JOHN THOMAS CREIGHTON, A PIONEER IN ENTOMOLOGY EDUCATION AT THE UNIVERSITY OF FLORIDA

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Dr. John T. Creighton is honored for his leadership in entomology education at the University of Florida, Institute of Food and Agricultural Sciences, Entomology and Nematology Department, and as a mentor for a generation of highly successful entomologists (Fig. 1). He had the extraordinary intellect, experience and energy to serve as chairman of the entomology (teaching) department from 1933 until it was merged with the research and extension programs in 1965 (Tissot et al. 1954). He began his entomological career as an undergraduate student at the University of Florida, earned a B.S. degree in 1926 and became a graduate instructor in the department while earning his M.S. degree in 1927. Although he left Florida in 1930 to study briefly at Cornell University and eventually obtain his Ph.D. degree from Ohio State University in 1935, he returned to the University of Florida as an assistant professor in 1936. He chaired 21 M.A, 6 M.S.A., 13 M.S., and 7 Ph.D. advisory committees during his 43-plus years career. I was one of his students, along with R. Earl Dixon, Dempsey R. Sapp, Howard V. Weems, Jr., William G. Genung, Reuben Capelouto, Harold A. Denmark, William M. Neel and many other pioneers in the field.

Fig. 1. Dr. John T. Creighton.

To understand Dr. Creighton's place in history, we must know how the field of entomology developed in Florida (Denmark, 1993). The Florida Agricultural Experiment Station was organized at Lake City in 1888 under the direction of William H. Ashmead, the first state entomologist. He worked on hymenopterous parasites of aphids, the root knot nematode, and the peach tree borer, all still subjects of agricultural research. He was succeeded by Dr. J. C. Neal in 1889, and Professor P. H. Rolfs, who served from 1891 to 1899 and again as Experiment Station Director from 1906 to 1921. Subsequent state entomologists were A. L. Quaintance (1894-1898), H. A. Gossard (1899-1904), E. H. Sellards (1904-1905) and E. W. Berger (1906-1911), with Sellards serving when the Experiment Station moved to Gainesville in 1906. The next state entomologist, Professor J. R. Watson, was appointed in 1911 and served as head of the first entomology department in the Florida Agricultural Experiment Station for 35 years until his death in 1946 (Eden, 1996). Several of the early state entomologists informally taught courses in entomology until a separate Department of Economic Entomology and Plant Pathology was established at the University of Florida, College of Agriculture for that purpose in 1924. In 1939, plant pathology was separated from that unit and, as a result, Dr. Creighton chaired the first university department exclusively for teaching entomology (Table 1).

In 1965, Vice President E. T. York combined the entomologists from the Agricultural Experiment Station, Cooperative Extension Service, and College of Agriculture into one large department under the chairmanship of Dr. W. G. Eden (Weems, 1972). Nematology was merged to make it the Department of Entomology & Nematology. By including 42 entomologists at the 14 branch research units with the 35 on campus, the departmental faculty increased to 77 members. Additionally, many members of the USDA and allied industry staffs joined the adjunct faculty to teach and direct graduate students. Curators of the Florida State Collection of Arthropods and other employees of the Florida Department of Agriculture and Consumer Services, Division of Plant Industry also became adjunct faculty in the IFAS Entomology and Nematology Department. This amalgamation probably comprises the largest concentration of professional entomologists anywhere in the world.

TABLE 1. CHAIRMEN OF THE VARIOUS "ENTOMOLOGY" DEPARTMENTS IN FLORIDA (1911—PRESENT).

Chairman	Date	Contributions
Florida Experiment Station—Department of Entomology		
J. R. Watson	1911-1946	(1st chair of an entomol. dept. in Florida, 1st president FES)
A. N. Tissot	1946-1961	(past president, FES)
L. C. Kuitert	1961-1964	(past president, FES)
College of Agriculture—Department of Economic Entomology and Plant Pathology		
J. Gray	1924-1929	(past president, FES)
R. D. Dickey	1929-1933	(past president, FES)
College of Agriculture—Department of Entomology		
J. T. Creighton	1933-1964	
College of Agriculture—Department of Entomology and Nematology		
W. G. Eden	1965-1975	(1st Pioneer Lecturer)
F. G. Maxwell	1976-1979	
D. L. Shankland	1980-1987	
J. L. Capinera	1987-present	(past president, FES)

Dr. Creighton served as chairman of the UF/IFAS Department of Entomology for 26 years during its formation as a separate institution and expansion into world prominence. During the early days, John Creighton's department was located on the third floor of Floyd Hall (Fig. 2) where it occupied a departmental office, small stock room, lecture room, small laboratory, and research room. Later the department was relocated from these cramped quarters to the third floor of the new Dan McCarty Hall (Fig. 3). Student enrollment grew rapidly until the beginning of World War II, when it suffered a very significant decline. In the post war days, however, the department once again swelled in student numbers. At this time, Dr. Creighton added three new professors to the faculty, Drs. Milledge Murphy, Andrew Rogers, and Lawrence A. Hetrick. They expanded the teaching program and by 1955 there were 23 undergraduate and 11 graduate courses.

Dr. Creighton was an accomplished educator who actively recruited students to the department and provided them many new courses, including taxonomy, forest entomology, apiculture, medical and veterinary entomology, urban entomology, biological control, and horticultural entomology. In the horticulture course, he required me to identify by common and botanical names all the ornamentals landscape plants on the campus. He founded the Newell Entomological Society as the first entomology student organization at the university. He also directed several pesticide research programs conducted by graduate students and supported them with grant funds. One of these, the university campus Pest Control Division, was developed at the end of World War II and provided training for future urban entomologists and financial support to complete their educations. Dr. Creighton was quoted as saying that "it was such a great pleasure to have the opportunity to instruct so many mature-minded World

Fig. 2. Floyd Hall, University of Florida. First home of the Department of Entomology.

Fig. 3. McCarty Hall, University of Florida, Second home of the Department of Entomology.

War II veterans in his classes who showed such determination to make something of themselves and to study so hard in achieving their goals." Many of his graduates pursued very successful careers in their respective areas of entomology, including urban, military and forest entomology; fruit and vegetable insect pest management; mosquito abatement; and biological control. He encouraged his students to participate in annual meetings of the Florida Entomological Society, and several of them served as officers and ultimately became presidents. During my presidency and years as a member of the Executive Committee, a section of the program was established on urban pest management. Some of Dr. Creighton's other entomology graduates and I also became leaders in the Florida Pest Control Association, National Pest Control Association, Pi Chi Omega Urban Professional Entomologists Association, and associated professional organizations.

Dr. Creighton supervised many students who became well-known entomologists, including Earl Dixon who called him a "no-nonsense, hunting and fishing teacher." He organized the first placement service for student employment at the university in 1937, and as a consequence, Earl was employed during the late World War II days as a supervisor of pest control for the military dormitories on the university campus. Boric acid, sodium fluoride and Fuller's earth were applied in cracks and crevices with Getz hand dusters. The sinkholes, Lake Alice and street sewers were treated with Paris green and #2 diesel fuel as larvacides for mosquito control. Malaria was still present in the Gainesville area. Earl's appointment was supported by his neighbor, Dr. Wilmon Newell (Newell Hall), and it was so important to the war effort that a temporary military deferment was requested for him by former University of Florida President Dr. John Tigert (Tigert Hall), Dean Noble, Dr. Creighton, and Dr. H. Harold Hume, for whom Hume Library is named. Incidentally, Dr. Newell was an entomologist and Experiment Station Director from 1921 until 1943. He was also Dean of the College of Agriculture, Director of Extension, and Plant Commissioner for the State Plant Board. Earl Dixon ultimately served in the armed forces but, after receiving his honorable discharge, "reenlisted" with Dr. Creighton to conduct pioneering research on DDT, aldrin, BHC, and toxaphene. They applied DDT to control a very severe housefly outbreak in some campus buildings and observed phenomenal results within 24 hours. They could hardly believe the high level of control and anxiously waited to report the results to the university authorities and manufacturers of DDT. Subsequently, they also achieved high levels of control on bedbugs, cockroaches and body lice. Earl eventually managed all the structural and landscape pest control activities on campus with a spray rig pulled by an old mule named "Emma." Following graduation, he established a very successful pest control business in north Florida and later became president

of the Florida Pest Control Association. Earl recruited Dempsey Sapp into the Department of Entomology from law school. Dempsy was later assigned as supervisor of the campus Pest Control Division. After graduation, he established Florida Pest Control, a very successful business throughout Florida, and became president of the Florida Pest Control Association. He was the first industry leader honored by receiving the Florida Pest Control Association Pioneer Award.

I was a contemporary of Earl and Dempsey, and also worked in the University of Florida Pest Control Division where I gained valuable experience for future use in my pest control business, Wright Pest Control, Inc. in Winter Haven, Florida. As with other students, Dr. Creighton secured grants and other funds from which he supported and directed me and guided my research on methyl bromide and chlordane, known then as 1068. I found Dr. Creighton to be very compassionate, always finding time to listen and guide me in my work. He was a firm leader, believed in his convictions, and proved to be fair to all. He was responsible for assisting many students with completing their educations. One of Dr. Creighton's required activities for preparing students for the future was to conduct regular seminars in which they would be required to present five to ten-minute talks on entomological subjects. We had no idea how much this would help us both in speaking and meeting the public. My training under Dr. Creighton enabled me to be successful as an entomologist for a large Florida chemical firm, legal enforcement official for the pest control industry, and a manager for a large pest control firm in central Florida for 11 years before establishing my own business in 1970. When Dr. Creighton gave me that special assignment to memorize the common and botanical names of every ornamental landscape plant on the campus, I did not realize how much it would contribute to my understanding of horticultural entomology. This background enabled me to produce ten technical manuals for the National Pest Control Association and five annotated bibliographies on five major groups of structural pests for Pi Chi Omega fraternity. Much of my success and that of my fellow students was due to the daily instruction in pest management principles received from our "master teacher, employer and friend," Dr. Creighton. This collegial attitude was shared by most of Dr. Creighton's students during his exceptional career.

In the early 1940s, Dr. Creighton recognized that the fast growing pest control industry in Florida needed a strong professional association and state laws to assure its integrity. He and his colleagues worked on these concerns until 1945 when he was able to assemble all known members of the pest control industry in Florida and lead them in developing and establishing the Florida Pest Control Association. Later, at the request of the Association, he drafted a law to improve the ethics and professional competence within the industry and to protect the citizens of Florida. After considerable time and effort, Dr. Creighton secured approval for the proposed law from the Association and almost single handedly convinced the legislature to pass the "The Structural Pest Control Act of 1947." He established industry performance standards, wrote the first examinations for certified structural pest control operators, and generally helped to assure that pest control operators in Florida are qualified. A total of 144 pest control professionals were "grandfathered in" under the new law.

The law mandated that the Florida State Board of Health promulgate regulations for its enforcement. Dr. John A. Mulrennan, as the first bureau chief, established the Pest Control Enforcement Division. Florida thus became one of the first three states to regulate the industry under the law. One of Dr. Creighton's graduates, Paul J. Hunt, was the first enforcement entomologist to head this division and I was the second. The state pest control industry quickly experienced great improvement in its business image. The law also provided for a Structural Pest Control Board appointed by the Governor with 3-year staggered terms for its members. The purpose of the board was to assist the State Board of Health in enforcing the law by conducting hearings for all reported violations. Also under John Mulrennan's direction, the very active Florida anti-mosquito control districts employed many of Dr. Creighton's former students.

Amazing progress has been made since Dr. Creighton began his teaching and research program. Chemicals used for pest control included arsenicals, aliphatic thiocyanate, pyrethrums, borax compounds, zinc, phosphide, phosphorus paste, and nicotine sulfate. Synthetic compounds, such as the chlorinated hydrocarbons, pyrethroids and organophosphates were added just after World War II, followed by baits and growth regulators. There is a constant need for new materials and methods for urban pest control from our entomological research departments and institutions. The introduction of new pest species, demands from the public for "safer" control practices, and the constant development of "tolerance or resistance" by specific arthropods mandates that the industry seek new methods. Today, urban pest management offers control for rodents and small animals, birds, reptiles and termites as well as many species of unwanted arthropods. The pest control industry continues to grow, now numbering over 3,500 licensed business locations in Florida with over 32,000 identification card holders, and generates annual revenue of over $1.5 billion per year. The pest control profession, now known as the urban pest management business, is in constant need of urban entomologists to help Florida residents and tourists enjoy healthy and comfortable lives.

John Creighton's personal life was not unusual for a university administrator of the period, although he courageously fought failing health during the second half of his career. In 1935, John and Myrtle Beth Cassaway of Augusta, Georgia married and settled in Gainesville. John built a stylish English stone cottage for her out in the boondocks on Millhopper Road just off University Avenue (Fig. 4), now near a busy intersection. When he traveled to conferences, such as the Cotton States Branch and American Association of Economic Entomologists, Earl Dixon was asked to stay with Mrs. Creighton at night because she didn't feel safe so far out of town. Earl also rowed the boat for John to "jigger" fish on Lake Tuscawilla, Orange Lake and the Oklawaha River. While John was fishing or quail hunting, Beth spent time gardening, making clothes, playing bridge, and managing their business property. She was an active member of the Women's Club, University Bridge Club, and the Agricultural Wives Club. Dr. and Mrs. Creighton attended the Methodist Church and enjoyed playing bridge and socializing with their many friends, particularly Howard and Camilla Weems at Florida Gator football games. Their 44-year marriage produced no children and this may have enhanced their roles as "surrogate parents" to the entomology students. For instance, Dr. Creighton was the best man at Earl's wedding in 1948. Dr. Creighton suffered from chronic renal failure due to an infection contracted while working in Bangkok, Thailand in 1952, and after developing disabling symptomatology in 1959, placed himself under the care of physicians at the University of Florida, Shands Teaching Hospital. Dr. David M. Drylie, Professor and Chief, Division of Urology wrote "During these trying years, Dr. Creighton's sense of humor, total interest in and awareness of his surroundings, and kindly concern for others was consistently noted by those who attended him." He fought to remain productive for 20 more years before dying in 1979 (Weems, 1980).

A scholarship honoring Dr. Creighton was established in the Entomology and Nematology Department by Mrs. Creighton and the pest control industry in 1980. William J. Barrs was selected as the first recipient. In appreciation of this event, Mrs. Creighton wrote, "Doctor Creighton impressed on all the young men he taught never to narrow their thoughts and minds to one phase of endeavor. Dan McCarty (McCarty Hall), who fin-

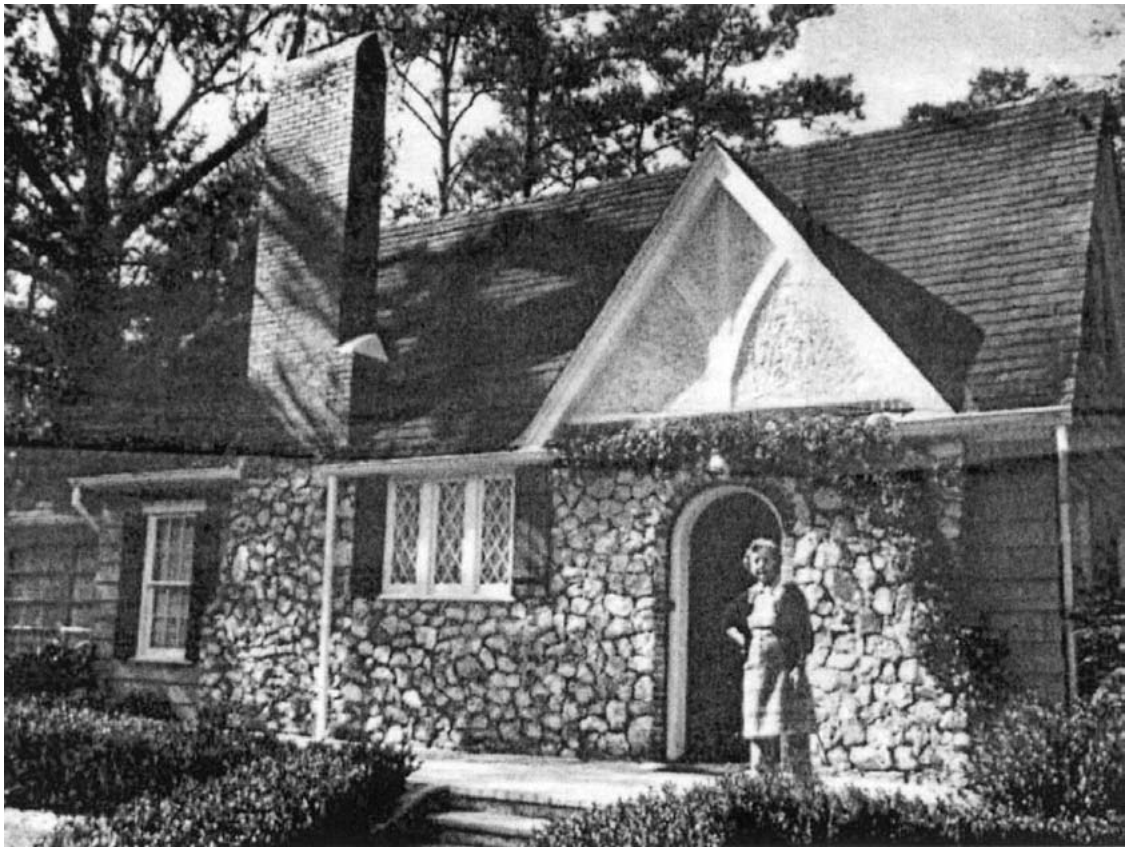

Fig. 4. The Creighton home on Millhopper Road in Gainesville, Florida. (newspaper photograph by Joe Burbank).

ished in Entomology under Doctor Creighton, was elected, overwhelmingly, one of the youngest governors of Florida. Doctor Creighton encouraged Dan the day he graduated to run for governor of Florida. At the present time, there are two of Doctor Creighton's young men who are members of the State Senate." She described the session of the State Legislature in which Dr. Creighton's Florida Pest Control Law was introduced, "The morning we arrived the proposed law was read in the Senate, the roll was called, and there was not a dissenting vote. This was one of the happiest moments of Doctor Creighton's life."

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References Cited

Denmark, H. A. 1993. An overview of the history of the Florida Entomological Society on its diamond or seventy-fifth anniversary [1916-1992]. Florida Entomol. 76: 407-416.

Eden, W. G. 1996. Professor J. R. Watson (first FES Pioneer Lecture). Florida Entomol. 79: 615-620.

Tissot, A. N., M. Murphey, Jr., and R. E. Waites. 1954. A brief history of entomology in Florida. Florida Entomol. 37: 51-71.

Weems, H. V., JR. 1980. Dr. John T. Creighton (1905-1979). Florida Entomol. 63: 196-198.

Weems, H. V., Jr. 1972. Dr. William G. Eden receives award from the Florida Entomological Society. Florida Entomol. 55: 67-68.