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 : agroecosystems My research addresses fundamental and applied aspects of insect/plant interactions, resource partitioning in ephemeral host plant resources, insect mating, chemical ecology, biology and management of cranberry pest insects.

Pollination—native bee health and diversity in cranberry I focus on the health and role of native bees, examining pathogens, land use, pesticide impacts, and competition; we have a nearly 30-year, long-term survey of native pollinators of the Northeast, with emphasis on the predominant wild pollinator on cranberry, bumble bees

Extension and outreach

My applied long-term career goals have been to lead the transition of the MA cranberry industry to biointensive, economically sound, and reduced-risk management of key insect pests and to understand and protect native pollinator communities in cranberry farm systems.

Recent teaching

NRC 597CB—Conservation and Animal Behavior (3 credits)
NRC 490R—Research Concepts (3 credits)
NRC252—Fundamentals of Applied Ecology (3 credits)
ENVIRSCI214—Ecosystems, Biodiversity and Global Change (3 credits)

Graduate Training

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

Recent service

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)

Recent funding

2012-2016 Pollination security for Northeast fruit and vegetable crops. USDA-NIFA-Specialty Crop Research Initiative, PI: Averill with 13 co-investigators across 5 institutions **$3,318,651**

Recent articles

Brown, E.R. and A.L. Averill. Long-term monitoring of native bees: bumble bees show drastic shift in diversity but not in abundance. *In prep*

Angelini, D.R., J.A. Moore, W.R. Simmons, and A.L. Averill. Neonicotinoid exposure reduces immune gene expression in bumblebees and alters interactions with gut commensal Alphaproteobacteria. *In prep*

Averill, A.L. and A.V. Couto. Biotic impoverishment of New England (USA) bumble bee communities: sweeping shifts in species composition and the prevalence of parasites. *Ecol Lett.*: *submitted*.

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. *Parasitology 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

Polashock, J.J., F.L. Caruso, A.L. Averill, and A.C. Schilder (eds). 2017. *Compendium of Blueberry, Cranberry, and Lingonberry Diseases and Pests*, 2nd edition. APS Press, St. Paul, MN. 231 pp

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.*