

BIOGRAPHICAL SKETCH: MARYANN T. FRAZIER

Expertise

Frazier's work for the past 25 years has focused on applied research and honey bee extension/education throughout Pennsylvania and cooperatively across the Mid-Atlantic region. Areas of expertise include honey bee management and IPM approaches to parasite and disease and more recently, the impacts of pesticides on honey bees and other pollinators. Additional areas of expertise include international research and development on honey bees and beekeeping in Central America and Africa.

Professional preparation

<i>Institution</i>	<i>Department</i>	<i>Degree</i>	<i>Inclusive dates</i>
Penn State Univ.	Agriculture and Extension Education	B.Sc. Agriculture Education	1976-1980
Penn State Univ.	Entomology	M.Ag. Entomology	1981-1983

Appointments

1989-present	Senior Extension Associate Department of Entomology Pennsylvania State University
1985-1988	Beekeeping Development Specialist Khartoum, Sudan Near East Foundation New York, NY
1983-1985	Assistant State Apiary Inspector Maryland Department of Agriculture Annapolis, MD

Honors and Awards (last 5 years):

Eastern Apiculture Society, Roger Morse/Anita Weiss Award for Outstanding Teaching and Service 2010

Five products most closely related to the proposed research

- Muli E, Patch H, Frazier M, Frazier J, Torto B, et al. (2014) Evaluation of the Distribution and Impacts of Parasites, Pathogens, and Pesticides on Honey Bee (*Apis mellifera*) Populations in East Africa. PLoS ONE 9(4): e94459. doi:10.1371/journal.pone.0094459
- Frazier, J., C. Mullin, M. Frazier, and S. Ashcraft. 2011. Managed Pollinator CAP Coordinated Agricultural Project: Pesticides and their involvement in Colony Collapse Disorder. Amer. Bee J. 151(8): 779-784.
- Mullin, Christopher A., Maryann Frazier, James L. Frazier, Sara Ashcraft, Roger Simonds, Dennis vanEngelsdorp, Jeffery S. Pettis: 2010. High Levels of Miticides and Agrochemicals in North American Apiaries: Implications for Honey Bee Health" . PLoS ONE 5: 1-19 e9754.
- Frazier, M., Muli, E., Conklin T., Schmehl, D. Torto, B. Frazier, J., Tumlinson, J, Evans, J. and Raina. S. 2010. A scientific note on *Varroa destructor* found in East Africa; threat or opportunity? Apidologie 41: 453- 465
- vanEngelsdorp, D. , Evans, J., Donovall, R., Mullin, C., Frazier, M., Frazier, J., Hayes, J., Pettis, J., 2009 "Entombed Pollen": a new condition in honey bee colonies associated with increased risk of colony mortality. J. Inv. Path 101:147-149.
- Samali, L., Montecinos, V., Marezki, A., Kalavar, J., Jaksch, M., Frazier, M., Chinoy, M., Buzine, C., Bradley, G., Ackerman, R. 2007. "Teaming up in Tanzania." Mosaic International 11:1.

Five other significant products

- Beekeeping 101*. 2013. Interactive on-line beekeeping course. Content specialist and presenter.
<http://beekeeping101.psu.edu/>
- Frazier, M. T., D. Caron and D. vanEngelsdorp. 2011. *A Field Guide to Honey Bees and Their Maladies*. Penn State Univ., Univ. Park, PA
- Johnson, R. M., M.D. Ellis, C.A. Mullin, M. Frazier. 2010. Pesticides and Bee Toxicity - U.S.A., *Apidologie* Special Issue Review Article, *Apidologie* 41: 312-331
- vanEngelsdorp, D. Speybroeck, Evans, J., Nguyen, K., Mullin, C., Frazier, M. Frazier, J., Cox-foster, D., Chen, Y., Tarpy, D., Haubruge, E. Pettis, J., and Saegerman, C. 2010. Weighing Risk Factors Associated With Bee Colony Collapse Disorder by Classification and Regression Tree Analysis. *J. Econ. Entomol.* 103(5)
- Co-Author of Production Guides: *Tree Fruit Production Guide*. 2004-'05 2006-'07, 2008-'09, 2010-11, 2012-13 and *The Mid-Atlantic Berry Guide*. 2008.

Synergistic Activities

1. Numerous presentations to local, state, national and international beekeeping organizations (such as Apiary Inspectors of America, American Honey Producers and the Beekeeping Federation) on various topics related to honey bee biology and management, CCD and decline and the role of pesticides. For example: *Update on Pollinator Health and CCD*, British Beekeepers Associations, March 2013.
2. Numerous presentations to the public and special interest groups (such as EPA, Master Gardeners, green industry representative, pesticide applicators, etc.) on honey bees, native pollinators, pollinator decline and CCD. For example: *Pesticide Conundrum; Pesticides, Neonicotinoids and Pollinators*. Maryann Frazier, Jim Frazier, Chris Mullin, Wanyi Zhu, Tim Ciarlo and Sara Ashcraft. Green Industry, July 2013
3. Numerous presentations to grower groups on the importance of bee pollination, CCD, pollinator decline and protecting bees from pesticides, for example; *Honey Bees Running the Risk; Pesticide Exposure During Pollination*; Maryann Frazier, Jim Frazier, Chris Mullin, Dave Biddinger. Great Lakes Expo; Apple Session, Dec. 2013.
4. Have co-designed and taught various undergraduate courses on honey bees and beekeeping from 1990-2011, most recently, *Honey Bees and Humans* 2013 (co-designed and taught with C. Grozinger, H. Patch and E. Lastro)
5. Co-designed and teach (with C. Zembal-Saul) the course *The Insect Connection for Educators* a biology course designed specifically for educators. The primary goal of the course is to teach educators how to use insects to teach life and environmental science concepts to children.
6. Guest lecture in various entomology and education courses such as "Beneficial Insects and Their Protection" for the course, *Turfgrass and Insect Pest Management*
7. Thesis advisor for various undergraduate honors students, for example Greta Righter 2012, *An Exploratory Case Study Of Beekeeping Development In Kenya; The Role Of Indigenous Knowledge In Achieving Sustainability*
8. Coordinate Pesticide Analysis Cost-Sharing Program For Beekeepers (funded by Project *Apis m.*)
9. Co-Presented (C. Mullin, J. Frazier and D. Cox-Foster; PSU), two seminars on CCD and the role of pesticides and co-presented (Jeff Pettis; USDA) one day workshop on honey bee biology to the EPA
10. Provide technical assistance to graduate students and technicians engaged in honey bee research
11. International Conference on Pollinator Health: Symposium Co-organizer; Environmental Toxins
12. Congressional Hearing Witness on CCD to the Subcommittee on Horticulture and Organic Standards; House Committee on Agriculture, Wash D.C. March 2008
13. Member of the CCD (Colony Collapse Disorder) Working Team
14. Participated in NRDC strategic planning for the protection of pollinators from pesticides
15. ICIK Indigenous Knowledge and Development Workshop; Creating Indigenous Knowledge and Development Partnerships for Addressing Millennium Development Goals in Two Rural Tanzanian Villages, Moshi Tanzania, 3/2007 (Penn State)
16. Beekeeping Specialist, Uganda, Volunteer, African Rural Outreach 7/1990
Conducted a 9-day course on improved beekeeping techniques. The course covered honey bee biology and behavior, management of the African bee, honey and wax production, processing and marketing
17. Beekeeping Specialist, Panama, Partners of the Americas (USAID)
Visiting Scientist, Costa Rica, Penn State 1990 (USAID)