ANNE L. AVERILL

Professor of Entomology

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Education and employment

1976	B.A., Smith College, Northampton, Massachusetts, Biological Science
1985	Ph.D., University of Massachusetts/Amherst, Entomology
1984-88	Postdoctoral Research Associate, Cornell University, Entomology
1989-present	Faculty appointment, University of Massachusetts/Amherst

Research Description

Entomology--insects/plants and insect management

My research addresses fundamental and applied aspects of insect/plant interactions, resource partitioning in ephemeral host plant resources, insect mating and chemical ecology.

Pollinators and pollination

A major set of projects involves bee health and native bee diversity in cranberry and in southeastern Massachusetts, looking at the role of pathogens, landuse, and pesticides. We have a long-term survey of native pollinators ongoing and have been documenting decline of bumble bee species diversity

Extension and Outreach – *Cranberry, Pollinators in agricultural systems*

I provide information and training on the biology and management of cranberry pest insects and pollinator ecology and conservation. My long-term career goal has been to lead the transition of the MA cranberry industry to biointensive, reduced-risk management of key insect pests while protecting honey bees and native pollinator communities in farm systems.

Courses taught

NRC 573—Behavioral Ecology and Conservation (3 credits)
NRC 490R—Research Concepts (3 credits)
NRC 252—Fundamentals of Applied Ecology (3 credits)
EnvirSci214—Ecosystems, Biodiversity and Global Change (3 credits)
Biology 257—Ecology (3 credits)

Graduate training

I have been major faculty advisor or a member of 45 graduate student committees

Selected service

2024-	Chair, Search Committee for Cranberry Station Director
2018-	Honors program director, Natural Resources Conservation undergrad degree program
2014-	Honors program director, Environmental Science undergrad degree program
2011-2018	co-director, Environmental Science undergrad degree program (254 majors)

Selected publications

A.L. Averill, B.D. Eitzer and F.A. Drummond. Development of a baseline and comparison of honey bee exposure to pesticides in two native North American crops: lowbush blueberry and cranberry. *Submitted to*: *Ecotoxicology and Environmental Safety*

F.A. Drummond, A. L. Averill, and B.D. Eitzer. Comparison of flower, honey bee worker, and native bee contamination by pesticides detected in a native North American crop: lowbush blueberry. *Submitted to: Ecotoxicology and Environmental Safety*

Averill, A.L., Couto, A.V., Andersen, J.C., and Elkinton, J.S., 2021. Parasite prevalence may drive the biotic impoverishment of New England (USA) bumble bee communities. *Insects*, *12*(10): 941-951.

Rodriguez-Saona, C., H.T. Alborn, C. Ochlschlager, V. Kyryczenko, S. Tewari, M.M. Sylvia and A.L. Averill. 2020. Fine-tuning the composition of the cranberry weevil (Coleoptera: Curculionidae) aggregation pheromone. *J. Applied Entomology* 00:1-5.https://doi.org/10.111/jen.12752

Dibble, A.C. F.A. Drummond, A.L. Averill *et al*. 2018. Bees and their habitats in four New England states. Maine Agricultural and Forest Experiment Station. Misc. Report 448. 50pp.

Hoshide, A.K., F.A. Drummond, T.H. Stevens, E.M. Venturini, S.P. Hanes, M.M. Sylvia, C.S. Loftin, D.E. Yarborough and A.L. Averill. 2018. What is the value of wild bee pollination for wild blueberries and cranberries, and who values it? *Environments* 5, 98 doi:10:3390/environments5090098.

Averill, A.L., M.M. Sylvia, N. Hahn, and A.V. Couto. 2018. Bees (Hymenoptera: Apoidea) foraging on American Cranberry in Massachusetts. *Northeastern Natu*ralist 25: 502-512.

Xu, G., E. Palmer-Young, K. Skrym, M.M. Sylvia, A.L. Averill and S.M Rich. 2017. Triplex real-time PCR for detection of *Crithidia mellificae* and *Lotmaria passim* in honey bees. *Parasitiology Research* doi.org/10.1007/s00436-017-5733-2

Suni, S., Z. Scott, A.L. Averill, and A. Whiteley. 2017. Population genetics of wild and domesticated pollinators: implications for crop pollination and the genetic integrity of wild bees. *Conservation Genetics* 18:667-677

Sandler, H.A., C.J. DeMoranville, F.L. Caruso, M.M. Sylvia, A.L.Averill, and J.Vanden Heuvel. 2014. Increasing sustainability of Massachusetts cranberry production through cultural management of the vine canopy. *Acta Horticulturae* 1017: 479-485.

Tewari, S., J.P. Buonaccorsi, and A.L. Averill. 2014. Developing fruit inhibit the regrowth of cranberry shoots after apical meristem injury by larvae of *Dasineura oxycoccana* (Diptera: Cecidomyiidae). *Canadian Entomologist*: 154: 1-9.

Medina, R.F., Z. Szendrei, K. Harrison, R. Isaacs, A. Averill, E.A. Malo, and C. Rodriguez-Saona. 2014. Exploring host-associated differentiation in the North American native cranberry fruitworm, *Acrobasis vaccinii* (Lepidoptera: Pyralidae), from blueberries and cranberries. *Entomologia Experimentalis et Applicata* 150: 136-148.

Tewari, S., J.P. Buonaccorsi, and A.L. Averill. 2014. Physiological integration plays key role in cranberry (Ericale: Ericaceae) for tolerance of damage by *Dasineura oxycoccana* (Diptera: Cecidomyiidae). *Environmental Entomology* 43*: 75-82.*

Tewari, S. J.P. Buonaccorsi, and A. L. Averill. 2013. Impact of early-season apical meristem injury by gall-inducing tipworm (Diptera: Cecidomyiidae) on reproductive and vegetative growth of cranberry. *J. Econ. Entomologist:* 106: 1339-1348.

Tewari, S. and A. L. Averill. 2012. Injury to apical meristem of cranberry by *Dasineura oxycoccana* (Diptera: Cecidomyiidae) reduces floral-units in the next growing season. *Economic Entomology* 105: 1366-1378.

Averill, A.L. 2011. Nest location in bumble bees: effect of landscape and insecticides. *American Bee Journal* 151 (12): 1187-1190

Morkeski, A. and A.L. Averill. 2010. Wild bee status and evidence for pathogen spillover with honey bees. *American Bee Journal* 150 (11): 1049-1052.

Szendrei, S., A.L. Averill, H. Alborn, C. Rodriguez-Saona. 2011. Identification and field evaluation of semiochemically-based attractants for the cranberry weevil, *Anthonomus musculus* Say (Coleoptera: Curculionidae). *J. Chemical Ecology* 37: 387-397.

Welch, A., F. Drummond, S. Tewari, A.L. Averill, J.P. Burand. 2009. Presence and prevalence of viruses in local and migratory honey bees (*Apis mellifera*) in Massachusetts. *Applied and Environmental Microbiology* 75(24): 7862-7865.

Wenninger, E.J. and A.L. Averill. 2006. Effects of delayed mating on reproductive output of female oriental beetle *Anomala orientalis* (Coleoptera: Scarabaeidae). *Agricultural and Forest Entomology*. 8: 221-231.

Wenninger, E.J. and A.L. Averill. 2006. Influence of body and genital morphology on relative male fertilization success in oriental beetle. *Behavioral Ecology* 17: 656-663.

Sisterson, M.S., and A.L. Averill. 2004. Coevolution across landscapes: a spatially explicit model of parasitoid-host coevolution. *Evolutionary Ecology.* 18: 29-49.

Sisterson, M.S., and A.L. Averill. 2003. Interactions between parasitized and unparasitized conspecifics: parasitoids modulate competitive dynamics. *Oecologia* 135: 362-371.