120 Years of Innovative Entomology

A Celebration of Achievements at the University of Kentucky

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The Department of Entomology at the University of Kentucky (UK) is one of the oldest and most productive units of its kind in the nation. Established in 1894, the UK Department of Entomology has celebrated over 120 years of education, research, and regulation. We’re designated a Top 10 Entomology Program (Chronicle of Higher Education Faculty Scholar Activity Index), and our department boasts four members elected as ESA presidents (1997, 1993, 1997, 2012) (see Box 1). This level of recognition and productivity stems from a rich legacy of vibrant scholarship and innovative education and outreach, coupled with strong and steady leadership.

The Early Years

As with many entomology departments, UK’s began as an offshoot of the Agricultural Experiment Station, which was established through the Hatch Act of 1887. Harrison Garman (Fig. 1) arrived in Lexington in 1888 from Illinois, where he was an assistant to the distinguished naturalist Stephen A. Forbes. Garman was hired as the entomologist and botanist for the Kentucky Agricultural Experiment Station, replacing A.E. Crandall, who had served as a botanist, zoologist, and entomologist from the inception of the Experiment Station in 1885 until Garman’s arrival.

The second Morrill Act of 1890 allowed the establishment of a Chair of Zoology and Entomology, to which Garman was appointed in 1891. Thus he held a combined appointment as a professor at UK and as an entomologist and botanist for the Agricultural Experiment Station. Professor Garman taught zoology, and immediately embarked on an extensive campaign to build a credible reference library, insect collection, and herbarium. The University of Kentucky’s first entomology course, which Garman taught, was listed in the course catalog for the 1890–91 academic year.

Garman wrote “Observations on Injurious Insects and Fungi” for the Second Annual Experiment Station Report in 1890, and published prolifically thereafter (169 contributions in total). Among the early pest concerns mentioned in Experiment Station Reports (see “A Look Back”) were the Hessian fly (Mayetiola destructor), tobacco worms (Manduca sexta), the chinch bug (Blissus leucopterus), San Jose scale (Quadraspidiotus perniciosus), eastern tent caterpillar (Malacosoma americanum), brown-tailed moth (Euproctis chrysorrhoea), locust borer

Fig. 1. Harrison Garman (circa 1867) was Kentucky’s first State Entomologist and first Chair of the UK Department of Entomology. He served 29 years (1900–1929). Portrait compliments of Portrait Print Collection, circa 1867–2001UA028, University of Kentucky Libraries, Special Collections, University Archives and Records Programs.
(Megacyllene robiniae), greenhouse whitefly (Trialeurodes vaporariorum), corn earworm (Helicoverpa zea), phony peach disease (Xylella fastidiosa), and white pine blister rust (Cronartium ribicola).

As with many of his contemporaries, Garman was an advocate of biological control and enthusiastically developed projects targeting current crop pests of concern. He recognized that the lethal Sporotrichium fungus of chinch bugs could be redistributed to infest healthy chinch bug populations for regulation, and he developed an innovative and extensive program to redistribute Sporotrichium infected insects to farmers for release in their fields.

When the Kentucky legislature established the position of State Entomologist in 1897, Garman was appointed, and he was the logical choice for Chair when the Division of Entomology and Botany was established in the Experiment Station in 1900. His more significant accomplishments included enactments of the State Nursery Inspection Law (1897) and the Kentucky Pure Seed Law (1904), two much-needed legislative actions that dictated many of the department's activities over subsequent decades. Departmental activities were further supported by establishment of the Cooperative Extension Service following passage of the Smith-Lever Act in 1914.

Harrison Garman was UK's Department of Entomology. He was an old-fashioned naturalist, confident in his ability to identify most organisms and to assess their ecological and economic impacts. His early writings reflect the breadth and depth of his knowledge, including an understanding of how abiotic factors influence insect populations, and of the use of prescription burning, barri- ers, trap crops, and other cultural approaches to insect pest management. His expertise went well beyond entomology, extending to agronomy, bacteriology, botany, food and feed, horticulture, plant pathology, public health, ornithology, taxidermy, and veterinary science. His work included everything from introducing bacteria into cream to improve the aroma and flavor of butter to testing drinking water for bacterial contaminants for the county and state boards of health. Garman's accomplishments led to an honorary doctorate from the University of Kentucky in 1912.

Garman had numerous long-term assistants over the years. Howard H. Jewett (1911-1954) worked primarily in economic entomology but specialized in the Elateridae, and Paul O. Ritcher (1936-1949) worked extensively with the Scarabaeidae, but Garman authored the majority of publications generated. Garman served as Entomology Department Chair for 29 years, and State Entomologist of Kentucky for 33 years, until his retirement in 1929, after which he remained as an emeritus professor until his death in 1944.

When Garman stepped down in 1929, Mary LeGrand Diddle, another of his long-time assistants, stepped in as interim department chair. Miss Diddle, as she was known, was one of the longest-serving members of the department;

Fig. 2. The graduating class of 1895. Mary L. Didlake (back row, 3rd from right) was UK's first female valedictorian and was associated with the Department of Entomology for 66 years (1891–1957). She served as Interim Chair in 1929. Photograph from the University of Kentucky general photographic prints, 2001UA025, Special Collections & Digital Programs, University of Kentucky.

she began as an undergraduate student assistant in 1891. She was an exemplary student who graduated as the Valedictorian of the Class of 1895 (Fig. 2), making her the first female valedictorian in UK history. One of her early tasks was preparing an exhibit of Kentucky's plants and insects for the 1893 World's Fair in Chicago.

After receiving her master's degree from the University of Chicago in 1910, Diddle returned to UK as an assistant in the Entomology and Botany Department. She was the only woman on staff at the Kentucky Agricultural Experiment Station at that time. Diddle advanced to an associate in the department in 1915 and served in that position until 1944. She maintained the insect collection and reared insects for experimental use, but her contributions went well beyond entomology. After the state's Pure Seed Law was passed, she started a seed collection to help identify weed contaminants in grass and legume samples. She was instrumental in the establishment of the Experiment Station's Herbarium and a campus botanical garden, and was a co-founder of the Audubon Society of Lexington in 1911. Among her research contributions was the discovery of a bacterium that turned bright red when grown on soy agar.

Diddle retired in 1957, ending a 66-year association with the department. She died in 1974 at the age of 96. After Diddle's short stint as interim Chair, Walter Allen Price (Fig. 3) was hired in September 1929. Like Garman, Price was Chair of the Department of Entomology, State Entomologist, and administrator of Kentucky's Nursery Inspection and Pure Seed laws. Price came to UK from Purdue University, and taught all eight courses offered by the Department of

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Entomology. He was keenly interested in honey bees and served as the secretary of the Kentucky Beekeepers Association between 1930 and 1944. He was Chair of the Apiculture Section of the Entomological Society of America in 1951, and Chair of the Agriculture Section in the Association of Economic Entomologists. Price served as acting Dean of the UK College of Agriculture and Director of the Kentucky Agricultural Experiment Station in 1943 and again in 1947. Walter Price retired as department chair in 1956, after 27 years at the helm. The following year, *Progressive Farmer* named him "Man of the Year", crediting him with modernizing Kentucky’s Seed Laboratory. Price died in 1989 at the age of 102.

The Middle Years

Following Price’s retirement, Lee Hill Townsend, Sr. (Fig. 4) stepped up to lead the department. Dr. Townsend arrived from the University of Illinois as a faculty member in 1956. Specializing in the morphology of carpenter ants and Neuroptera, he was an avid collector and made substantial additions to the insect collection. Townsend was Chair of the Department of Entomology and Botany, and State Entomologist for 12 years, from 1956 to 1968, during a time when the department expanded considerably. Townsend was a true educator, and graduate studies became a credible component of the Department’s mission during his tenure. A graduate program for a Master of Science degree with a major in entomology was developed in 1958, and a Ph.D. program was established in 1968. In 1966, the Seed Laboratory was moved from the Department of Entomology and Botany to Regulatory Services, and the UK Department of Entomology became a separate, independent entity.

Also during Townsend’s tenure, commodity-based faculty positions were added, reflecting the importance of livestock, alfalfa, and tobacco to the state’s economy. The first Extension Entomologist joined the Department’s ranks during this time to address producers’ concerns over the alfalfa weevil. Townsend retired as Chair of the Department of Entomology in 1968; he was 77 years old when he died in 1980.

Townsend was followed by Bobby Clifton Pass (Fig. 5), who continued the trend of departmental expansion. Pass joined the department after receiving his Ph.D. from Clemson University in 1962, and in 1968, he assumed the role of Department Chair. Pass received the University of Kentucky Research Foundation’s Outstanding Research Award in recognition of the quality of his work and was recognized throughout the nation for his research and leadership in Integrated Pest Management.

Although Pass formally taught several entomology courses, his influence went well beyond the classroom. He served as the Director of Graduate Studies and sat on all graduate students’ advisory committees during his tenure—a total of 216 graduate students! He worked tirelessly and successfully to increase diversity among the department’s graduate students, actively recruiting underrepresented minorities. His influence on students was immense and far-reaching.

Like his predecessors, Pass served in a regulatory capacity as State Entomologist for Kentucky. Unlike his predecessors, however, he served during a period of economic globalization coupled with startling advances in transportation and mobility. The “Age of Invasions” made the role of chief regulator increasingly complex. Pass forged collaborations and worked closely with numerous organizations and a wide variety of state and federal agencies.

Pass was a leader and a visionary. Under his leadership, the UK Department of Entomology ranked among the top ten on campus in several categories, including the number of scientific publications and presentations by graduate students. The department’s Web site, developed under his direction during the formative years of the Internet, was one of the earliest and today is one of the most frequently visited UK Web sites. This productivity and innovation...
broadened the impact of our entomology program well beyond the borders of Kentucky, and helped ward off the threats of merging and downsizing suffered by many entomology departments of the day. During his tenure as Chair, the department developed some of its signature outreach and student enrichment events, including the annual Night Insect Walk and the Students’ Choice Distinguished Seminar Speaker series.

Pass served the Entomological Society of America in virtually every elected capacity (Box 1), including Governing Board member, President of the North-Central Branch, and President of the Society (1987). He also served as President of major subsidiary components of ESA, including the American Registry of Professional Entomologists and the Entomological Foundation, and received the Entomological Foundation’s Medal of Honor. ESA members recognized his contributions and elected him as an ESA Fellow and an Honorary Member (Box 2).

Like Harrison Garman decades earlier, Bobby Pass defined UK’s Department of Entomology. His colleagues and associates knew him as a gracious gentleman, a strong educator and mentor, and a great ambassador for the profession of entomology. He served in these capacities for 33 years as Chair of the UK Department of Entomology until his death in 2001 at the age of 71.

A New Era

The new millennium brought significant changes to the Department of Entomology. Fredrick W. Knapp (Fig. 6) ably stepped from Assistant Associate Dean of the UK College of Agriculture to interim Chair as the Department sought new leadership for the first time in over three decades. Knapp brought to the table his own impressive set of credentials as a research and extension leader in livestock/veterinary entomology, having served as ESA President (1993), and having received the Entomological Foundation’s Medal of Honor (Box 1 and 2).

Following Pass’ 33-year tenure as Entomology Department Chair and State Entomologist, and Knapp’s stint as interim Chair, John Obrzycki (Fig. 7) joined UK in 2003. Like his predecessors, Obrzycki was hired as Chair of the Depart-
ment of Entomology, State Entomologist, and administrator of Kentucky’s Nursery Inspection Law. Obyrcki brought with him a strong reputation as an innovative researcher in biological control of insect pests and weeds, focusing on arthropod predators. This background serves him well as he faces increasingly complex issues associated with introduced species in his role as State Entomologist.

Obyrcki’s recognition of the dynamics and productivity of the faculty resulted in a nearly seamless transition. Under his guidance, the Department of Entomology is growing. We gained three faculty members in recent years—a remarkable feat in these times of severe budget constraints. Obyrcki continues the tradition of his predecessors, championing our graduate students by recognizing, encouraging, and rewarding productivity.

Today UK’s Entomology Department has 18 full faculty members, two adjunct faculty from Kentucky State University and three emeritus faculty, nine post-doctoral scholars, and 29 staff members. We have dynamic research and extension programs in basic and applied entomology at multiple spatial scales, and address pressing research and extension issues locally, regionally, and globally. Our philosophy has remained true to Harrison Garman’s pragmatic approach. UK Department of Entomology research and extension stepped up in 1999 when the equine industry of central Kentucky was struck by Mare Reproductive Loss Syndrome, which caused early fetal losses and late-term abortions of thoroughbred horses. In a bizarre entomological twist, foal losses were correlated with ingestion of the eastern tent caterpillar (Malacosoma americanum) by pregnant mares during the caterpillars’ wandering stage. Consequently, minimizing pregnant mare contact with caterpillars has become a critical component of management strategies to reduce foal losses, contributing to the stability of the Bluegrass Region’s signature industry. UK Entomology has used a combination of hard work and innovation to mitigate multiple species invasions, and has been on the forefront of the battle against globally resurfacing bedbug populations.

The productivity of our graduate students is demonstrated by the number of award-winning presentations at scientific meetings, and by student-authored, peer-reviewed publications. The professional contributions of the University of Kentucky’s Department of Entomology to ESA are unequaled (Box 1), as is the department’s recognition (Box 2). Department members have served in multiple capacities, contributing four ESA presidents. In addition to contributions in a variety of editorial capacities, UK Departmental members (including many students) have organized three Program symposia, 16 Section symposia, nine member symposia, and at least three informal conferences at ESA National Meetings over the past decade. Outside ESA, UK Entomology’s faculty, staff, and students contribute to countless other professional organizations in a variety of capacities. Our graduate students have generated over 278 theses and dissertations, and the Department’s alumni have made their marks in a variety of entomological sub-disciplines globally.

This year, we celebrate our 22nd year by acknowledging a legacy of outstanding scholarship, education, and outreach founded on faculty and staff excellence and graduate student productivity, coupled with strong and steady leadership.

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