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Management implications for invertebrate assemblages in the Midwest American agricultural landscape

Evans, T.R.

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Author: Evans, Tracy

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Curriculum vitae

Tracy Rene' Evans (nee Van Kampen) was born in Aurora, Illinois USA on the 21st of October in the year 1950. She attended High School in West Chicago, Illinois and received her diploma in 1968. She completed her Bachelor of Science Degree in 1972 at Blackburn College in Carlinville, Illinois with a major in Biology. She completed a Master of Science degree at Southern Illinois University in Edwardsville, Illinois (SIU-E) in 1975 with a major in Audiology. Her project was the design of a course to teach para-professionals aural rehabilitation skills. She obtained her Certificate of Clinical Competence - Audiology in 1976. She had a 20 year career as a clinical Audiologist in a medical setting. In 1993 she completed a Master of Science degree at Southern Illinois University in Carbondale, Illinois (SIU-C) with a major in Zoology. Her Master's thesis was measuring flight speeds of birds using Doppler radar under the supervision of Prof. L.C. Drickamer. She began working as a researcher at the Cooperative Wildlife Research Laboratory, SIU, Carbondale, IL. She then worked as a biologist for the Illinois Department of Natural Resources for 18 years. She occasionally taught general biology at several community colleges evenings throughout her 40-year career.

While on a sabbatical leave in Leiden, she worked on a project at the Institute of Environmental Sciences Leiden (CML) studying short-term exposure to electromagnetic fields on reproductive capacity of invertebrates in the field situation under the supervision of M.G. Vijver. A short time after returning to the US, Tracy started her PhD on Management Implications for Invertebrate Assemblages in the Midwest American Agricultural Landscape as part of the Sandwich Programme at CML, resulting in this thesis. She retired from her government position in 2013 and was appointed as Research Associate at the Illinois State Museum Research and Collections Center. Her research at the museum was supervised by Dr. E.D. Cashatt. During her PhD, she gave a number of scientific lectures and attended several symposia. Prof. Dr. de Snoo and Dr. Musters were her supervisors during this time.

Acknowledgements

There are a great many people to thank. These people have either made my research possible or eased my path through the process. To go back to the beginning, I have to thank Rudi Westendorp, who at that time was at the Leyden Academy of Aging. Rudi invited my husband, to do a teaching sabbatical in Leiden and I was able to accompany him. While we were living in Leiden, I participated in a research project supervised by Martina Vijver at the Environmental Institute. By the end of our stay, we had made many friends and I was invited to participate in the “Sandwich” PhD program. I am so grateful to my promotor, Geert de Snoo for his gentle guidance into a more focused research project and to Kees Musters for his statistical expertise. Kees, you have become my friend and I hope that our Skype sessions don’t end with the promotjie. I also wish to thank the members of my committee. Their expectations made me work harder and learn more, and contributed in a very important way to the improvements of my thesis. I truly am grateful.

My thanks to Jory Sjardijn and Jose’ Brittijn who made an effort to keep the conversation in English when I joined the group for lunch. Esther Phillips always provided conversation about things other than research and was there to prop me up during various administrative issues. I worked on a project with Wil Tamis that introduced me to feral parrots around the world. Thank you, Wil. Maarten van ‘t Zelfde provided technical GIS support. And Martina, you are my Dutch soul sister. I value our friendship and professional relationship. You provided support and conversation and are a role model. Few women are successful at being role models and providing support to other women. You have a skill that will take you far. Thank you for sharing with me.

Back in the US with the idea for a project, I began planning. During the time I was writing proposals, I had lots of help with GIS from Will Hinsman and Lisa Beja, for which I am grateful. I worked evenings and weekends on my research studies for more than two years while being employed full-time. Before the first field season, my husband kept urging me to do a pilot study to see what problems that might crop up. He was right. The first problem was that the anti-freeze which was used in the pitfall traps drew various “critters”. None of the pitfall traps in the pilot study made it through the night. There were possums, raccoons, mink, and coyotes.

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This was not an issue in comparable Dutch studies and I had to find researchers closer to home to find a solution. And I had some difficulty obtaining permissions to access various properties. I discovered that the landowner and land managers were often different people and I had to obtain permissions from both. Thank you to the many land owners and managers who gave permission and the tolerant understanding I got when I was on property where I did not have permission because I had incorrectly read the map.

My next problem was to learn to identify invertebrates. The nearest University with an entomology department was at the University of Illinois, 90 minutes away by car. My dear friend, Kent Smith, suggested I talk to Tim Cashett at the Research and Collections Center (RCC) at the Illinois State Museum. Kent retired within a couple of months and moved out of the area, it came so close to not having the expert tutelage of Tim Cashett. Thank you, Kent, you are greatly missed. Which leads me to Tim, a.k.a. E.D. Cashett. I had four years of access to a renowned invertebrate taxonomist. I was provided an office and lab and definitive identification whenever it was needed. I cannot thank you enough. Support from Becky Dyer included typical office support and then this wonder woman would identify the invertebrates I was having difficulty with when Tim was unavailable. To these folks and all my museum colleagues, I am very grateful.

Midway through the second field season, a wildfire ripped through one of my study sites. My initial devastation was complete. My husband was out of the country and I was at a loss. I didn't have the "oomph" to start my study over. I bounced back with the idea of doing a new study about invertebrate recovery after a mid-summer wildfire. The fire study was limited due to the small area that remained unburned after the fire, but I had data (pitfalls with several Lepidoptera larva) in October, and was able to publish results of what I came to call my "lemonade" study (making something good from something sour). Folks at the Sangamon County Soil and Water District were very supportive and I would like to thank Terry Nichols (now deceased), Barb Mendenhall, and Ray Geroff.

I received specialized identification assistance from George Godfrey, Jim Wiker and Jim Steffen. The identification of noctuid larva required looking at the cusp of a molar on each of the larval specimens to determine species. George, Jim and Tim spent hours to ascertain the correct identity. Thank you, George and Jim. One

Friday evening while Tim was on annual leave, I was having difficulty identifying a spider. It was adorable but I could not find it in any of the books I had available. It should have been extremely easy to identify because it had a bright red chin. So I sent an e-mail to a colleague at the Morton Arboretum who was good with spiders. He responded “spiders don’t have chins, red or otherwise”! A few days later he sent me a photo of *Habronatus coecatus* and video of the mating dance. What a joy, thank you Jim for that and your power point presentation on spider identification. My red-chin spider was only the second documented in the museum collections and has “joined” the state collections.

At the start of my second field season, I had to have two emergency abdominal surgeries, which effectively put a halt on completing my research. The flowers sent by CML touched me to the soul. Thank you. They came when needed. Museum colleague, Meredith Mahoney, volunteered to do all the manual work in each of the three ongoing studies. This was above and beyond the call of collegiality. She was wielding a pickaxe in record heat and drought conditions to dig pitfall traps. I am so grateful, again I could not have done this PhD without you. This graduate study was like all others and had its share of problems. Fire, emergency surgery, retirement of Tim Cashatt, and closure of the Illinois State Museum system due to state budget issues. When I complained about the fire to Geert, he said that as awful as it was, it was not the worst graduate student story he heard that year. One student had her study site trampled by a herd of elephants. It helped to put things in perspective. With that being said, I am extremely grateful to Leiden University for having a “sandwich” program and accepting me into it. My age was never an issue nor did anyone ask “what are you going to do with the degree once you have it”? I am also grateful to CML who sent Kees to Illinois to see my research sites which helped when we were comparing agricultural practices in Europe and the USA. Jinze Noordijk has been helpful with his research advice and for providing an additional sounding board when I needed to feel a bit less isolated across the water. And here in Illinois I received research advice from Brian Anderson and TJ Benson. Thank you both. Bonnie Styles, director emeritus of the Illinois State Museum system provided an appointment, office, laboratory, and support that was totally amazing. I am very grateful to have been part of the museum community for the past five years.

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Last, but not least, I want to say thanks to my husband Andrzej. Andrzej, you have been at my back from the beginning, pushing, prodding, and propping me up. You edited, encouraged, and assisted in so many ways. You knew that this degree was something I needed to do for myself and made space for me to get it done. You never wavered in your belief that I was mentally up to the challenge of completing this PhD. Thank you so very much!

I am certain to have missed a number of people, and to all of you, please know how grateful I am for your support and encouragement. I would like to say thank you very much!

