

Austin Taylor Goldsmith

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Research/Work Experience

Research Associate, Texas A&M University – May 2024 – Present

Kaufman Lab, Entomology Department, College Station, TX

Research consists of understanding tick-host interactions, blowflies as potential vectors of pathogens, and lesser mealworm (*Alphitobius diaperinus*) ingestion of polystyrene.

FC Associate 1, Amazon – December 2023 – May 2024

WSP1 Rural Super Rural Delivery Station, Lowell, AR

Work consisted of various tasks involved in preparing Amazon packages for delivery to customers in Northwest Arkansas and other nearby towns.

Event Staff, Allied Universal (Formerly Landmark) –2017 – 2018; October 2023 – May 2024

Barnhill Arena, Room 102, University of Arkansas, Fayetteville, AR

Work consisted of crowd management, ticket scanning and parking management at University of Arkansas events.

Biological Science Technician, USDA Agricultural Research Service – 2020 – 2023

Thad Cochran Southern Horticultural Laboratory, Poplarville, MS

Research focused on: 1.) the development of essential oils (linalool and pulegone) and erythritol (meso- and pentaerythritol) for the control of spotted-winged drosophila (*Drosophila suzukii*, SWD) on small fruit crops; 2) the documentation of active nesting sites of the native chimney bee *Anthophora abrupta* in southern Mississippi and Louisiana so that parent nests of bees could be reared to develop this bee for use in blueberry pollination; and 3.) to trap nest the blue orchid bee *Osmia ribofloris* in Kerrville, TX for its development in blueberry pollination in south Mississippi.

Graduate Research Assistant, Department of Entomology and Plant Pathology – 2018 – 2020

University of Arkansas, Fayetteville, AR.

Research focused on: 1.) isolating and identifying entomopathogenic fungi from soil-inoculated ticks and 2.) conducting bioassays to assess their potential as possible tick biological control agents.

Aquatic Ecology Undergraduate Research Assistant², Department of Biology – March – January 2015

University of Central Arkansas, Conway, AR.

Duties included: 1.) sorting aquatic macroinvertebrates from stream samples and 2.) identification of aquatic macroinvertebrates.

Education

M.S. in Entomology, University of Arkansas Fayetteville

Thesis: [The Discovery of *Metarhizium anisopliae* \(Metchnikoff\) Sorokin Isolates from Northwest Arkansas and their Pathogenicity to *Amblyomma americanum* L.](#)

Graduation Date: May 2020

GPA – 3.96

Advisor: Dr. Kelly Loftin

B.S. in Biology, Magna Cum Laude, University of Central Arkansas

Graduation Date: May 2017

GPA – 3.82

Research Areas

Medical/veterinary entomology, biocontrol, alternative pest control, insect pathology, native pollinators.

Publications:

Goldsmith AT, Loftin K, Steinkraus D, et al. 2023. Laboratory Bioassays of a Native Arkansas Isolate of *Metarhizium robertsii* (Hypocreales: Clavicipitaceae) for the Control of *Amblyomma americanum* (Acarina: Ixodidae). JAUE 39(1):21–27. DOI: doi.org/10.3954/JAUE22-10.

Goldsmith A, Loftin K, Steinkraus D, et al. 2021. Isolation of *Metarhizium guizhouense* and *Metarhizium robertsii* strains from soil-exposed *Amblyomma americanum* (Acarina: Ixodidae) from northwest Arkansas, USA. Florida Entomologist.:205–212. DOI: doi.org/10.1653/024.104.0309.

Awards & Honors:

Entomological Society of America:

President's Prize Second Place, Graduate 10-minute paper competition: Medical, Urban and Veterinary Entomology section, Ecology and Behavior 2 category, Entomological Society of America Annual Meeting. St. Louis, MO (fall 2019).

Workshops and Training:

Online Pesticide Applicator Training, Mississippi State University Course, Thad Cochran Southern Horticulture Laboratory – 2023
Poplarville, MS

Pesticide Applicator Training, Arkansas State Plant Board and the University of Arkansas Cooperative Extension Service-Spring 2019

Washington County Extension Office, Fayetteville, AR

Tick Identification Workshop, Arkansas Department of Health and the Center for Disease Control and Prevention - Summer 2018

Hobbs State Park, Rogers, AR,

Selected Posters and Presentations:

Goldsmith, A., Loftin, K., Steinkraus, D., Szalanski, and Cleary, D. 2019. An Ecological Survey of Native Arkansan Entomopathogenic Fungi and their Virulence to *Amblyomma americanum* Ticks. Entomological Society of America Annual Meeting. St. Louis, MO.

Goldsmith, A., Huggins B., Nilz J., Entekin S., Larson K. 2017. HPER Ditch to AVID Creek: A Work in Progress. University of Central Arkansas Biology Capstone Symposium, Conway, AR.

Topham, A., Butler, H., Anglin R., **Goldsmith, A.** 2017. The Effects of Ethanol on Maze Navigation in *Blattella germanica* Roaches. University of Central Arkansas Biology Capstone Symposium Conway, AR.

Skinner, B., Helton, K., **Goldsmith A.,** and Waggoner, B. 2017. Effect of Styrofoam Diet on the gut Protists of Mealworms (*Tenebrio molitor*). Arkansas Academy of Sciences Annual Meeting, Conway, AR.

GenBank Submissions:

Szalanski, A., Cleary, D., **Goldsmith, A.,** Steinkraus, D., and Loftin, K. 2019 (revised 2020). *Metarhizium guizhouense* and *Metarhizium robertsii* small subunit ribosomal RNA gene, partial sequence; internal transcribed spacer 1, 5.8S ribosomal RNA gene, and internal transcribed spacer 2, complete sequence; and large subunit ribosomal RNA gene, partial sequence. GenBank Accession numbers [MN255810-MN255811](https://www.ncbi.nlm.nih.gov/nuclink/MN255810-MN255811).

Submissions to the USDA ARS Collection of Entomopathogenic Fungi (ARSEF)

Goldsmith, A., Castrillo, L., Loftin, K., Steinkraus, D., and Szalanski, A. 2019 (revised 2020). Arkansas isolates of *Metarhizium guizhouense* and *Metarhizium robertsii* isolates derived from wild adult and nymphal *Amblyomma americanum* ticks artificially exposed to soil from Savoy and West Fork, Arkansas. ARSEF accession numbers ARSEF 14329-14332.

Professional Memberships:

Florida Entomological Society (2020 – 2021)

Entomological Society of America (2018 – present).

University and Department Service:

Isely-Baerg Entomology Club-Treasurer (2018 – 2019).

Community Outreach:

Poplarville Blueberry Jubilee, Thad Cochran Southern Horticultural Laboratory demonstration, Poplarville, MS, summer 2022.

USDA-ARS Career Fair Booth, Stone High School, 2022

Entomology Departmental Outreach at Fayetteville Farmers Market, summers 2018 and 2019.

Volunteer at local schools and community events with Isely-Baerg Entomology Club, insect education, community outreach, 2018, and 2019.

Arkansas Insect Festival volunteer, Fayetteville, AR, fall 2018.

Technical Skills:

Microsoft office (Word, Excel, PowerPoint, Outlook).

Insect collection techniques, insect rearing and identification.

Tick collection techniques, identification, maintenance and handling.

Isolation/culturing, maintenance, identification and bioassay techniques with entomopathogenic fungi.

Effective interpersonal writing and oral communication and organizational skills

Skills in data collection, data management, result interpretation and experimental design

Effectively works well independently and as part of a team

Photography