUCATION**

- |       |   |      |
|-------|---|------|
| Ph.D. | Entomology, Kansas State University (Manhattan, KS)   | 2002 |
|       | <i>Host size discrimination and oviposition behavior of Muscidifurax zaraptor (Hymenoptera: Pteromalidae), a parasitoid of filth flies (Diptera: Muscidae)</i><br>(Advisor: Dr. Alberto Broce)      |      |
| M.S.  | Entomology, University of Manitoba (Winnipeg, Canada)   | 1997 |
|       | <i>Parasitoid wasps (Hymenoptera: Pteromalidae, Ichneumonidae) for control of house flies and stable flies (Diptera: Muscidae) in dairy operations in Manitoba</i><br>(Advisor: Dr. Terry Galloway) |      |
| B.S.  | Honors Conversion Certificate, Biology, Acadia University (Wolfville, Canada)   | 1995 |
| B.S.  | Biology, Acadia University (Wolfville, Canada)  | 1994 |

**ADMINISTRATIVE EXPERIENCE**

- |                         |  |
|-------------------------|--|
| January 2018 to Present | Director of the Graduate Program in Molecular Biosciences, Arkansas State (A-State) University |
| July 2012 to Present    | Director of the Graduate Program in Environmental Sciences, Arkansas State University          |
| August 2010 to 2012     | Assistant Director of the Graduate Program in Environmental Sciences Arkansas State University |

*Duties, goals and accomplishments:* Cross-Disciplinary **Environmental Sciences Graduate Program** at A-State provides training and research opportunities in areas of biological and physical sciences to students, both national and international, seeking doctoral and master's degrees. The mission of the Environmental Sciences Program is to train the next generation of scientists with the knowledge needed to support the

assessment, maintenance, sustainability, and recovery of environmental resources. This includes an appreciation of the economic, social, political, and aesthetic context that shapes our interaction with and knowledge of the environment. Measuring and understanding the balance between environmental protection, sustainable resource management, and economic growth is a major integrating theme within the program. The cross-disciplinary Molecular Biosciences field is revolutionizing discovery and technological advances in disciplines ranging from agriculture to medicine, from forensics to environmental sciences, from food sciences to renewable energy. The **Molecular Biosciences Graduate Program** provides training and research opportunities that integrate cellular, molecular, developmental and genomic information and knowledge. The program has a strong emphasis on interdisciplinary approaches, state-of-the-art technologies and innovation to address real world problems. I have updated the handbooks, convene meetings to oversight committees, initiate policies & seek approval from the members of the oversight committees, manage budgets, supervise staff, update courses, actively recruit and mentor highly competent students, initiating focused recruitment especially from the underrepresented groups, secure funding to provide research and travel support for students and their faculty mentors, make sure that students across various stages of their graduate studies successfully and in a timely manner complete their degree, facilitate formation and meetings of thesis committees, organize seminars and discussion forums, function as a bridge between students and their research advisors, expose students to various career options, train students on various topics of professional development (i.e. grant writing; leadership, etc.), ethics and responsible conduct, and encourage them to obtain research fellowships from NSF, EPA and other agencies, encourage students and faculty to have multi-cultural exposure and sensitivity training since graduate students come from different countries and backgrounds and also showcase the accomplishments of students and the programs.

### EMPLOYMENT HISTORY

2015 to Present	<b>Professor:</b> Department of Biological Sciences, Arkansas State University
2009 to 2015	<b>Associate Professor:</b> Department of Biological Sciences, Arkansas State University, Jonesboro, AR
2009	<b>Tenure Awarded,</b> Department of Biological Sciences, Arkansas State University
2008 to Present	<b>Joint appointment</b> with the University of Arkansas Experimental Station, Department of Entomology, Fayetteville, AR
2004 to 2009	<b>Assistant Professor:</b> Department of Biological Sciences, Arkansas State University, Jonesboro, AR
2002 to 2004	<b>Research Associate:</b> Veterinary Entomology, Department of Entomology, University of Arkansas, Fayetteville, AR
1998 to 2002	<b>Teaching Assistant:</b> Department of Entomology, Kansas State University, Manhattan, KS
1995 to 1998	<b>Research Assistant/Teaching Assistant:</b> Department of Entomology, University of Manitoba, Winnipeg, MB, Canada

### GRANTING EXPERIENCE

#### **Grant Proposals Funded: (\$8.1 million total)**

Bouldin, J. and **T. McKay**. Native bee community composition in Mississippi Delta soybean fields and their effect on yield. United States Department of Agriculture, Non-LND grant Colleges of Agriculture Program (NLGCA). Oct. 1, 2018 – Sept. 30, 2021. \$149,988.

Zhu, K. Y., W. R. Morrison III, **T. McKay**, G. Bingham, J. Campbell, T. Phillips, F. Arthur, E. Scully, D. Scheff, and A. Gerken. Developing and Implementing a Diversified Integrated

Pest Management Program To Prevent Stored Product Insect Infestation. United States Department of Agriculture, NIFA, Crop Protection and Pest Management Competitive Grants Program. Sept. 1, 2017 – Aug. 31, 2020. \$325,000. A-State: \$71,515.

Marsico, T. D., D. Saar, **T. McKay** and B. Fluker. COLLABORATIVE RESEARCH: Upper Delta Region Biodiversity Scholarship. National Science Foundation. Aug. 15, 2016 – July 31, 2021. \$3,271,703.

**McKay, T.**, F. Arthur, J. F. Campbell, L. T. Wilson, Y. Yang, B. Adam, J. M. Beuzelin. Alternatives to Methyl Bromide for Effective Integrated Pest Management in Rice Mills. United States Department of Agriculture, NIFA, Methyl Bromide Transition Program, Sept. 1, 2014 – Aug. 31, 2017. \$475,638.

**McKay, T.** Integrated Pest Management Programs for On-Farm Rice Storage. The Arkansas Rice Research and Promotion Board. April 1, 2014 – March 31, 2015. \$25,000.

**McKay, T.** Integrated Pest Management Programs for On-Farm Rice Storage. The Arkansas Rice Research and Promotion Board. April 1, 2013 – March 31, 2014. \$25,000.

Pratte, J., T. Marsico, A. Hashim and **T. McKay**. The Experiential Learning Fellowship (ELF) Program. National Science Foundation 2011-2016. \$567,185.

**McKay, T.**, F. Arthur, J. F. Campbell, L. T. Wilson, Y. Yang, B. Adam, T. E. Reagan. Integrated pest management programs to reduce reliance on methyl bromide fumigation in rice mills. United States Department of Agriculture, NIFA, Methyl Bromide Transition Program, Sept. 1, 2011 – August 31, 2015. \$450,502.

**McKay, T.** The efficacy of lufenuron and fipronil used in an integrated flea control program in an Arkansas horse facility: a case study. Novartis Animal Health, July 11, 2011 – November 30, 2011. \$15,010.07.

Yanowitz, K., **T. McKay** and A. Ross. CSI: Classroom Student Investigations. National Science Foundation 04-611 ITEST program, provide training to teachers and students on STEM careers and information technology. June 1, 2011-May 31, 2014. \$1,000,000.

**McKay, T.** Molecular diagnostics of mosquitoes. Arkansas Biosciences Institute. July 2008 – June 2009. \$15,000.

Bednarz, J.C., B. L. Noel and **T. McKay**. The breeding and foraging ecology of Pileated Woodpeckers in the bottomland forests and swamps of eastern Arkansas with reference to the conservation of the Ivory-billed Woodpecker. U. S. Department of the Interior Fish and Wildlife Service. – July 2009-June 2010. \$595,000.

Wilson, L. T., Y. Yang, F. H. Arthur, James Campbell, T. Siebenmorgan, J.-F. Meullenet, B. Adam, T. E. Reagan and **T. McKay**. Integrated post-harvest rice management and information delivery: optimizing insect control and grain quality. United States

Department of Agriculture Cooperative State Research Education and Extension Service-  
Risk Avoidance and Mitigation Program. October 2007-2011. \$612,199.

Yanowitz, K. S. Vanderpool, **T. McKay** and A. Ross. CSI: Arkansas. National  
Science Foundation 04-611 ITEST program, provide training to teachers and students on  
STEM careers and information technology. October 1, 2006-September 30, 2011.  
\$1,006,800

**McKay, T.** and D. Gilmore. Survival of experimentally introduced bacteria in the house fly,  
*Musca domestica* L. Research Faculty Award, Arkansas State University. July 1, 2006 –  
June 30, 2007. \$4,845.

**McKay, T.** and A. D. Christian. 2006. Macroinvertebrate Biodiversity. 2005-2006 No Child Left  
Behind Program from the U.S. Department of Education. Arkansas Department of  
Higher Education. \$27,753.

Dowling, C. and **T. McKay**. 2005. The Bioaccumulation of Arsenic in Plants and Insects.  
Arkansas Biosciences Institute. \$61,686.

**McKay, T.** and A. D. Christian. 2005. Understanding Biodiversity Using Aquatic  
Macroinvertebrates. 2004-2005 No Child Left Behind Program from the U.S.  
Department of Education. Arkansas Department of Higher Education. \$33,700.

Loftin, K. M., **T. McKay**, K. Vandevender, C. D. Steelman, A. L. Szalanski, W. Watson and A.  
Chapa. 2004. Using Parasitoids in an Integrated Pest Management Approach to  
Control Flies on Dairy Farms. Southern Region SARE Grant, USDA. \$288,000.

Stelman, C. D., **T. McKay** and S. McElroy. 2004. Determine the dispersal of house flies and  
other flies carrying *Cochlosoma anatis*, *E. coli* and Coronavirus among and within turkey  
production farms. Arkansas Agricultural Experiment Station, Animal Health Fund,  
\$12,000.

Stelman, C. D., A. L. Szalanski and **T. McKay**. 2003. Determine the Epidemiological  
Significance of the House Fly and other Filth Flies in the Movement of the Pathogen  
Complex that causes Poultry Enteritis and Mortality Syndrome (PEMS) into and among  
Turkey Flocks. Arkansas Agricultural Experiment Station, Animal Health Fund.  
\$12,000.

**Contracts Funded : (\$73,250 total)**

**McKay, T.** Attraction of natural populations of adult female mosquitoes. Susan McKnight, Inc.  
Aug. 15, 2010 – Nov. 15, 2010. \$5,250.

**McKay, T.** Survey of mosquito vectors of dog heartworm. Novartis, Sept 2008-May 2010.  
\$68,000.

## PUBLICATIONS

### Peer-reviewed:

- Arthur, F., L.A. Starkus, and **T. McKay**. 2019. Degradation and residual efficacy of cyfluthrin as a surface treatment for control of *Tribolium castaneum* Herbst: effects of temperature and environment. *Journal of Stored Product Research* (In Review).
- Hendrick, G. C., M. C. Dolan, **T. McKay** and P. C. Sikkel. 2019. Host DNA integrity within blood meals of hematophagous larval gnathiid isopods (Crustacea, Isopoda, Gnathiidae). *Parasites & Vectors* 12:316. <https://doi.org/10.1186/s13071-019-3567-8>
- Arthur, F., L. A. Starkus, A. R. Gerken, J. Campbell, and T. McKay. 2019. Growth and development of *Tribolium castaneum* (Herbst) on rice flour and brown rice as affected by time and temperature. *Journal of Stored Products Research* 83: 73-77.
- Hampton, R. M., G. G. Atungulu, Z. Odek, V. Rolland, T. J. Siebenmorgen, S. A. Wilson, and **T. McKay**. 2019. Assessment of *Rhyzopertha dominica* (F.) progeny and feeding damage on rice dried with infrared radiation. *Journal of Stored Product Research* 81: 69-75.
- McKay, T.**, M. P. Bowombe-Toko, L. A. Starkus, F. H. Arthur, and J. F. Campbell. 2019. Monitoring of *Tribolium castaneum* (Coleoptera: Tenebrionidae) in Rice Mills using Pheromone-baited traps. *Journal of Economic Entomology* 112: 1454-1462.
- Arthur, F. H., B. A. Hale, L. A. Starkus, A. R. Gerken, J. F. Campbell, and **T. McKay**. 2019. Development of *Tribolium castaneum* (Herbst) (Coleoptera: Tenebrionidae) on rice milling components and by-products: Effects of diet and temperature. *Journal of Stored Product Research* 80: 85-92.
- McKay, T.**, A. L. White, L. A. Starkus, F. H. Arthur, and J. F. Campbell. 2017. Seasonal patterns of stored-product insects at a rice mill. *Journal of Economic Entomology* 110: 1366-1376.
- Okeyo, A., G. Olatunde, G. Atungulu, S. Sadaka, and **T. McKay**. 2017. Infrared drying characteristics of long-grain hybrid, long-grain pureline, and medium-grain rice cultivars. *Cereal Chemistry* doi:10.1094/CCHEM-07-16-0181-R.
- Gaspar, J.P., C. R. Minter, **T. McKay** and S. Raghu. 2015. First records for *Pseudomops septentrionalis* (Blattodea: Ectobiidae) and *Acantholomidea porosa* (Heteroptera: Scutelleridae) in Arkansas. *Journal of the Kansas Entomological Society* 88: 124-127.
- Arthur, F., L. A. Starkus, and **T. McKay**. 2015. Effects of flour and milling debris on efficacy of beta-cyfluthrin for control of *Tribolium castaneum* (Herbst), the red flour beetle. *Journal of Economic Entomology* 108: 811-825.

- Cottone, C.B., A. L. Szalanski, **T. McKay** and C.D. Steelman. 2014. Molecular detection of *Campylobacter* spp. and *E. coli* O157:H7 carried by filth flies (Diptera: Muscidae) associated with turkey production facilities. *Midsouth Entomologist* 7:1-7.
- Chiavacci, S., J. C. Bednarz and **T. McKay**. 2014. The emergence densities of annual cicadas increase with sapling density and are greater near edges in a bottomland hardwood forest. *Environmental Entomology* 43: 859-867.
- Wang, Dongmei, Dwight. D. Bowman, Heidi Brown, Laura C. Harrington, Philip E. Kaufman, **Tanja McKay**, C. Thomas Nelson, Julia L. Sharp and Robert Lund. 2014. Factors influencing U.S. canine heartworm (*Dirofilaria immitis*) prevalence. *Parasites & Vectors* 7:264.
- McKay, T.**, K. Yanowitz, A. Ross and S. Vanderpool. 2014. Don't swat that fly! Using house flies in the inquiry classroom. *Science Scope*. 37: 22-28
- McKay, T.**, T. Bianco, L. Rhodes and S. Barnet. 2013. Prevalence of *Dirofilaria immitis* (Nematoda: Filarioidea) in Mosquitoes from Northeast Arkansas, USA. *Journal of Medical Entomology* 50: 871-878.
- Brown, H., L. Harrington, P. E. Kaufman, **T. McKay**, D. D. Bowman, C. T. Nelson, D. Wang and R. Lund. 2012. Key factors influencing canine heartworm, *Dirofilaria immitis*, in the United States. *Parasites & Vectors* 5: 245.
- Gaspar, J., **T. McKay** and M. Huss. 2012. First report of *Aedes japonicus* in natural and artificial habitats in northeast Arkansas. *Journal of the American Mosquito Control Association* 28: 38-42.
- Fiene, J. G., M. B. Connior, R. Androw, B. Baldwin and **T. McKay**. 2011. Surveys of Arkansas dung beetles (Coleoptera: Scarabaeidae and Geotrupidae): Phenologies, mass occurrences, state and distributional records. *American Midland Naturalist* 165: 319-337.
- Yanowitz, K., **T. McKay**, C. A. Ross, S. Vanderpool. 2011. CSI: Creating student (and teacher) investigators: Using popular culture in professional development. *Journal of Technology and Teacher Education* 18: 263-283.
- McKay, T.** and T. Herman. 2008. Thermoregulation in three species of damselflies (Odonata: Lestidae), with notes on temporal distribution and microhabitat use. *Odonatologica* 37: 29-39.
- Milanovich, J. R., S. E. Trauth and **T. McKay**. 2008. Diet of the western slimy salamander *Plethodon albagula* (Caudata: Plethodontidae), from two mountain ranges in Arkansas. *Southeastern Naturalist* 7: 323-330.

- McKay, T.** and A. B. Broce. 2008. Host size and oviposition site effects on the sex ratio of the pupal parasitoid *Muscidifurax zaraptor* (Hymenoptera: Pteromalidae). *Annals of the Entomological Society of America*. 101: 650-655.
- McKay, T.**, C. D. Steelman, S. M. McElroy, and A. L. Szalanski. 2007. Sustained Mass Release of Pupal Parasitoids (Hymenoptera: Pteromalidae) for Control of *Hydrotaea aenescens* and *Musca domestica* (Diptera: Muscidae) in Broiler-Breeder Poultry Houses in Arkansas. *Journal of Agricultural and Urban Entomology*. 24: 67-85.
- Dry, F., D. C. Steinkraus, C. D. Steelman, R. W. McNew and **T. McKay**. 2007. Survey of parasitoids (Hymenoptera: Pteromalidae) of house fly (Diptera: Muscidae) pupae from broiler-breeder poultry houses in Northwest Arkansas. *Biocontrol Science and Technology*. 17: 757-763.
- S. M. McElroy, A. L. Szalanski, **T. McKay**, A. J. Bermudez, C. B. Owens, and C. D. Steelman. 2005. Molecular assay for the detection of *Cochlosoma anatis* in house flies and turkey specimens by polymerase chain reaction. *Veterinary Parasitology*. 127: 165-168.
- Szalanski, A. L., C. B. Owens, **T. McKay**, and C. D. Steelman. 2004. Detection of *Campylobacter* sp., and *Escherichia coli* O157:H7 from filth flies by polymerase chain reaction. *Medical and Veterinary Entomology*. 18: 241-246.
- McKay, T.** and A. B. Broce. 2004. Discrimination of self-parasitized hosts by the pupal parasitoid *Muscidifurax zaraptor* (Hymenoptera: Pteromalidae). *Annals of the Entomological Society of America*. 97: 592-599.
- Szalanski, A. L., T. W. Palmer, **T. McKay**, and C. D. Steelman. 2004. Infectivity of *Steinernema* spp. (Nematoda: Steinernematidae) to adult litter beetles, *Alphitobius diaperinus* (Coleoptera: Tenebrionidae) in the laboratory. *Biocontrol, Science and Technology*. 14: 81-85.
- McKay, T.** and A. B. Broce. 2003. Response of *Muscidifurax zaraptor* (Hymenoptera: Pteromalidae) to the olfactory stimuli from hosts and their habitat. *Journal of the Kansas Entomological Society*. 76: 31-37.
- McKay, T.** and T. D. Galloway. 1999. Biology of *Phygadeuon fumator* Gravenhöst (Hymenoptera: Ichneumonidae), a pupal parasitoid of house and stable flies (Diptera: Muscidae) in Manitoba. *Proceedings of the Entomological Society of Manitoba*. 55:17-27.
- McKay, T.** and T. D. Galloway. 1999. Survey and release of parasitoids (Hymenoptera) attacking house and stable flies (Diptera: Muscidae) in dairy operations. *The Canadian Entomologist*. 131: 743-756.

**Book Chapters:**

**McKay, T.** Entomological Adventures in Arkansas Poultry Operations. *Adventures in the Wild: Tales from Biologists of the Natural State*. University of Arkansas Publishers. May 2008.

Contributing author of the pedagogical features in a new 2008 textbook “Criminalistics: Forensic Science and Crime” by James E. Girard. Jones & Bartlett Publishers.

**Non peer-reviewed articles:**

- McKay T.**, Bowombe Toko, M., Hale, B., Hampton, R., and Starkus, L. 2014. Stored-product insects associated with on-farm storage sites. Arkansas. B. R. Wells Rice Research Studies. AAES Research Series. 127-131.  
<http://arkansasagnews.uark.edu/626.coverfront.pdf>
- McKay, T.**, M. Toko, B. Hale, R. Hampton, and L. Starkus. 2013. Stored-Product insects associated with on-farm storage in northeast, Arkansas. B. R. Wells Rice Research Studies. AAES Research Series. 163-169.
- Solis, M. and **T. McKay**. 2010. Forensic entomologists use insects to discover clues about death. *The Jonesboro Sun*. 10 January.
- Gaspar, J., **T. McKay** and M. Huss. 2009. Controlling mosquito larvae using fungi. *The Jonesboro Sun*. 22 November.
- McKay, T.** 2008. Infestations of bed bugs showing marked increase. *The Jonesboro Sun*. 30 March.
- Fiene, J. and **T. McKay**. 2008. Dung beetles helpful to livestock producers. *The Jonesboro Sun*. 17 February.
- McKay, T.** 2007. A-State scientist part of team awarded USDA grant to study rice pests. *The Jonesboro Sun*. 19 August.
- McKay T.** 2007. Parasitic wasps may be helpful in controlling unwanted flies. *The Jonesboro Sun*. 2 September.
- McKay T.** and A. Romero. 2005. Tiger beetles common during summer months. *The Jonesboro Sun*. 21 August.
- Romero, A. and **T. McKay**. 2006. Scorpions’ bad rap dates to prehistoric times. *The Jonesboro Sun*. 3 January.
- Romero, A. and **T. McKay** 2006. Ants said to use ‘odometers’. *The Jonesboro Sun*. 23 July.
- Romero, A. and **T. McKay** 2006. Ants can jump farther, faster than others. *The Jonesboro Sun*. 24 September.

**UNDERGRADUATE AND GRADUATE STUDENTS SUPERVISED (since 2009)**

Over view: Research advisor for **over 20 graduate students** (9 of which were students where their major professor left A-State or the student needed to change research advisors), served/or serving on 18 **graduate student** thesis/dissertation committees, had **25 undergraduate students** working in my laboratory on various entomology projects and **advised many undergraduate students** regarding course work/career goals.

*Arkansas State University*

Major Advisor for: MS Biological Sciences, with emphasis in entomology: graduated (8);



*University of Arkansas*

Committee member for 1 Entomology PhD student, Narinderpal Singh, Advisor: Dr. Donn Johnson; 1 Food Science MS student, Anne Okeyo, Advisor: Dr. Griffiths Atungulu

## **CLASSROOM TEACHING EXPERIENCE**

### **Undergraduate Courses Taught since 2004**

*General Entomology & lab* (Each Fall)

*Economic Entomology* (Each Spring)

*Invertebrate Zoology & lab* (taught Spring 2006, 2008, 2010)

*Biological Sciences* (for non-majors) (Fall 2006 & 2007)

*Seminar (Professional Development for Graduate Students)*(each semester since 2015)

### **Undergraduate and Graduate Courses Cross-listed and Taught since 2004**

*Aquatic Entomology & Lab* (Every 2 years)

*Forensic Entomology* (Every 2 years; no longer taught as of Fall 2016)

### **Graduate Courses Taught since 2004**

*Medical and Veterinary Entomology & Lab* (Spring – Every 2 years)

*Ethics and Responsible Conduct* (Each Fall 2013 to 2015)

*Insect Taxonomy & Lab* (Fall – Every 2 years)

### **Workshops**

- Spring 2017: We had two workshop series for the USDA- Methyl Bromide Transition Grant in Eagle Lake, TX, Crowley, LA, Jonesboro, AR and Richvale, CA. I organized both series. In collaboration with OSU, LSU Agricultural Center, Texas A&M AgriLife Research, USDA-ARS, Manhattan, KS, and UC Davis, Extension, CA. Attendees: Rice millers, growers and extension agents.
- May 2011: USDA-RAMP Project Workshop – Rice Mill Insect Pest Management, Optimizing Insect Control and Grain Quality; three workshops: Beaumont, TX, Crowley, LA & Jonesboro, AR. Organized the Jonesboro workshop; in collaboration with Oklahoma State University (OSU), University of Arkansas, Louisiana State University (LSU) Agricultural Center, Texas A&M AgriLife Research, and USDA-ARS, Manhattan, KS. Attendees: Rice millers, growers and extension agents.
- February 24, 25, & 27; April 7 2015 and March 7, 8, & 10; April 5: We had two workshop series for the USDA- Methyl Bromide Transition Grant in Eagle Lake, TX, Crowley, LA, Jonesboro, AR and Richvale, CA. I organized both series. In collaboration with OSU, LSU Agricultural Center, Texas A&M AgriLife Research, and USDA-ARS, Manhattan, KS. Attendees: Rice millers, growers and extension agents.

## **INVITED SEMINARS AND SYPOSIUM PAPERS PRESENTED (17 Total; detailed since 2006)**

- McKay, T.,** R. Hampton, G. Atungulu, Z. Odek, T. Siebenmorgen, V. Rolland and S. Wilson. Post-treatment effects of infrared radiation on lesser grain borer (*Rhyzopertha dominica*) development. *Joint Meeting of the Entomological Society of America and the Entomological Society of Canada.* Vancouver, Canada November 2018
- McKay, T.** Integrated Pest Management in Rice Mills. Department of Agriculture and Fisheries and Forestry & University of Queensland, Brisbane, Australia (Sabbatical) October 2017

- McKay, T.** Vectors of Heartworm and the Importance of Integrated Pest Management. *2017 SCAV Southeast Veterinary Conference*, Hilton Head, SC (Sponsored by CEVA Animal Health) 12 June 2017
- McKay, T.** Vectors of Heartworm and the Importance of Integrated Pest Management. *2017 Virginia Veterinary Conference*, Roanoke, VA (Sponsored by CEVA Animal Health) 18 February 2017
- McKay, T.** Seasonal and temporal distribution of stored-product insects at a rice mill in northeast Arkansas. *The 61<sup>th</sup> Annual Meeting of the Entomological Society of America*. Austin, TX 13 November 2013
- McKay, T.** Potential Mosquito Vectors of Heartworm, *Dirofilaria immitis*, in Arkansas. *North American Veterinary Conference*. Orlando, FL 22 January 2013
- McKay, T.** An integrated flea control program in an Arkansas horse facility: A case study. *North American Veterinary Conference*. Orlando, FL 22 January 2013
- McKay, T.** Teaching inquiry-based entomological lessons to high school teachers and students. *The 60<sup>th</sup> Annual Meeting of the Entomological Society of America*. Knoxville, TN 14 November 2012
- McKay, T.** An integrated flea control program in an Arkansas horse facility: A case study. Novartis Animal Health – Recharge Retreat for Veterinarians. Charlotte NC, Pittsboro, NC, Irving VA May 2012
- McKay, T.** Arkansas dung beetle study – The biodiversity of dung beetles in Arkansas. Dung Beetle Field Day, University of Missouri, Hugo Wurdack Farm, Cook Station, MO 18 August 2010
- McKay, T.** Management of fly larvae in livestock systems using parasitic wasps and predators. Dung Beetle Field Day, University of Missouri, Hugo Wurdack Farm, Cook Station, MO 18 August 2010
- McKay, T.** Potential Vectors of Dog Heartworm in Jonesboro, AR. Sponsored by Novartis Animal Health. Spring 2010 Tour of the Mississippi Delta giving this talk seven times to veterinarians. May 4 Jackson MS, May 17 Greenville MS, May 18 Jackson MS, May 19 Alexandria MS, & Lafayette LA, May 20 Louisiana State University Veterinary School Baton Rouge LA, June 24 Sikeston, MO.
- McKay, T.** A survey of potential mosquito vectors of dog heartworm, *Dirofilaria immitis*, in Jonesboro, Arkansas. Advisory Board Meeting, Novartis Animal Health, Charlotte NC, 18 February 2010
- McKay, T.** Livestock entomology: The past, present and future. The 56<sup>th</sup> Annual Meeting of the Entomological Society of America. Reno, NV November 18, 2008
- McKay, T.** Highlights of veterinary entomology. The 55<sup>th</sup> Annual Meeting of the Entomological Society of America. San Diego, CA December 10, 2007
- Loftin, K., **T. McKay**, J. Pennington, D. Steelman, A. Szalanski, K. VanDevender, W. Watson, and S. Willard. Using parasitic wasps as an IPM approach to manage filth flies in southern dairies. The 54<sup>th</sup> Annual Meeting of the Entomological Society of America. Indianapolis, IN December 11, 2006
- Broce, A. and **T. McKay**. Oviposition behavior of *Muscidifurax zaraptor*, a pteromalid parasitoid. The 54<sup>th</sup> Annual Meeting of the Entomological Society of America. Indianapolis, IN December 11, 2006
- PAPERS AND POSTERS PRESENTED (93 Total; † Student; detailed since 2000)**

**Papers:**

- †Medaries, A. and **T. McKay**. Introducing the A-State entomology collection into the 21st century. Undergraduate Fellowship for Arkansas Biosciences Institute. January, 2019
- Arthur, F., **T. McKay** and L. Starkus. The empty grain bin as a microclimate: Temperatures and insecticides. Joint meeting of the Entomological Society of America and The Entomological Society of Canada. Vancouver, Canada November, 2018

- ‡ Hampton, Rachel and **T. McKay**. T. The effects of infrared radiation on lesser grain borer (*Rhyzopertha dominica* F.) development and grain damage. *Creat@astate, A Symposium of Research, Scholarship and Creativity*, Arkansas State University, Jonesboro, AR April, 2018
- ‡ Hampton, Rachel and **T. McKay**. The effects of infrared radiation on rice germination. *Creat@astate, A Symposium of Research, Scholarship and Creativity*, Arkansas State University, Jonesboro, AR April 7, 2017
- McKay, T.**, L. Espino, F. Arthur, J. Campbell, L. T. Wilson, Y. Yang, and J. Beuzelin. Survey of pest management practices for rice mills in the U.S. *XXV International Congress of Entomology*, Orlando, FL. September 27, 2016
- ‡ Reithemeyer, K., L. Starkus, and **T. McKay**. Effects of high and low concentrations of beta cyfluthrin on the red flour beetle, *Tribolium castaneum*, on concrete exposed at indoor and outdoor locations. *Bridge Undergraduate Student Symposium*, Arkansas State University, Jonesboro, AR. August 4, 2016
- McKay, T.**, L. Starkus, J. Campbell, and F. Arthur. Stored-product insects associated with rice spillage at rice mills. *36<sup>th</sup> Rice Technical Working Group Meeting*, Galveston, TX, March 4, 2016
- Yang, Y., L. Wilson, F. Arthur, **T. McKay**, J. Campbell, B. Adam, J. Beuzelin, and J. Wang. An integrated web-based grain pest management system for on-farm storage and rice mills. *36<sup>th</sup> Rice Technical Working Group Meeting*, Galveston, TX, March 4, 2016
- McKay, T. Integrated pest management in rice mills: Monitoring red flour beetles. *The 63<sup>th</sup> Annual Meeting of the Entomological Society of America*, Minneapolis, MN November 17, 2015
- Hampton, R., B. Hale, L. Starkus, **T. McKay**, F. Arthur, and J. Campbell. Red flour beetle (*Tribolium castaneum*) development on rice fractions at varying temperatures. Joint Meeting of the Kansas Entomological Society and Arkansas Entomological Society, Fayetteville, AR April 3-4, 2015
- McKay, T.** Efficacy of Cyfluthrin for control of red flour beetles (*Tribolium castaneum*) in rice mills. *The 62<sup>th</sup> Annual Meeting of the Entomological Society of America*. Portland, OR 18 November 2014
- ‡ Toko, M. B., L. Starkus, B. Hale, **T. McKay**. Spatio-temporal distribution of red flour beetle, *Tribolium castaneum* (Coleoptera: Tenebrionidae), in rice mills in northeast Arkansas. *The 62<sup>th</sup> Annual Meeting of the Entomological Society of America*. Portland, OR 17 November 2014
- Ross, A., K. Yanowitz, **T. McKay**, G. Huckaby, M. Dunham, W. Jones, M. Guinn, J. Smith and A. Duren. Family science night in a secondary school. *Arkansas Curriculum Conference*, Little Rock, AR 7 November 2014
- ‡ Bowombe Toko, Martine and **T. McKay**. Effects of environmental factors and abundance and distribution of *Tribolium castaneum* in rice mills in northeast Arkansas. *Creat@astate, A Symposium of Research, Scholarship and Creativity*, Arkansas State University, Jonesboro, AR 10 April, 2014

- ‡ Hampton, R. and **T. McKay**. Effect of temperature and rice fraction on red flour beetle (*Tribolium castaneum*) development. *Creat@astate, A Symposium of Research, Scholarship and Creativity*, Arkansas State University, Jonesboro, AR 10 April, 2014
- McKay, T.** Integrated pest management in rice mills and on-farm storage sites. Food Protection Alliance Fumigation Boot Camp, Jonesboro, AR 7 April 2014
- Ross, C. R., K. Yanowitz, **T. McKay** and S. Ledbetter. Do's and Don'ts for Having a Successful Family Science Night in Secondary Schools. *National Conference on Science Education, National Science Teachers Association*, Boston, MA 5 April 2014
- Ross, C. R., K. Yanowitz, **T. McKay** and D. K. Teems. Forensic Entomology: A Unique Way to Study Insects. *National Conference on Science Education, National Science Teachers Association*, Boston, MA 3 April 2014
- McKay, T.**, B. Adam, F. H. Arthur, J. Beuzelin, J.F., Campbell, T.E. Regan, L. Starkus, L. T. Wilson, and Y. Yang. Integrated pest management programs in rice mills. *The 35<sup>th</sup> Meeting of the Rice Technical Working Group*, New Orleans, LA 20 February 2014
- Campbell, J.F., K.A. Buckman, L. Starkus and **T. McKay**. Stored product insect exploitation of rice spillage accumulations. *The 35<sup>th</sup> Meeting of the Rice Technical Working Group*, New Orleans, LA 20 February 2014
- Arthur, F. H., **T. McKay**, J.F. Campbell and L. Starkus. Red flour beetle development on rice fractions. *The 35<sup>th</sup> Meeting of the Rice Technical Working Group*, New Orleans, LA 20 February 2014
- Starkus, L., **T. McKay**, F. H. Arthur, and J. F. Campbell. Efficacy of cyfluthrin for control of red flour beetles (*Tribolium castaneum*) in rice mills. *The 35<sup>th</sup> Meeting of the Rice Technical Working Group*, New Orleans, LA 20 February 2014
- Yanowitz, K., **T. McKay** and A. Ross. Using CSI methods to incorporate STEM in the classroom. *Kappa Delta Pi 49<sup>th</sup> Biennial Convocation*, Callas, TX 24 October 2013
- Yanowitz, K., A. Ross, **T. McKay**, D. Rail, A. Duran, G. Huckaby, and H. Widby. Be a crime stopper. *Arkansas Curriculum Conference*, Little Rock, AR 1 November 2013
- ‡ Hampton R., L. Starkus, F. Arthur, J. Campbell, and **T. McKay**. Effect of temperature and rice fraction on Red Flour Beetle (*Tribolium castaneum*) development. The 22<sup>nd</sup> Annual Meeting of the Arkansas Entomological Society, Southern Arkansas University, Magnolia, AR (1<sup>st</sup> place undergraduate student oral presentation competition) 5 October 2013
- ‡ Bowombe, T. M., L. Starkus, R. Hampton, and **T. McKay**. Effects of environmental factors on the abundance and distribution of *Tribolium castaneum* (Coleoptera: Tenebrionidae) at a rice mill in northeast Arkansas. The 22<sup>nd</sup> Annual Meeting of the Arkansas Entomological Society, Southern Arkansas University, Magnolia, AR (2<sup>nd</sup> place graduate student oral presentation competition) 5 October 2013
- Ross, C. A., K. Yanowitz and **T. McKay**. Crime in the Classroom: A Fun Way to Integrate STEM Content. *NSTA 2013 STEM Forum & Expo*, St. Louis, MO 16 May 2013

- McKay, T.** Integrated Pest Management in Rice Mills. *RiziCulture Series*, Arkansas State University, Jonesboro, AR 10 April 2013
- <sup>‡</sup>Hampton, R., J. Gaspar, **T. McKay**, and M. Huss. Behavioral and developmental effects of Trichomycete Fungi (*Smittium culisis*) on Culicidae (*Culex pipiens*) larvae. The 88<sup>th</sup> Annual Meeting of the Kansas (Central States) Entomological Society, Arkansas State University, Jonesboro, AR 7 April 2012
- <sup>‡</sup>Gaspar, J., T. McKay and M. Huss. Trichomycete fungi associated with mosquito larvae (Diptera: Culicidae) in northeast Arkansas The Joint Meeting of the Southeastern and Southwestern Branches of the Entomological Society of America. Little Rock, AR 5 March 2012
- Yanowitz, K., **T. McKay** and C. Ross. Classroom student investigators. *NSF ITEST Forum (Innovative Technology Experiences for Students and Teachers)*, Washington, D.C. 29 February 2012
- <sup>‡</sup>Gaspar, J., **T. McKay** and M. Huss. Trichomycete fungi associated with mosquito larvae in northeastern Arkansas. *88th Kansas (Central States) Entomological Society Annual Meeting*, Jonesboro, AR 7 April 2012
- <sup>‡</sup>Hampton, R., <sup>‡</sup>J. Gaspar, **T. McKay** and M. Huss. Behavioral and developmental effects of trichomycete fungi (*Smittium culisis*) on Culicidae (*Culex pipiens*) larvae. *88th Kansas (Central States) Entomological Society Annual Meeting*, Jonesboro, AR (2<sup>nd</sup> place graduate and undergraduate student oral presentation competition) 7 April 2012
- McKay, T.** Integrated Insect Pest Management in Rice Mills. Annual International Research Conference on Methyl Bromide Alternatives and Emissions Reductions. Orlando, FL 7 November 2012
- Yanowitz, K. R. Ross, **T. McKay**, R. O'Neal, and S. Barefield. Can you solve it? *Arkansas Curriculum Conference*, Little Rock, AR 8 November 2012
- <sup>‡</sup>White, A. L., **T. McKay**, J. F. Campbell, and F. Arthur. Population dynamics of stored-product insects at a rice mill in northeast Arkansas. *The 59<sup>th</sup> Annual Meeting of the Entomological Society of America*. Reno, NV 15 November 2011
- Vanderpool, S., K. Yanowitz, **T. McKay**, and A. Ross. Using popular culture to teach science concepts. *Association for Middle Level Educators Annual Conference*, Louisville, KY 12 November 2011
- McKay, T.**, F. Arthur and J. Campbell. Insect pest management in rice mills. *Methyl Bromide Alternatives and Emissions Conference*, San Diego, CA November 2011
- McKay, T.** Potential vectors of dog heartworm (*Dirofilaria immitis*) in northeast Arkansas. *Joint Meeting for the Livestock Insect Workers Conference, International Symposium on Ectoparasites of Pets, and the American Association of Veterinary Parasitologists*, St. Louis, MO July 2011
- Yanowitz, K., A. Ross, **T. McKay** and S. Vanderpool. Technology, engineering, and mathematical Career Aspirations after attending a science enrichment program. *American Educational Research Association*, New Orleans, LA 9 April 2011
- McKay, T.** and T. Bianco. Potential vectors of dog heartworm (*Dirofilaria immitis*) in northeast Arkansas. *The 58<sup>th</sup> Annual Meeting of the Entomological Society of America*. San Diego, CA

14 December 2010

‡Gaspar, J., **T. McKay** and M. Huss. Trichomycete fungi associated with mosquito larvae in northeastern Arkansas. *The 58<sup>th</sup> Annual Meeting of the Entomological Society of America*. San Diego, CA 13 December 2010

‡Gaspar, J., **T. McKay** and M. Huss. Trichomycete fungi associated with mosquito larvae in Northeastern Arkansas. *Arkansas Entomological Society Annual Meeting*, Fayetteville, AR 8 October 2010

‡Gaspar, J., **T. McKay** and M. Huss. Trichomycete fungi associated with mosquito larvae in Northeastern Arkansas. Fall Conference, *Arkansas Chapter of the Wildlife Society*, Arkansas State University, Jonesboro, AR 30 September 2010

Hinkle, N. C. and **T. McKay**. The future of Cooperative Extension and its relationship with the Agricultural Experiment Station scientist as related to control of arthropods affecting livestock. *54<sup>th</sup> Livestock Insect Workers Conference*, Knoxville, TN 27-30 June 2010

**McKay, T.**, T. Bianco, S. Barnett. Potential vectors of dog heartworm (*Dirofilaria* spp.) in Jonesboro. *13<sup>th</sup> Triennial State of the Heartworm Symposium*, Memphis, TN 16-18 April 2010

**McKay, T.**, C.A. Ross, S. Vanderpool, and K. Yanowitz. House flies in the science classroom: Perspectives from a summer camp. *84<sup>th</sup> Annual Meeting of the Southeastern Branch Meeting*, Entomological Society of America, Atlanta, GA 7-10 March 2010

Ross, C. A., K. L. Yanowitz, **T. McKay**, and S. S. Vanderpool. Crime pays big dividends in the science classroom. *National Science Teachers Association Annual Conference*, Philadelphia, PA 18-21 March 2010

**McKay, T.** Past, present and future of veterinary and medical entomology-results from two surveys conducted in spring 2009. *The 57<sup>th</sup> Annual Meeting of the Entomological Society of America*. Indianapolis, IN 13-16 December 2009

‡Fiene, J. and **McKay, T.** Aggregation mechanisms influencing spatial distributions of dung beetles (Coleoptera: Scarabaeidae: Scarabaeinae and Aphodiinae). *The 57<sup>th</sup> Annual Meeting of the Entomological Society of America*. Indianapolis, IN 13-16 December 2009

Yanowitz, K. L., **T. McKay**, S. S. Vanderpool and C. A. Ross. Possible selves and career goals: Multiple ways of exploring the question "What do you want to be when you grow up?" *Annual American Evaluation Association Conference*, Orlando FL 11-14 November 2009

Ross, C. A., K. L. Yanowitz, **T. McKay**, L. Shott and R. Harbor. Creating crime scenarios to teach science content. *Arkansas Curriculum Conference*, Little Rock, AR 5-6 November 2009

Yanowitz, K. L., **T. McKay**, C. A. Ross, and S. S. Vanderpool. What do you want to be when you grow up? *American Evaluation Association Conference*, Orlando, FL 13 November 2009

**McKay, T.** and K. L. Yanowitz. Past, present and future of veterinary and medical entomology: Results from surveys conducted in Spring 2009, Part 2. *Joint Meeting of the Annual Meeting of the Southeastern Branch, Entomological Society of America and Annual Meeting of the American*

*Phytopathological Society- Caribbean Division*, San Juan Puerto Rico, USA 22 March 2009

- ‡Fiene, J. and **T. McKay**. Seasonal activity and species composition of dung beetles inhabiting cattle pastures in Arkansas with notes on the mass occurrence of *Labarrus pseudolividus* Balthasar. Runner up in the Student Competition for the President's Prize, SVPHS: Veterinary Entomology. *The 56<sup>th</sup> Annual Meeting of the Entomological Society of America*. Reno, NV November 17, 2008
- ‡Howell, G. , J. Fiene and **T. McKay**. A mass occurrence of *Labarrus pseudolividus* (Balthasar) (Coleoptera: Scarabaeidae) in northeastern Arkansas. *16<sup>th</sup> Annual Meeting of the Arkansas Entomological Society*. Fayetteville, AR October 10, 2008
- ‡Fiene, J. and **T. McKay**. A preliminary study on the insect succession on chicken carrion in northeast Arkansas. *The 52<sup>nd</sup> Livestock Insect Workers Conference*. Kansas City, MO June 18, 2008
- Ross, A., K. Yanowitz, S. Scott Vanderpool, **T. McKay**, J. Trautwein, C. Miller, D. Rogers, and L. Kellum. CSI (Creating Student Investigators): Using popular culture to capture future scientists. *National Science Teachers Association National Conference*. Boston, MA March 29, 2008
- Yanowitz, K., S. Scott Vanderpool, **T. McKay**, and A. Ross. Let's Go to Camp! Coordinating a Residential Summer STEM Program for Teachers and Students. *National Science Teachers Association National Conference*. Boston, MA March 27, 2008
- ‡Fiene, J. and **T. McKay**. Do dung beetles respond to ivermectin residues? Examination of the olfactory cues used by dung beetles (*Aphodius* spp.) in finding dung pats. Student Competition for the President's Prize, Section D and E. *The 55<sup>th</sup> Annual Meeting of the Entomological Society of America*. San Diego, CA December 10, 2007
- McKay, T.** A forensic entomology project. *15<sup>th</sup> Annual Meeting of the Arkansas Entomological Society*. Hot Springs, AR November 2, 2007
- Yanowitz, K., A. Ross, S. Vanderpool and **T. McKay**. Creating student investigators: NSF summer camp for teachers and students. *Arkansas Curriculum Conference*. Little Rock, AR November 2, 2007
- McKay, T.** and C. B. Dowling. The effects of metal-rich poultry litter on ground beetles. 14<sup>th</sup> Annual Meeting of the Arkansas Entomological Society. Fayetteville, AR October 13, 2006
- Romero, A., **T. McKay**, T. Risch, and S. Trauth. Biodiversity Center project at Arkansas State University. *Society for the Preservation of Natural History Collections – Natural Science Collections Alliance Joint Meeting*. Albuquerque, NM May 23-27, 2006
- T. McKay** and C.B. Dowling. The effects of metal-rich poultry litter on ground beetles. 80<sup>th</sup> Annual Meeting of the Southeastern Branch Entomological Society of America, Wilmington, NC March 5-8, 2006
- Broce, A. B., A. Köpf and **T. McKay**. Adaptive significance of puparial calcification in face flies, *Musca autumnalis* (Diptera: Muscidae). *Annual meeting of the Entomological Society of America*, Salt Lake City, UT November 14-17, 2004

**McKay, T.** and A. B. Broce. Olfactory cues used in host finding by *Muscidifurax zaraptor*, a pupal parasitoid of house flies, with notes on wasp oviposition behavior. *46<sup>th</sup> Annual Livestock Insect Workers' Conference*, Ruidoso NM. June 23, 2002

**McKay, T.** and A. B. Broce. The impact of *Nosema* sp. (Protozoa: Microspora) on size and sex ratio of its host *Muscidifurax zaraptor* (Hymenoptera: Pteromalidae) with notes on wasp oviposition behavior. *45<sup>th</sup> Annual Livestock Insect Workers' Conference*, Cody, WY. July 11, 2001

**McKay, T.** The role of bioluminescence in insects. Entomology Department Seminar series. Kansas State University, Manhattan, KS. March 2000

### Posters:

- ‡ Hampton, R., G. Atungulu, Z. Odek, T. Siebenmorgen, S. Wilson, and T. McKay. 2018. Post-treatment effects of infrared radiation on rough rice germination and development of the lesser grain borer (*Rhyzopertha dominica*). Industry Alliance Meeting, University of Arkansas, Fayetteville, AR 21-22 May, 2018
- Starkus, L. P., **T. McKay**, F. Arthur, and J. Campbell. Effects of light and temperature on the efficacy of beta-cyfluthrin for control of *Tribolium castaneum* (Coleoptera: Tenebrionidae) in a rice mill. *2017 Southeastern Branch Meeting*. Memphis, TN 14 March 2017
- ‡ Hampton, R., G. Atungulu, and **T. McKay**. Infrared radiation for the purpose of controlling stored product insects and its effect on rice germination. *2017 Southeastern Branch Meeting*. Memphis, TN 13 March 2017
- ‡ Todorovic, S. and **T. McKay**. Potential vectors of heartworm (*Dirofilaria immitis*) in Arkansas and development of models to predict seasonal transmission for high risk states in the U.S. *International Congress of Entomology*. Orlando, FL (1<sup>st</sup> place student competition) 27 September, 2016
- Starkus, L., M. Bowombe Toko, R. Hampton, F. Arthur, J. Campbell, and **T. McKay**. Monitoring of red flour beetles at rice mills. *Joint Meeting of the Kansas Entomological Society and Arkansas Entomological Society*. Fayetteville, AR April 3-4, 2015
- ‡ Hampton, R., L. Starkus, **T. McKay**, F. Arthur and J. Campbell. The effects of temperature and rice fractions on red flour beetle (*Tribolium castaneum*) development. *In: Abstracts, the 62<sup>th</sup> Annual Meeting of the Entomological Society of America*. Portland, OR 17 November, 2014
- ‡ Holland, Toria, **Tanja McKay** and Laura Starkus. Efficacy of beta-cyfluthrin for control of laboratory-reared and wild-collected cultures of red flour beetle (Coleoptera: Tenebrionidae) on treated concrete. *Arkansas ASSET Initiative Annual Meeting*, Little Rock, AR 4 September, 2014
- ‡ Hale, B. and **T. McKay**. Biology of the red flour beetle, *Tribolium castaneum* (Herbst), development on various rice fractions. *The 61st Annual Meeting of the Entomological Society of America*. Austin, TX 12 November, 2013
- ‡ Melissa Bailey, L. Starkus, ‡ R. Hampton, and **T. McKay**. Methods of assessing Red Flour Beetle, *Tribolium castaneum*, development and survival in rice fractions. *The 89<sup>th</sup> Annual Meeting of the Kansas (Central States) Entomological Society*. Pittsburg, KS 13 April, 2013



- ‡ Aaron Cato, L. Starkus, ‡ R. Hampton, and **T. McKay**. A comparison of arthropods taking refuge under dome traps in four rice mills. *The 89<sup>th</sup> Annual Meeting of the Kansas (Central States) Entomological Society*. Pittsburg, KS 13 April, 2013
- ‡ Gaspar, J. **T. McKay**, and M. Huss. Trichomycete fungi associated with mosquito larvae in northeastern Arkansas. *The 59<sup>th</sup> Annual Meeting of the Entomological Society of America*. Reno, NV (President's Award, first place Graduate Student Poster Display Competition, MUVE-2) 14 November, 2011
- ‡ Quatermass, K. E., ‡ T. A. Bianco and **T. McKay**. Do heartworm positive dogs increase infection in mosquitoes? *Research Internships in Science of the Environment Poster Presentations*, Arkansas State University, Jonesboro, AR 6 August, 2010
- Yanowitz, K. L., **T. McKay**, C. A. Ross, and S. S. Vanderpool. The impact of participating in a STEM camp on career goals. *Annual Conference of the Association for Psychological Science*, Boston, MA 29 May, 2010
- ‡ White, A. L., **T. McKay**, F. H. Arthur and J. F. Campbell. Population dynamics of stored-product insects at a rice mill in northeast Arkansas. *The 57<sup>th</sup> Annual Meeting of the Entomological Society of America*. Indianapolis, IN, 13-16 December, 2009
- Loftin, K., **T. McKay**, J. Pennington, D. Steelman, W. Watson, K. VanDevender, S. Willard and S. Brazil. Survey and release of parasitoids (Hymenoptera: Pteromalidae) of filth flies (Diptera: Muscidae) in southern dairies. *The 56<sup>th</sup> Annual Meeting of the Entomological Society of America*. Reno, NV November 18, 2008
- Loftin, K., S. Brazil, **T. McKay**, W. Watson, J. Edwards, D. Steelman, A. L. Szalanski, J. Pennington, K. VanDevender, and S. Willard. House fly (*Musca domestica*) and stable fly (*Stomoxys calcitrans*) parasitism following sustained releases of pteromalid wasps in southern dairies. *The 55<sup>th</sup> Annual Meeting of the Entomological Society of America*. San Diego, CA December 11, 2007
- Brazil, S., L. Loftin, J. Farnum, J. Pennington, **T. McKay**, D. Steelman, W. Watson, S. Willard, A. Szalanski, and K. VanDevender. Parasitism of house flies following parasitoid wasp releases. *15<sup>th</sup> Annual Meeting of the Arkansas Entomological Society*. Hot Springs, AR November 2, 2007
- ‡ Young, H., C. B. Dowling, and **T. McKay**. The effects of poultry litter application on the metal body burden of ground-dwelling arthropods. *Research Internships in Science of the Environment Poster Presentations*, Arkansas State University, Jonesboro, AR August 4, 2006
- ‡ Tomic, L.A., C. B. Dowling, and **T. McKay**. The effects of metals within poultry litter as an organic fertilizer on soils and Bermuda grass (*Cynodon dactylon*). *Research Internships in Science of the Environment Poster Presentations*, Arkansas State University, Jonesboro, AR August 4, 2006
- ‡ Young, H. L., C. Dowling, and **T. McKay**. The effects of poultry litter application on the metal body burden of ground-dwelling arthropods. *American Chemical Society 41<sup>st</sup> Midwest Regional Meeting*, Quincy, IL October 26, 2006
- T. McKay**, C. B. Dowling, B. Rougeau, K. M. Williams, J. W. Klasky, J. S. Wright, and K. Vanderpuye. Impact of poultry litter application on ground-dwelling arthropod populations. *Annual Meeting of*

*the Entomological Society of America*, Fort Lauderdale, FL.

December 15-18, 2005

- ‡ Vanderpuye, K., C. Dowling, and **T. McKay**. Preliminary work: metal uptake in insects after field application of poultry litter. *Research Internships in Science of the Environment Poster Presentations*, Arkansas State University. August 4, 2005
- ‡ Williams, K., **T. McKay**, and C. Dowling. The effects of poultry litter application on ground beetle and spider populations in a crop field in Arkansas. *Research Internships in Science of the Environment Poster Presentations*, Arkansas State University. August 4, 2005
- C.B. Owens, A. L. Szalanski, **T. McKay**, and C. D. Steelman. Molecular surveillance of pathogens carried by filth flies associated with poultry facilities. First place student competition (M.S poster competition). *79<sup>th</sup> Annual Meeting of the Southeastern Branch ESA Meeting*, Tunica, MS. March 7-9, 2005
- McElroy, S., A. L. Szalanski, **T. McKay**, A. Bermudez, and C. D. Steelman. Molecular assay for the detection of *Cochlosoma anatis* in house flies and turkey specimens by polymerase chain reaction. *Annual meeting of the Entomological Society of America*, Salt Lake City, Utah. First place student competition: Medical and Veterinary Entomology November 14-17, 2004
- T. McKay**, C. B. Owens, A. L. Szalanski, and C. D. Steelman. Molecular identification of pathogens carried by black garbage flies associated with turkey production facilities. *Annual meeting of the Entomological Society of America*, Cincinnati, OH. October 16-29, 2003
- C. B. Owens, A. L. Szalanski, **T. McKay**, and C. D. Steelman. Molecular diagnostics of pathogens carried by *M. domestica* (Diptera: Muscidae). *Annual meeting of the Entomological Society of America*, Cincinnati, OH. October 16-29, 2003
- Szalanski, A. L., C. B. Owens, **T. McKay**, and C. D. Steelman. Molecular diagnostics of pathogens carried by flies using PCR. *Southeastern Branch ESA Meeting*, Baton Rouge, LA. March 9-12, 2003
- McKay, T.** and A. B. Broce. Recognition of own parasitized hosts by individual *Muscidifurax zaraptor* (Hymenoptera: Pteromalidae) females reduces self-superparasitism. *Annual meeting of the Entomological Society of America*, San Diego CA. December 10, 2001
- McKay, T.** and A. B. Broce. The impact of *Nosema* sp. (Protozoa: Microspora) on size and sex ratio of its host *Muscidifurax zaraptor* (Hymenoptera: Pteromalidae). *Joint Annual Meeting of the Société d' entomologie du Québec, Entomological Society of Canada, and Entomological Society of America*, Montreal, Canada. December 5, 2000

#### ARKANSAS STATE UNIVERSITY COMMITTEE SERVICE

##### Leadership and Services to Department/College:

- Spring 2019 – present **Chair** of the Environmental Scientist Search Committee
- Fall 2014 - present **Chair** of the Environmental Sciences Program Committee, A-State.
- Spring 2018- present **Chair** of the Molecular Biosciences Program Committee, A-State.
- Fall 2018 –present Member of the Graduate Council, A-State.

- Spring 2017 **Chair** of the Search Committee for Herpetology Position in the Dept. of Biological Sciences.
- Spring 2011 **Chair** of the Search Committee for Wildlife Position in the Dept. of Biological Sciences.
- Spring 2013 Member of the Search Committee for Ornithology position in the Dept. of Biological Sciences.
- Fall 2010 - 2018 Molecular Biosciences Graduate Program (**MBS**) Committee **Committee Member.**
- Fall 2018 - present 2012 – 2015 **Chair** of the Department of Biological Sciences Promotion, Retention and Tenure Committee.
- 2012 – 2015 **Member** of the College of Sciences and Mathematics Promotion and Tenure Committee.
- Sept. 2012 – present Department of Biological Sciences Assessment Committee **Committee Member.**
- 2004 – 2015 Library Resource Coordinator.

Leadership and Services to A-State/Other Universities:

- Fall 2010/2013 **General Education Committee**  
*Role/Time commitment: Represented the College of Sciences & Mathematics. Met on a weekly or biweekly basis to discuss General Education curriculum.*
- Fall 2011 – 2016  
Fall 2018 - present **Graduate Council**  
*Role: Represent the Environmental Sciences Program, College of Sciences & Mathematics. Discuss graduate curriculum once a month.*
- October 2010 **Insect Festival** (University of Arkansas, Fayetteville, AR)  
*Role: Showed elementary and high school students stored-product insects and their importance.*

**OTHER PROFESSIONAL SERVICE AND ACTIVITIES (detailed since 2010)**

**Member of the Arkansas Mosquito and Vector Task Force** – Spring 2018 – Present.

**Sabbatical** – August 15 – December 29, 2018 – University of Queensland, Brisbane, Australia. Collaborated with Dr. Peter James, working on muscid fly parasitoids and potential control in cattle feedlots.

**Grant Proposal Review** – USDA- National Food and Agriculture, 2017.

**Resolution's Committee for the Eastern Branch of the Entomological Society of America.** (March 2016 – Fall 2016).

**Entomological Foundation Educator's Workshop Committee** (November 2015-present).

**Entomological Foundation Teacher Workshop – STEMbugs** November 14, 2015. Two K-12 teacher workshops, held in Minneapolis, MN. Jello and insects.

**President** of the **Kansas (Central States) Entomological Society** (April 2011-12). Responsible for **Organizing the 88<sup>th</sup> Annual Meeting of the Kansas (Central States) Entomological Society**, at Arkansas State University, Jonesboro, AR (April 6, 2012). Responsible for all aspects of the meeting:

registration, program arrangements, hotel arrangements, catering, and program agenda.

**Entomological Society of America, Membership Committee, Chair** (Fall 2009-2010). Worked with the committee to increase membership for the society. Organized several conference calls and organized the New Member Meet and Greet at the Fall 2009 Annual Meeting in San Diego, CA.

**Subject Editor** (Veterinary Entomology) (2008 – Spring 2017) for the Journal of Economic Entomology.

**Journal Reviewer** (activity reported, 2009-present). Annals of the Entomological Society; Journal of Agricultural and Urban Entomology; Journal of Stored Products Research; Condor; Annals of Applied Biology; Canadian Entomologist; Behavioral Ecology and Sociobiology; Environmental Entomology, Journal of Economic Entomology.

**Judge for Student poster/paper competitions at the Annual Entomological Society Meetings.** Annual Meeting of the Entomological Society of America (Vancouver, BC Nov. 2018; Portland, OR; Nov. 2014; Knoxville, TN, Nov. 2012; San Diego, CA, Dec.13, 2010).

**Heartworm Advisory Board Member** (International) for Novartis Animal Health (2010-2012).

**Reviewer** for the National Science Foundation Graduate Research Fellowship Program (January 2013).

**Review of a Grant Proposal** for BARD, the United States – Israel Binational Agricultural Research & Development Fund. November 2013.

**Summer 2012. Companion Animal Parasite Council – (CAPC)** One of ~40 faculty invited from various institutions in the U.S. and Canada for a weekend discussion (Atlanta, GA) regarding heartworm, intestinal parasites and tick borne diseases. I was part of the heartworm group consisting of three entomologists, an epidemiologist, two veterinarians and two statisticians. We were successful in working together in discussing the key factors associated with heartworm/mosquitoes. We had access to CAPC's database which maps all positive heartworm dogs in the U.S. down to county level (in 2014 – over 6.6 million data points). <http://www.cpcvet.org/parasite-prevalence-maps/> . With this data we were able to publish two papers to date.

#### **PUBLIC RELATIONS: VISUAL MEDIA, NEWSPAPERS,**

**Fall 2014** – Article in the Measure Magazine-The Research Publication of Arkansas State University; article entitled “Educate Inquiring Minds Want to Know”, pp. 6-9.

*Article highlights the work my colleagues and I have been doing with CSI: Classroom Science Investigations, an NSF sponsored program for junior and senior high school teachers and students.*

**September 20, 2012** – Spoke on behalf of the American Heartworm Society (AHS), “No Hiatus For Heartworm” **Article picked up by PRNewswire.**

**September 21-23, 2012.** Novartis Animal Health asked me to submit a photo of a mosquito for their publications and news releases. I asked Jason Gaspar, my graduate student at the time, if he had a picture. We submitted his photo. It was picked up by PRnewswire and publicized nationally at various venues, including the Times Square (New York City, NY) and the Las Vegas (NV) Strip (electronic screens and billboards).

**Summer 2012. Novartis Animal Health Flea Study Video (Case study).** Filmed at Mark Dunham's horse facility in Jonesboro, AR. This video was used for *Invited* presentations in FL, NC, and VA.

**November 2009, Discovery Channel's Dirty Jobs.** Filmed "Dung Beetle Researcher". Season 5 "Glass Maker" episode (2009-2010); aired November 10, 2009 Series number: 115. Can now be downloaded through **NetFlix**.

### **AWARDS**

**Southeastern Branch Distinguished Achievement Award in Teaching**, Southern Branch, Entomological Society of America (ESA), March 2011, San Juan, Puerto Rico. (**National Award**).

**Entomological Society of America (ESA) Distinguished Achievement Award in Teaching**, November 2011, Reno, NV (**International Award**).

### **PROFESISONAL MEMBERSHIP**

Entomological Society of America – Member since 1998

American Heartworm Society – Member since 2012