Address Information (Home, Business)

Home:
Jeremiah R. Foley IV
2512 Plymouth St
Blacksburg, VA 24060

Work:
Department of Entomology
Price Hall, Room 216A, Virginia Tech
170 Drillfield Drive, Blacksburg, VA 24060

I. Education:

2021 Virginia Tech (VT) Ph.D. candidate. Major: Entomology. Dissertation title: *Thermal requirements, aestivation survivorship, feeding, and establishment of* Laricobius *spp. (Coleoptera: Derodontidae), biological control agents released for* Adelges tsugae *(Hemiptera: Adelgidae)*

Expected completion of Ph.D., Virginia Tech: November 2021
Hours completed: 103; GPA: 3.83

2017 M.S. University of Florida (UF). Major: Entomology and Nematology. Thesis title: *Phoresy and within-colony transmission of nematodes associated with alates of subterranean termites (Isoptera: Rhinotermitidae)*, Gainesville, FL

2014 B.A, Biological Science, Florida Atlantic University (FAU), Boca Raton, FL

2014 Cert. in Geographic Information Systems (GIS), Florida Atlantic University (FAU), Boca Raton, FL

2012 A.A, Broward College (BC), Broward Country, FL

II. Employment Information:

Biological Science Technician (Pathways): USDA-ARS: Invasive Plant Research Lab
Fort Lauderdale, January 2012 - July 2017
Responsibilities: Colonize potential biological control agents in quarantine, maintain insect and plant populations used for experimental testing, organize and maintain notes and data, input for experimental designs, set-up and conduct experiments, and regular field collections.

Nature Tour Guide: Hugh Taylor State Park
Fort Lauderdale, January 2011 - May 2014
Services Provided: Via Segway, provided tour guests with an educational experience on native fauna and flora of Florida as well as exotic species management programs under way in the park.

Restaurant Manager: Jets Pizza
Fort Lauderdale, January 2005 – December 2010
Services Provided: Maintain consistent and reliable services for walk-in and delivery customers. Responsibilities: Payroll, financial deposits, interviewing for potential hires, and maintaining regular operations of staff (n = 12) per night.

III. Honors and Awards:

2021 Roger F. Anderson Outstanding Student in Forest Entomology, Southern Forest Insect Work Conference

2021 James M. Grayson Outstanding Ph.D. Student Runner-up, Virginia Tech Department of Entomology

2020 Robert O'Neil Outstanding Ph.D. Student in Biological Control, International Society of Biological Control Nearctic Division

2020 David R. Spence Scholarship

2020 William T. Steele, Jr. Graduate Scholarship

2018 Second place, PhD student competition, Entomological Society of America National Meetings Section: Biocontrol, Predators

2017 Second place, PhD student competition, Entomological Society of America National Meetings Section: Medical, Urban, & Veterinary Entomology

2017 Loke and Vicki Kok Graduate Fellowship

IV. Membership in Professional and Honor Societies:

2020-Present: International Organization of Biological Control (IOBC)

2016-Present: Southern Forest Insect Work Conference (SFIWC)

2012-Present: Entomological Society of America (ESA)

V. Teaching Experience:

Teaching Assistantships

Fall 2018, 2019, and 2020 FREC: Forest and Tree Pest Management
Insect pest portion of the class: Assisted Professor Salom in administering and grading class exams and lab practicals. Provided students with transportation to various field sites that highlighted specific insect pests learned about in class and lab.

Guest lecturer

Spring 2021 BIOL 3204: Plant Taxonomy. “Sweaty, dirty, and happy; Applications of your coursework through the lens of invasive species”

Fall 2019 FREC: Forest and Tree Pest Management. Sections taught:

1) Insect pests: Morphology and developmental biology of Insecta
2) Disease pests: Introduction and basic biology of bacteria, viruses, and nematodes

Supervisory Experience/Student-Mentoring

2021 Laboratory and field technician (Sydney VandeMeulebroecke) Project title: Constant temperature development phenological confirmation of *Laricobius osakensis.*

2021 Laboratory and field technician (Erika Wright) Project title: The effect of temperature on fecundity of *Laricobius* spp.

2020 Laboratory and field technician (Ellie Lane) Project title: Field aestivation survivorship assessment of *Laricobius* spp.

2020 Laboratory and field technician (Ryan Anderson) Project title: Phenological development confirmation of *Laricobius osakensis*.

2019 Laboratory and field technician (Abby Biggs) Project title: Constant temperature development experiment of *Laricobius osakensis*.

2018 Governor’s school internship (Frank Cahoon) Project title: Constant temperature development experiment of *Laricobius osakensis*. Funded: $300.00

VI. Extension Experience and Outreach Experience:

2017 - 2019 Hokie Bug Fest: Forest Entomology Rep

2017 - 2019 National ESA Meeting: Virginia Tech: Dept. of Entomology and Alwood Rep

10/28/19 Graduate student recruitment lunch for Jason Bielski (current Master’s student under Dr. Doug Phieffer)

12/1/18 Graduate student recruitment lunch for Kelly McIntyre (current Master’s student under Dr. Sally Entrekin)

2016 University of Florida Open House (Representing: The Subterranean Termite Lab)

2016 Broward Co. S.T.E.M (Science Technology Engineering & Mathematics) Family Expo

2014 - 2016 USDA: IPRL Open House (Representing: Biological Control of Aquatic Invasive Plants)

VII. Refereed Publications from Original Research:

From Programmatic Activities while at Virginia Tech

Haak, D. C., Salom, S. M., Barney, J. N., Schenk, T., Lokoba, V. T., Brooks, R., Fletcher, R., **Foley, J. R.,** Heminger, A., Maynard. L., McElmurray, P., Hye-Jeong, S., Sharma., G. (2021). Formalized transformative learning in graduate global change education: A case study in invasive species policy. **Environmental Education Research** (submitted)

Foley, **J**. **R.**, Jubb, C., Cole, D. A., Mausel, D., Galloway, A. L., Brooks, R., & Salom, S. M. (2021). Historic assessment and analysis of the mass production of *Laricobius* spp. (Coleoptera: Derodontidae), biological control agents for the hemlock woolly adelgid at Virginia Tech. **Journal of Insect Science.** 21(12),

Foley, J. R., McAvoy, T. J., Dorman, S., Bekelja, K., Kring, T. J., & Salom, S. M. (2019). Establishment and distribution of *Laricobius* spp. (Coleoptera: Derodontidae), a predator of hemlock woolly adelgid, within the urban environment in two localities in Southwest Virginia. **Journal of Integrated Pest Management,** 10(1), 30.

Salom, S. M., Davis, G., Elkinton, **Foley J.R.**, J., Havill, N., Jubb, C., Mayfield, A., McAvoy, T., Rusty, R., & Whitmore, M. (2019). A response to "Media representation of hemlock woolly adelgid management risks: a case study of science communication and invasive species control," published in Biological Invasions online on September 18, 2018. **Biological Invasions**, 21(6).

From Programmatic Activities while working elsewhere

Goode, A. B., P. W., Pokorny, Minteer, C. R., Tipping, E.N. Pokorny, B.K. Knowles, **J.R. Foley**, R.J. Valmonte. (2021). *Megamelus scutellaris* (Hemiptera: Delphacidae) biology and population dynamics in the highly variable landscape of southern Florida. **Biological Control** (in press)

Tipping, P. W., Martin, M. R., **Foley, J. R**., Pierce, R. M., Nimmo, K. R., Smart, M. D., & Getty, L. A. (2021). Negative post-fire recruitment trends for Melaleuca

quinquenervia: the repercussions of biological control on the long-term management of an invasive tree. **Invasive Plant Science and Management.** Vol ## 1-24.

Goode, A. B., Knowles, B. K., Tipping, P. W., **Foley, J. R**., & Gettys, L. A. (2020). Interactions among biological control agents on waterhyacinth: Impacts of herbivory on the oviposition and development of *Megamelus scutellaris*. **Biocontrol Science and Technology. Vol ##** 1-6

Tipping, P. W., Smith, M. C., Lake, E. C., Minteer, C. R., Goode, A. B., **Foley, J. R**., & Gettys, L. A. (2020). Classical biological control and apparent competition: evaluating a waterhyacinth invaded community module. **Journal of Applied Ecology.** *57,* 926-935.

Goode, A. B., Minteer, C. R., Tipping, P. W., Pokorny, E., Valmonte, R. J., **Foley, J. R.,** & Knowles, B. K. (2020). Temperature dependent survival and fecundity of *Lepidelphax pistiae* Remes Lenicov (Hemiptera: Delphacidae), a potential biological control agent of *Pistia stratiotes* L. (Araceae). **Biocontrol Science and Technology**, 30(4), 396-401.

Goode, A. B., Minteer, C. R., **Foley**, **J. R**., Tipping, P. W., Valmonte, R. J., Knowles, B. K., & Gettys, L. A. (2019). Host range of *Lepidelphax pistiae* (Hemiptera: Delphacidae) and its potential impact on *Pistia stratiotes* L. (Araceae). **Biocontrol Science and Technology**, 29(7), 706-714.

Goode, A. B., Minteer, C. R., Tipping, P. W., Knowles, B. K., Valmonte, R. J., **Foley, J. R.,** & Gettys, L. A. (2019). Small-scale dispersal of a biological control agent–Implications for more effective releases. **Biological Control**, 132, 89-94.

Foley J.R., T. Chouvenc, R.M. Giblin-Davis, N. Su, & N. Kanzaki. (2018) Phoresy and within-colony transmission of nematodes associated with alates of subterranean termites (Isoptera: Rhinotermitidae). **Environmental Entomology**. 47(5), 1107-1116.

Chouvenc, T. and **Foley J.R**., (2017). The Asian subterranean termite, *Coptotermes gestroi* (Wasmann), a threat to the southeastern Florida urban tree canopy. **Florida Entomologist**. 101(1), 79-90.

Tipping, P.W., **Foley J.R.**, L.A. Gettys, & C.A. Minteer. (2017) Assessing the risk of *Eccritotarsus eichhorniae* to pickerelweed*, Pontederia cordata* in North America. **Biocontrol Science and Technology**, 28(4), 332-340.

Tipping, P. W., Gettys, L. A., Minteer, C. R., **Foley, J. R.,** & Sardes, S. N. (2017). Herbivory by biological control agents improves herbicidal control of waterhyacinth (*Eichhornia crassipes*). **Invasive Plant Science and Management**. 10(3), 271-276.

Minteer, C.R., Tipping P.W., Knowles B.K., Valmonte R.J., **Foley, J.R.**, & Gettys L.A. (2016) Utilization of an introduced weed biological control agent, *Megamelus scutellaris* (Hemiptera: Delphacidae), by a native parasitoid. **Florida Entomologist**. 99(3), 576-577.

Foley, J.R., C.R. Minteer, & P.W. Tipping. (2016). Differences in seasonal variation between two biotypes of *Megamelus scutellaris* (Hemiptera: Delphacidae), a biological control agent for *Eichhornia crassipes* in Florida. **Florida Entomologist**. 99: 569-571.

Tipping, P.W., Alejandro S., Pokorny E.N., **Foley J.R.**, Schmitz D.C., Rodgers L., Mccloud L., Livingston-Way P., & Cole M.S. (2014) Release and establishment of *Megamelus scutellaris* (Hemiptera: Delphacidae) on waterhyacinth in Florida. **Florida Entomologist**. 97(2): 804-806.

VIII. Technical Publications (Bulletins, Reports, etc.):

Extension and Outreach

Foley, J.R., S.M. Salom, & C.R. Minteer. (2018) Hemlock woolly adelgid – *Adelges tsugae* (J. L. Gillett-Kaufmen, Producer, & University of Florida) http://entnemdept.ufl.edu/creatures/TREES/hemlock_woolly_adelgid.html

Foley, J.R., & C.R. Minteer, Water Hyacinth Planthopper - *Megamelus scutellaris*. (2017) (J. L. Gillett-Kaufmen, Producer, & University of Florida) Featured Creature: http://entnemdept.ufl.edu/creatures/beneficial/bugs/Megamelus_scutellaris.htm

Reports

Salom S.M., Mooneyham K., & **Foley, J.R**. (2019) Progress Report for 15-CA-11420004-026 between the USDA Forest Service and Virginia Tech. Release and establishment of Laricobius osakensis, a new predator of hemlock woolly adelgid from Japan – Phase 2

Salom S.M., Mooneyham K., & **Foley, J.R**. (2018) Progress Report for 15-CA-11420004-026 between the USDA Forest Service and Virginia Tech. Release and establishment of Laricobius osakensis, a new predator of hemlock woolly adelgid from Japan – Phase 2

Media Coverage

Entomology Today, 2019. Title: *Biological Control for Hemlock Woolly Adelgid: Where Do We Stand?* https://entomologytoday.org/2019/10/07/biological-control-hemlock-woolly-adelgid/. Drs. Molly Darr and David Coyle summarized Foley et al., (2019) for the general public. The Entomological Society of America subsequently shared this publication. Role: Author

Physic.org, 2021 Title: *Study offers insights into management of invasive paperbark trees* https://phys.org/news/2021-03-insights-invasive-paperbark-trees.html?deviceType=desktop. Authors digested Tipping et al., (2021) "Negative post-fire recruitment trends for Melaleuca quinquenervia: the repercussions of biological control on the long-term management of an invasive tree." Role: Co-author

IX. Contribution Papers Presented at Scientific Meetings:

Posters

Foley, J.R., Heminger, A., Strahm, B., Mayfield, A., & Salom S.M. **(2019)** Is *Laricobius nigrinus* (Coleoptera: Derodontidae) an opportunistic fungal feeder? St. Louis, MO. National ESA

Foley, J.R., Strahm, B., Mayfield, A., & Salom S.M. **(2019)** Is *Laricobius nigrinus* (Coleoptera: Derodontidae) an opportunistic fungal feeder? Blacksburg, VA. ESA-EB

Foley, J.R., Strahm, B., Mayfield, A., & Salom S.M. **(2018)** Assessment of soil site characteristics on success of establishment of the biological control agents *Laricobius* spp. (Coleoptera: Derodontidae) in the eastern. Southern Forest Insect Work Conference, San Antonio, TX.

Foley, J.R., Robin Giblin-Davis, Nan-Yao Su, & Chouvenc, T. **(2016)** South West Florida Research and Education Center. "Nematodes associated with two *Coptotermes* spp. (Isoptera: Rhinotermitidea) in southern Florida" Fifth Annual South Florida Graduate Research Symposium Poster Presentation

Oral Presentations

Foley, J.R., Mayfield, A., & Salom S.M. **(2021)** Subterranean survivorship, timing of emergence, and potential supplementary diet of *Laricobius* spp. (Coleoptera: Derodontidae), biological control agents for the hemlock woolly adelgid. NAFIWC-Virtual Meeting

Foley, J.R., McAvoy. T., Dorman, S., Kring, T., and Salom S.M. **(2019)** Establishment and Distribution of *Laricobius* spp. (Coleoptera: Derodontidae), a Predator of Hemlock Woolly Adelgid, Within the Urban Environment in Two Localities in Southwest Virginia. Southern Forest Insect Work Conference, Savanna, GA.

Foley, J.R., Jubb, C., and Salom, S.M. **(2018)** An historical analysis and assessment of the mass rearing of *Laricobius* spp. (Coleoptera: Derodontidae), biological control agents for hemlock woolly adelgid (Hemiptera: Adelgidae). National ESA, ESC and ESBC Joint Annual Meeting, Vancouver, BC.

Foley, J.R., Strahm, B., Mayfield, A., and Salom S.M**. (2018)** Assessment of soil site characteristics on success of establishment of the biological control agents *Laricobius* spp. (Coleoptera: Derodontidae) in the eastern United States. Southern Forest Insect Work Conference, San Antonio, TX.

Foley, J.R., Giblin-Davis, R.M., Su, N., and Chouvenc, T. **(2018)** Phoresy and within-colony transmission of nematodes associated with alates of subterranean termites (Isoptera: Rhinotermitidae). National ESA, Denver, CO.

Foley, J.R., Giblin-Davis, R.M., Su, N., and Chouvenc, T. **(2016)** Vertical transfer of nematodes associated with alates of *Coptotermes formosanus* and *Coptotermes gestroi* (Isoptera: Rhinotermitidae). ICE, ESA Joint Meeting. Orlando, FL.

X. Invited Presentations:

Foley, J. R. **(2020)** Research is to see what everybody else has seen and to think what nobody else has thought: A graduate student's look at the *Laricobius* spp. system. Orlando, FL. National ESA

Foley, J. R., Salom, S.M. **(2020)** Hemlock Woolly Adelgid Biological Working Group. *Laricobius osakensis* update: Past, Present, and Future. HWA Biological Control Working Group. Annapolis, MD

Foley, J.R., & Chouvenc, T. **(2019)** Flying with Kings and Queens: A Termite Story. St. Louis, MO. National ESA.

XI. Grants:

Competitive

2020-2022 Title: Field and biological studies of *Laricobius* species with emphasis on the subterranean portion of their life cycle. Sponsor: USDA Forest Service. Responsibilities: Conceptualization, investigation, methodology, and writing – original draft and review and editing. **Funded, $70,000. Role = co-PI**

2018-2020 Title: Release and establishment of *Laricobius osakensis*, a new predator of hemlock woolly adelgid from Japan – Phase 2. Sponsor: USDA Forest Service. Responsibilities: Investigation, methodology, and writing – original draft and review and editing. **Funded, $70,000 Role = co-PI**

Non-competitive

2019 Title: Survey for natural enemies of *Robinia pseudoacacia* and *Gleditsia* spp. in southwest Virginia. Sponsor: Centre for Biological Control, Rhodes University. S. Africa. Responsibilities: Conceptualization, investigation, methodology, and writing – original draft and review and editing. **Funded, $1,900. Role = co-PI**

XII. Other Professional Service (e.g. Student resource committee for ESA).

Foley, J.R., & Jess Hartshorn **(2020).** Southern Forest Insect Work Conference (SIFWC). Lexington, KY. Graduate student poster competition co-organizer ****Canceled due to Covid-19**