

*Curriculum Vitae*

**Tanja McKay**

Website: <https://tanjamckay3.wixsite.com/mckaylab>

**Professor of Entomology, Department of Biological Sciences  
Arkansas State (A-State) University  
Jonesboro, Arkansas**

**Mailing Address:**

P.O. Box 599  
State University  
AR, 72467

**Office Telephone Number:** (870) 972-3240

**Fax Number:** (870) 972-2638

**E-mail:** [tmckay@astate.edu](mailto:tmckay@astate.edu)

**PROFILE SUMMARY**

Entomologist with academic leadership, research and teaching experience. More than 18 years of experience in active research, mentoring undergraduate and graduate students and teaching undergraduate and graduate level courses in entomology and biological sciences. Experience in setting up and running a very well-funded, interdisciplinary, collaborative research program. I specialize in integrated pest management. My areas of research comprise a variety of topics including stored product insects (on-farm and rice milling), integrated mosquito management related to canine heartworm interactions, dung beetles and their importance in cattle pastures, and controlling flies using biological control in poultry and dairy facilities (Pteromalid parasitoids). I have successfully secured research grants from the United State Department of Agriculture-National Institute of Food and Agriculture, National Science Foundation and other resources, with significant record of publications and presentations.

**POST SECONDARY EDUCATION**

- Ph.D.** Entomology, Kansas State University (Manhattan, KS) 2002  
*Host size discrimination and oviposition behavior of *Muscidifurax zaraptor* (Hymenoptera: Pteromalidae), a parasitoid of filth flies (Diptera: Muscidae)*  
(Advisor: Dr. Alberto Broce)
- M.Sc.** Entomology, University of Manitoba (Winnipeg, Canada) 1998  
*Parasitoid wasps (Hymenoptera: Pteromalidae, Ichneumonidae) for control of house flies and stable flies (Diptera: Muscidae) in dairy operations in Manitoba*  
(Advisor: Dr. Terry Galloway)
- B.Sc.** Honours Conversion Certificate, Biology, Acadia University (Wolfville, Canada) 1995  
*Thesis: The effect of body temperatures on the temporal and spatial distribution in three species of damselflies (*Lestes*, Lestidae)*  
(Advisors: Dr. Olga Kukal, Dr. Tom Herman)
- B.Sc.** Biology, Acadia University (Wolfville, Canada) 1994

**ADMINISTRATIVE EXPERIENCE, ARKANSAS STATE UNIVERSITY**

- |                         |   |
|-------------------------|---|
| August 2022 – Present   | <b>Interim Associate Chair</b> of the Department of Biological Sciences     |
| January 2018 – May 2021 | <b>Director</b> of the Graduate Program in Molecular Biosciences            |
| July 2012 – May 2021    | <b>Director</b> of the Graduate Program in Environmental Sciences           |
| August 2010 – 2012      | <b>Assistant Director</b> of the Graduate Program in Environmental Sciences |

## EMPLOYMENT HISTORY

2015 - Present	<b>Professor:</b> Department of Biological Sciences, Arkansas State University
2021 - Present	<b>Joint appointment:</b> University of Arkansas Experimental Station, Department of Entomology, Fayetteville, AR
2009 - 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 - 2018	<b>Joint appointment:</b> University of Arkansas Experimental Station, Department of Entomology, Fayetteville, AR
2004 - 2009	<b>Assistant Professor:</b> Department of Biological Sciences, Arkansas State University, Jonesboro, AR
2002 - 2004	<b>Research Associate:</b> Veterinary Entomology, Department of Entomology, University of Arkansas, Fayetteville, AR
1998 - 2002	<b>Teaching Assistant:</b> Department of Entomology, Kansas State University, Manhattan, KS
1995 - 1998	<b>Research Assistant/Teaching Assistant:</b> Department of Entomology, University of Manitoba, Winnipeg, MB, Canada

## GRANTING EXPERIENCE

### Grant Proposals Funded: (>\$9 million total)

**McKay, T.,** G. Kim, D. S. Scheff, D. L. Brabec, J. F. Campbell, M. E. Casada, W. R. Morrison III, E. D. Scully, M. Wei, and K. Y. Zhu. Improving the efficacy of methyl bromide alternatives for stored grains in food grade shipping containers. United States Department of Agriculture, National Institute of Food and Agriculture, Methyl Bromide Transition Program. \$499,713 (Submitted Feb. 2023).

Zhu, K. Y., W. R. Morrison III, **T. McKay**, G. Bingham, T. W. Phillips, J. F. Campbell, E. D. Scully, D. S. Scheff, and A. Gerken. Developing a rapid response protocol for phosphine resistance management at food facilities by leveraging tools at or close to market. United States Department of Agriculture, Crop Protection and Pest Management Competitive Grants Program. \$324,979, A-State: \$41,000. (Submitted Feb. 2023).

Boves, T., **T. McKay**, and V. Rolland. Improving human health and eco-agricultural integration in the Mississippi Delta via integrated pest control. Arkansas Biosciences Institute, Jul. 1, 2022 – June 30, 2023. \$70,000.

Zhu, K. Y., W. R. Morrison III, **T. McKay**, G. Bingham, J. Ruberson, J. Campbell, T. Phillips, F. Arthur, E. Scully, D. Scheff, and A. Gerken. Maximizing adoption by demonstrating the compatibility of insecticide netting with diverse pest management tactics at food facilities. United States Department of Agriculture, Crop Protection and Pest Management Competitive Grants Program, Sept. 1, 2020-Aug. 31, 2023. \$324,963. A-State: \$60,000.

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-Land Grant Colleges of Agriculture Program. Oct. 1, 2018 - Sept. 30, 2023. \$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, National Institute of Food and Agriculture, Crop Protection and Pest Management Competitive Grants Program. Sept. 1, 2017 - Aug. 31, 2021. \$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, National Institute of Food and Agriculture, Methyl Bromide Transition Program, Sept. 1, 2011 - Aug. 31, 2015. \$450,502.

Yanowitz, K., **T. McKay** and A. Ross. CSI: Classroom Student Investigations. National Science Foundation 04-611 Innovative Technology Experiences for Students and Teachers Program. 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 Innovative Technology Experiences for Students and Teachers Program, provide training to teachers and students on STEM careers and information technology. Oct. 2006 - Sept. 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, 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, 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 Sustainable Agriculture Research and Education Grant, United States Department of Agriculture. \$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 poult enteritis and mortality syndrome (PEMS) into and among turkey flocks. Arkansas Agricultural Experiment Station, Animal Health Fund. \$12,000.

**Contracts Funded: (\$88,260 total)**

- 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 – Nov. 30, 2011. \$15,010.
- 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 Animal Health, Sept. 2008 - May 2010. \$68,000.

**PUBLICATIONS**

**Peer-reviewed:** (‡ Students)

- McKay, T.,** K. Luthra, L. A. Starkus, †E. A. Owusu, J. W. Siebenmorgen, and G. G. Atungulu. Assessing the effects of microwave treatments on rice quality and mortality of adult maize weevil, *Sitophilus zeamais*. Journal of the American Society of Agricultural and Biological Engineers (In revision).
- ‡Hampton, R. M., G. Atungulu, V. Rolland, S. A. Wilson and **T. McKay**. 2022. Effects of infrared radiation on germination of long grain rice. Applied Engineering in Agriculture 38: 129-133. <https://doi.org/10.13031/aea.14774>.
- †Yates, J. R., **T. McKay**, S. J. Mullin. 2021. Natural history notes: *Anolis carolinensis* (myiasis). Herpetological Review. 52(3): 642-643.

- ‡Wilkins, R. V., J. F. Campbell, K. Y. Zhu, L. A. Starkus, **T. McKay**, and W. R. Morrison III. 2021. Long-lasting insecticide-incorporated netting and interception traps at pilot-scale warehouse and commercial facilities prevents infestation by stored product beetles. *Frontiers in Sustainable Food Systems*. <https://doi.org/10.3389/fsufs.2020.561820>.
- ‡Todorovic, S., and **T. McKay**. 2020. Potential mosquito (Diptera: Culicidae) vectors of *Dirofilaria immitis* from residential entryways in northeast Arkansas. *Veterinary Parasitology* 282. <https://doi.org/10.1016/j.vetpar.2020.109105>
- ‡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. H., L. A. Starkus, and **T. McKay**. 2019 Degradation and residual efficacy of beta-cyfluthrin as a surface treatment for control of *Tribolium castaneum* Herbst: Effects of temperature and environment. *Journal of Stored Products Research* 84. <https://doi.org/10.1016/j.jspr.2019.101514>.
- Arthur, F., L. A. Starkus, A. R. Gerken, J. F. 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. <https://doi.org/10.1016/j.jspr.2019.04.005>.
- ‡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. <https://doi.org/10.1016/j.jspr.2019.01.002>.
- 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. <https://doi.org/10.1093/jee/toy422>.
- 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. <https://doi.org/10.1016/j.jspr.2018.11.001>.
- 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* 94:251-261. <https://doi.org/10.1094/CCHEM-07-16-0181-R>.
- ‡Gaspar, J.P., C. R. Minter, **T. McKay** and S. Raghu. 2015. First records for *Pseudompos 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. <https://doi.org/10.1093/jee/tov015>.
- 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. <https://doi.org/10.1603/en13338>.
- 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. <https://doi.org/10.1186/1756-3305-7-264>.
- 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. [http://dx.doi.org/10.2505/4/ss14\\_037\\_06\\_22](http://dx.doi.org/10.2505/4/ss14_037_06_22).
- 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. <https://doi.org/10.1603/ME12197>.
- 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. <https://doi.org/10.1186/1756-3305-5-245>.
- ‡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. <https://doi.org/10.2987/11-6196.1>.
- ‡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. <https://doi.org/10.1674/0003-0031-165.2.319>.
- 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. (15) (PDF) [CSI: Creating student \(and teacher\) investigators: Using popular culture in professional development. \(researchgate.net\)](https://www.researchgate.net/publication/263283150_CSI_Creating_student_and_teacher_investigators_using_popular_culture_in_professional_development)
- 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.
- ‡McElroy, S. M., 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* Gravenhörn (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:** (‡ Student)

- ‡Todorovic, S., **T. McKay**, and P. Kaufman. 2023. Vector control approaches for canine filariasis. In R. Kaminsky and T. G. Geary (Eds.) *Human and animal filariases* (565-588 pp.) Wiley-VCH.

**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 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 Jan.

Gaspar, J., **T. McKay** and M. Huss. 2009. Controlling mosquito larvae using fungi. *The Jonesboro Sun*. 22 Nov.

**McKay, T.** 2008. Infestations of bed bugs showing marked increase. *The Jonesboro Sun*. 30 Mar.

Fiene, J. and **T. McKay**. 2008. Dung beetles helpful to livestock producers. *The Jonesboro Sun*. 17 Feb.

**McKay, T.** 2007. A-State scientist part of team awarded USDA grant to study rice pests. *The Jonesboro Sun*. 19 Aug.

**McKay T.** 2007. Parasitic wasps may be helpful in controlling unwanted flies. *The Jonesboro Sun*. Sept.

**McKay T.** and A. Romero. 2005. Tiger beetles common during summer months. *The Jonesboro Sun*. Aug.

Romero, A. and **T. McKay**. 2006. Scorpions’ bad rap dates to prehistoric times. *The Jonesboro Sun*. 3 Jan.

Romero, A. and **T. McKay** 2006. Ants said to use ‘odometers’. *The Jonesboro Sun*. Jul.

Romero, A. and **T. McKay** 2006. Ants can jump farther, faster than others. *The Jonesboro Sun*. 24 Sept.

**MENTORING ACTIVITIES**

**Primary Mentor, Master’s Thesis Research:**

Md Naim Uddin: “Assessing the methodologies to protect stored rice from insect infestations.” Completed Proposal, expected to graduate in May 2024.

Rebecca Lett: “Dung beetle diversity in cattle production areas and forested habitats in northeast Arkansas.” Completed Proposal, expected to graduate in May 2024.

Rachel Hampton: “Post-treatment effects of infrared radiation on rough rice germination and lesser grain borers (*Rhyzopertha dominica* (F.)).” Completed and graduated in August 2018.

Sofija Todorovic: “Potential vectors of dog heartworm, *Dirofilaria immitis*, in Arkansas and seasonal transmission in the United States.” Completed and graduated, May 2018.

Brook Hale: “Red flour beetle, *Tribolium castaneum*, development on rice fractions and oviposition preference.” Completed and graduated, August 2016.

Martine Bowombe Toko: Spatio-temporal distribution of stored-product insects with emphasis on red flour beetles (Coleoptera: Tenebrionidae) in rice mills and on-farm storage facilities.” Completed and graduated in August 2015.

Bradley Rogers (M.A., Non-Thesis, Biological Sciences), Completed and graduated 2014.

Jason Gaspar: “Observational and experimental studies of tricomycete fungi associated with mosquito larvae.” Completed and graduated in December 2013.

Justin Fiene: “Species composition, seasonal activity, and aggregations of dung beetles on cattle pastures in Arkansas.” Completed and graduated in August 2009.

Doctoral Student Dissertation – Became Major Advisor (Major Advisor Left Institution):

David Hayes: “Genetic diversity and distribution of selected freshwater mollusks (Gastropod and Bivalvia) from west of the Mississippi River with an emphasis on Arkansas taxa.” Completed and graduated in August 2010.

Andrew Peck: “Evaluation of freshwater mussel conservation strategies at multiple scales: Macro-molecules, behavior, habitat, and policy” Completed and graduated in May 2010.

Master’s Thesis Research – Became Major Advisor (Major Advisor Left Institution):

Allison Asher: “Spatial patterns, population genetics, and multiple paternity of the freshwater mussel *Villosa iris*, (Lea 1829).” Completed and graduated in May 2009.

Kentaro Inoue: “Molecular phylogenetic, morphometric, and life history analyses of the special concern freshwater mussels: *Obobvaria jacksoniana* (Frierson, 1912) and *Villosa arkansasensis* (Lea, 1862).” Completed and graduated in May 2009.

Undergraduates Working in Lab since 2008 (Not Including Special Topic Courses):

Aiyana Dawson, Sarah Watson 2022, dung beetle research.

Ann Marie Covington, 2021-2022 – Bess beetle biology

Johnathan Wagner, Summer 2015.

Aaron Cato, Summer 2015 – A comparison of arthropods taking refuge under dome traps in four rice mills.

Toria Holland, Summer 2014, National Science Foundation RISE student

Nathan Pinheiro Silva, 2014 – Exchange Student, Brazil.

Melissa Bailey, Summer 2013, Experiential Learning Student

Justin Stewart, 2010

Kori Quatermass, 2009 Summer research, “Do heartworm positive dogs increase infection in mosquitoes?”

Genevieve Howell 2008.

University of Arkansas, Fayetteville, AR, USA

Committee Member, Entomology PhD, Narinderpal Singh, *Advisor*: Dr. Donn Johnson; Food Science MS, Anne Okeyo, *Advisor*: Dr. Griffiths Atungulu

University of Queensland, Brisbane, Australia

2018, External Reviewer, PhD thesis, Graduate School

Student Advising

Advise from 9-15 undergraduate students each semester regarding coursework/career goals

**CLASSROOM TEACHING EXPERIENCE**

**Undergraduate Courses Taught at A-State Since 2004**

*General Entomology & lab* (each Fall)

*Economic Entomology & lab* (each Spring)

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

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

**Undergraduate and Graduate Courses Cross-listed and Taught at A-State Since 2004**

*Aquatic Entomology & Lab* (every 2 years up until 2015)

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

**Graduate Courses Taught at A-State Since 2004**

*Medical and Veterinary Entomology & Lab* (Spring – every 2 years until 2010; Fall 2012; 2021)

*Ethics and Responsible Conduct* (each Fall 2013-2015)

*Insect Taxonomy & Lab* (Fall – every 2 years, last taught 2021)

*Seminar (Professional Development)* (each semester 2015-2018; starting 2019, each Spring until 2021)

**Study Abroad**

*Costa Rica – May –June, 2018.* La Suerta Biological Field School, Maderas Rainforest Conservancy, escorted undergraduate and graduate students studying Neotropical bat biology through Arkansas State University.

**Workshops Conducted for Commodity Stakeholders (detailed since 2015)**

- *May 2022:* Presented: Stored Product Insect Identification; Fumigation Training for Ecolab Pest Elimination Brinkley Convention Center, Brinkley, AR.
- *May 2022:* Presented: Stored Product Insect Identification and Integrated Pest Management, Anheuser-Busch Rice Mill personnel, Jonesboro, AR.
- *April 2022:* Stored-product insects in rice mills: Unraveling complexities, Quality & Safety Summit, Riviana Rice Mill, Memphis, TN.
- *Spring 2017:* 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 (detailed since 2006)**

- McKay, T.** Integrated pest management for stored grains. *Fortified Rice, Commodity Fumigation and Supply Chain Processes Improvement Workshop*, Houston, TX. 29 Sept. 2022. (Virtual presentation).
- McKay, T.** Impact of microwave drying on insect mortality. *Industry Alliance Meeting, University of Arkansas Rice Processing Program*. Fayetteville, AR. 24 May 2022.
- McKay, T.** Stored-product insects, mosquitoes and heartworms: Unraveling complexities. *Kansas State, Department of Entomology Distinguished Alumnus Seminar*. Manhattan, KS. 15 October 2019
- McKay, T.** Potential mosquito vectors of *Dirofilaria immitis* from residential entryways. *Triennial Symposium, American Heartworm Society*. New Orleans, LA. September 2019
- McKay, T.** and S. Jones. Microclimates and the mosquito as the required vector for transmission of *Dirofilaria immitis*. *16<sup>th</sup> Triennial Symposium, American Heartworm Society*. New Orleans, LA. September 2019
- McKay, T.** Integrated pest management in rice mills in the U.S. *University of Arkansas, Department of Entomology, Seminar Series*. Fayetteville, AR. April 2019
- McKay, T.** Integrated Pest Management in Rice Milling in the U.S. *University of Arkansas, Fayetteville, AR*. April 2019
- 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. Nov. 2018
- McKay, T.** Integrated Pest Management in Rice Mills. Department of Agriculture and Fisheries and Forestry & University of Queensland, Brisbane, Australia (Sabbatical). Oct. 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). Feb. 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, Nov. 2013
- McKay, T.** Potential Mosquito Vectors of Heartworm, *Dirofilaria immitis*, in Arkansas. *North American Veterinary Conference*. Orlando, FL. 22 Jan. 2013

- McKay, T.** An integrated flea control program in an Arkansas horse facility: A case study. *North American Veterinary Conference*. Orlando, FL. 22 Jan. 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 Nov. 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 Aug. 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 Aug. 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 Feb. 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. 18 Nov. 2008
- McKay, T.** Highlights of veterinary entomology. The 55<sup>th</sup> Annual Meeting of the Entomological Society of America. San Diego, CA. 10 Dec. 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. 11 Dec. 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. 11 Dec. 2006

#### **PAPERS AND POSTERS PRESENTED (‡ Student; detailed since 2009)**

##### **Papers:** (‡ Students)

- ‡Lett, R. and **T. McKay**. 2023. Does habitat matter? Dung beetle communities in forests and cattle pastures in Northeast Arkansas. *Create@state. A Symposium of Research, Scholarship & Creativity*. Arkansas State University, Jonesboro, AR, 18 April 2023.
- ‡Lett, R. and **T. McKay**. 2022. Dung beetle biodiversity in cattle pastures and forested habitats in northeast Arkansas. *Joint Meeting of the Entomological Society of America, Entomological Society of Canada, and the British Columbia Entomological Society*. Vancouver, British Columbia, Canada, 14 November 2022.

- ‡Medaries, A. and **T. McKay**. Introducing the A-State entomology collection into the 21st century. *Undergraduate Fellowship for Arkansas Biosciences Institute*. A-State, Jonesboro, AR. Jan. 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. Nov. 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. Apr. 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 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. Sept. 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. Aug. 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. Mar. 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. Mar. 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. Nov. 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. Apr. 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. Nov. 18, 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. Nov. 17, 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. Nov. 7, 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.  
Apr. 10, 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. Apr. 10, 2014

**McKay, T.** Integrated pest management in rice mills and on-farm storage sites. Food Protection Alliance Fumigation Boot Camp, Jonesboro, AR. Apr. 7, 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. Apr. 5, 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. April 3, 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. Feb. 20, 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. Feb. 20, 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. Feb. 20, 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. Feb. 20, 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. Oct. 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. Nov. 1, 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). Oct. 5, 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). Oct. 5, 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. May 16, 2013

**McKay, T.** Integrated Pest Management in Rice Mills. *RiziCulture Series*, Arkansas State University, Jonesboro, AR. Apr. 10, 2013

‡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. Apr. 7, 2012

‡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. Mar. 5, 2012

Yanowitz, K., **T. McKay** and C. Ross. Classroom student investigators. *NSF ITEST Forum (Innovative Technology Experiences for Students and Teachers)*, Washington, DC. Feb. 29, 2012

‡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

‡Hampton, R., ‡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 Nov. 2012

‡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 Nov. 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 Nov. 2011

**McKay, T.**, F. Arthur and J. Campbell. Insect pest management in rice mills. *Methyl Bromide Alternatives and Emissions Conference*, San Diego, CA. Nov. 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. Jul. 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 Apr. 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 Dec. 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 Dec. 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 Oct. 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 Sept. 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 Mar. 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 Mar. 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 Dec. 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 Dec. 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 Nov. 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 Nov. 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 Nov. 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 Mar. 2009*

**Posters:** (‡ Students)

- ‡Ranabhat, S., K. Mongeau, **T. McKay**, L. Starkus, K. Y. Zhu, and William R. Morrison. 2023. Food dust does not decrease the efficacy of the insecticide netting against stored product insects. *K-State Graduate Research, Arts, and Discovery (GRAD) Forum*, Kansas State University, Manhattan, KS, 8-9 March.
- ‡Uddin, Md. N., L. Starkus and **T. McKay**. 2023. The efficacy of insecticide-incorporated netting for preventing maize weevils (Coleoptera: Curculionidae) infestation. *Create@state. A Symposium of Research, Scholarship & Creativity*. Arkansas State University, Jonesboro, AR, 18 April 2023.
- ‡Lett, R. and **T. McKay**. 2023. Does habitat matter? Dung beetle communities in forests and cattle pastures in Northeast Arkansas. *Southeastern Branch Meeting of the Entomological Society of America*, Little Rock, AR, USA, 14 March.
- ‡Covington, A. M. and **T. McKay**. 2022. The relationship between bess beetles (Family Passalidae) and their Companions. *Create@state. A Symposium of Research, Scholarship & Creativity*. Arkansas State University, Jonesboro, AR, 19 April 2022.
- ‡Wilkins, R. V., K. Y. Zhu, **T. McKay**, L. Starkus, J. F. Campbell, W. R. Morrison III. 2020. Traps with long-lasting insecticide-incorporated netting as a novel perimeter-based management tactic to intercept stored product insects around food facilities. *Entomological Society of America Annual Meeting*, Nov. 2020.
- ‡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 Mar. 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 Mar. 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 Sept. 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. Apr. 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 Nov. 2014

- ‡Holland, T. **T. McKay** and L. 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 Nov. 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 Apr. 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 Apr. 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 Nov. 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 Aug. 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 Dec. 2009

#### **,ARKANSAS STATE UNIVERSITY COMMITTEE SERVICE**

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

- Fall- Present **Chair** of the Cell Biology Assistant Professor Search Committee
- Spring 2021 **Chair** of the Microbiology Assistant Professor Search Committee
- 2017-Aug. 2020 **Member** of the Department of Biological Sciences Promotion, Retention and Tenure (PRT) Committee
- Fall/Spring 2019-20 **Committee Member**, Dept. Biological Sciences' Chair Search
- Spring/Fall 2019 **Chair** of the Environmental Scientist Search Committee
- Fall 2014 – 2021 **Chair** of the Environmental Sciences Program Committee
- Spring 2018 – 2021 **Chair** of the Molecular Biosciences Program Committee
- Fall 2018 –2021 Member of the Graduate Council
- 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

- Spring 2013 Biological Sciences  
Member of the Search Committee for Ornithology position in the Dept. of Biological Sciences
- Fall 2010 - 2018 Molecular Biosciences Graduate Program Committee  
**Committee Member**
- Fall 2018 - Spring'20 **Chair** of the Dept. of Biological Sciences PRT Committee
- 2012 – 2015 **Member** of the College of Sciences and Mathematics PRT  
Fall 2018-2022
- Sept. 2012 – present **Member** of the Department of Biological Sciences Assessment Committee
- 2004 – 2015 Library Resource Coordinator

Leadership and Services to A-State/Other Universities:

- Spring 2023 **Member of Search Committee**, College of Agriculture  
*Wilson Chair Position, Assistant Professor*
- Fall 2019 – 2021 **Chair's Council**  
*Role: Represent the Environmental Sciences Program, College of Sciences & Mathematics*
- 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 **Graduate Council**  
Fall 2018 - 2021 *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)**

**United States Agency for International Development (USAID)** – currently working with three teams to study the USAID Food aid supply chain. Developing a comprehensive report to review best practices for USAID and provide recommendations on integrated pest management and how to handle grains throughout their supply chain that are shipped to Yemen, Djibouti and South Africa. Weekly meetings May 2022 – Present.

**Safe Zone Training** Arkansas State University, workshop on allyship and advocacy for the LGBTQ+ community, Spring 2022.

**External Reviewer for the Environmental Sciences Program**, Tennessee Technological University, Cookeville, TN, five-year review for state funding, Feb. 2019.

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

**Sabbatical** – August 15 – December 29, 2017 – University of Queensland, Brisbane, Australia. Collaborated with Dr. Peter James, working on muscid fly parasitoids and potential control in cattle feedlots.

**Grant Proposal Review** – United States Department of Agriculture - National Food and Agriculture,

Washington, DC. June 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 2015-2016).

**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, 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); Southeastern Branch Meeting (Little Rock, AR, March 2023).

**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 the Israel Binational Agricultural Research & Development Fund. November 2013.

**Summer 2012. Companion Animal Parasite Council – (CAPC)** one of ~ 40 faculties invited from various institutions in the U.S. and Canada for a weekend discussion (Atlanta, GA) regarding heartworm, intestinal parasites and tick borne diseases. 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.capcvet.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. My student, Jason Gaspar, at the time submitted a picture. The photo 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 16 (2009-2010); aired November 10, 2009 Series number: 115. Can now be downloaded through ["Dirty Jobs" Glass Maker \(TV Episode 2009\) - IMDb](#) or **Netflix** or 2 min. video: [Dirty Jobs 516 Glass Maker - YouTube](#).

### CONSULTANT TO THE PRIVATE SECTOR

Mitchell, Williams, Selig, Gates & Woodyard, P.L.L.C., Little Rock, AR May 2020-February 2022.  
Entomological consultation on court case.

Ceva Animal Health – Advisory for production of a booklet for veterinary clinicians for dirofilariasis and leishmaniasis, São Paulo, November 2019.

Boehringer Ingelheim Animal Health, USA Inc. 2019-2020.

### AWARDS AND HIGHLIGHTS

**Career highlighted in article:** Whitener, A., A. Romero, R. Simmons, and J. Ware. 2021. Profiles of ESA Member Diversity: Navneet Kaur (P-IE and PBT Sections) and Tanja McKay (MUVE Section). *American Entomologist* 67(3): 36-40. <https://doi.org/10.1093/ae/tmab045>.

**Kansas State University, Department of Entomology, 2019 Distinguished Alumnus Award.**  
October, 2019, Manhattan, KS.

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

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

### PROFESISONAL MEMBERSHIP

Entomological Society of America – Member since 1998

American Heartworm Society – Member since 2012