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Obituary

Alva Morgan Golden

Alva Morgan Golden, former nematologist with the U.S. Department of Agriculture and longtime leader of the nematode taxonomy and systematics program within USDA, died May 24, 2002. He is survived by his wife (and former longtime Society of Nematologists archivist), Thelma Shafer Golden, and their son, Kenneth, professor of mathematics at the University of Utah.

Morgan was born July 13, 1920, at the Golden family farm near Milledgeville, Georgia. His curiosity and interest about plant diseases were undoubtedly stimulated by growing up on this farm, where he personally witnessed the serious extent of pest damage to various crops. Like many of his generation, he served in the U.S. Army, and his 5-year period of service ended in October 1945. In 1947, he enrolled at the University of Georgia, where he received a B.S. degree in 1950 and an M.S. degree in 1951. The title of his master's thesis was "A Study of Resistance and Susceptibility of Certain Plants to the Root-Knot Nematode *Heterodera marioni* (Cornu) Goodey."

After a 5-month stint as a plant pathologist for the R. T. Vanderbilt Company in New York City, Morgan arrived in 1952 at the USDA Section of Nematology in Beltsville, Maryland, then under the direction of Gotthold Steiner. While employed as an assistant nematologist, Morgan pursued his Ph.D. studies a few miles south at the University of Maryland in College Park. He was awarded the Ph.D. in 1956; his dissertation topic was the taxonomy of *Helicotylenchus* and *Rotylenchus* and the host-parasite relationships of *R. buxophilus* n. sp. on boxwood.

Upon receiving his doctoral degree, Morgan moved to the USDA laboratory at Salinas, California, where he initiated the new USDA research program on sugarbeet cyst nematode research. He performed an extensive evaluation of the ability of California crops and weeds to serve as hosts or stimulate hatching of *Heterodera schachtii,* notably discovering that some crops previously used in rotations were in fact hosts. The impact of this research is still felt in the Western United States today.

While in California, Morgan married Thelma Shafer, whom he had met in Beltsville. Their stay in Salinas was short-lived, however, as they returned in 1959 to the Beltsville Nematology Laboratory, where Morgan was entrusted with the all-important mission of leading the USDA research program in nematode taxonomy and morphology. He remained at Beltsville for the duration of a career that produced 188 scientific publications and abstracts.

During nearly 40 years at Beltsville, Morgan amassed an impressive array of scientific achievements that greatly furthered our knowledge of the taxonomy, systematics, and biology of phytoparasitic nematodes. His contributions to cyst nematode taxonomy include a redescription of *Globodera rostochiensis* that provided detailed morphometric data useful for identification of this extremely important pest, descriptions of several new species with economic or phylogenetic significance, a redescription of the corn cyst nematode *Heterodera zeae,* and a 59-page illustrated key to Western Hemisphere cyst nematodes. This key had the distinction of being the longest paper published in the *Journal of Nematology* in its first 32 years of existence. Morgan was among the first to identify host-specific biotypes of soybean cyst nematodes and was one of the six authors of the 1970 paper that created the beginnings of the race scheme still used by many nematologists and plant breeders.

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The corn cyst nematode redescription was stimulated by the fact that its first North American discovery was in Maryland. Morgan's official report of his trip to India and Pakistan in 1973 contained the following precognitive remarks: "This is a nematode described from India about four years ago and is known to occur only in that country. And I hope it stays there."

Morgan's other "favorite nematodes" were undoubtedly *Meloidogyne* species. In addition to describing the newly discovered *M. graminicola* from rice in Louisiana, a species subsequently discovered in several countries in Asia, Morgan also described new species from oak, camellia, grape, and tobacco. His description of *Meloidogyne chitwoodi* from potatoes in the state of Washington provided the means for distinguishing this important pest of potatoes in the Pacific Northwest from *M. hapla,* thereby improving the accuracy of rotation-based management recommendations.

In addition to cyst and root-knot nematodes, Morgan's publications addressed taxonomic problems associated with more than 30 other genera of nematodes. His long treatise on the systematics of the order Tylenchida remained authoritative for decades. Some of his investigations were on developmentally curious nematode genera such as *Meloidoderita, Nacobbodera,* and *Thecavermiculatus.* He not only described numerous new species in many different genera and published keys of immense practical value for nematode identification but his research also enhanced our ability to manage phytoparasitic nematodes and furthered our understanding of host-parasite relationships. He was a strong advocate of the power of systematics to predict various aspects of pathogenicity.

Personally identifying the nematodes in thousands of slides or samples sent to the Nematology Laboratory from North American and overseas scientists and governmental agencies, Morgan provided tremendous service to colleagues and regulatory personnel. Perhaps the need for reliably identified reference specimens led him to establish the USDA Nematode Collection in 1960. Before this time, the Beltsville Nematology Laboratory housed separate collections personally accumulated by pioneering USDA and other nematologists (for example, Nathan Cobb, Gotthold Steiner, and Gerald Thorne). A routine maintenance program was conspicuously lacking. Morgan began the daunting task of organizing and maintaining these smaller collections. From a humble beginning of only 18 species represented by type specimens, the USDA collection has grown to incorporate 36,000 permanent slides and vials, including designated types for more than 1,500 species. The collection is used as an active, permanent repository and source of reference material for scientists throughout the world.

Although the Beltsville Laboratory is not an academic institution, Morgan's educational efforts within the laboratory were remarkable. Dozens of colleagues or students spent anywhere from a few days to a few years in Morgan's laboratory, where they took full advantage of his expertise and the collection's resources. Although these activities occasionally resulted in coauthorship or acknowledgement in a publication, more often they did not. Morgan's teaching style was not one of telling others they were but rather one of sharing explanations and directions to enable others to see for themselves if they were on the correct course. Morgan also served on the thesis or dissertation committees of four University of Maryland students. He was the principal collaborating nematologist on several USDA-funded joint research projects with scientists in India, Pakistan, Poland, and Yugoslavia.

Morgan retired from federal service in 1989. Nonetheless, he continued to serve the public and the science of nematology by diligently working every day. He authored or coauthored more than 20 scientific papers during his retirement, including descriptions of new species of *Meloidogyne* and *Pratylenchus.*

A charter member of the Society of Nematologists, Morgan served the Society of Nematologists as president (appointing the first *Journal of Nematology* editorial board), treasurer, and member of various committees. He also served the Helminthological Society of Washington as president and recording secretary and was president of the Brayton H. Ransom Memorial Trust Fund. Throughout his career he served on the editorial boards of *Nematologica, Nematologia Mediterranea,* the *Pakistan Journal of Nematology,* and the former *Journal of the Helminthological Society of Washington* (now *Comparative Parasitology*).

Because of his achievements and contributions, Morgan received numerous honors including being awarded the status of fellow three times—in the Society of Nematologists in 1985, in the American Phytopathological Society in 1987, and in the Washington Academy of Sciences in 1988. The Helminthological Society of Washington awarded him its prestigious 75th Anniversary Award in 1985 as well as Life Membership in 1989. In recognition of his contributions to international agriculture, he received the International Honor Award from the USDA Office of International Cooperation and Development in 1982. He also received a Special Award for Significant Contributions in Plant Nematology in Pakistan from the University of Karachi. He was awarded honorary membership in the Florida Nematology Forum in 1981. He was always proud of his 1949 induction into the University of Georgia Agricultural Honor Society (AGHON). A final notable acknowledgement of Morgan's distinguished career is that his colleagues have honored him with at least a dozen patronymic species.

Morgan's legacy to the Beltsville Nematology Laboratory included the generous donation of his library—an extensive collection of books and reprints. Those of us fortunate to see him on a daily basis knew Morgan as

someone captivated by the biology of nematodes yet determined to reduce nematode-induced crop losses. A wall-size map of North America behind his desk was splattered with color-coded pushpins reflecting the distribution of various nematode species. He spoke about human consumption of food as something allowed by nematodes only after they had consumed their required quantities. He entertained the younger nematologists in the laboratory with stories about pioneering nematologists such as Cobb, Thorne, and Steiner. The consummate nematologist, Morgan's success was the natural product of synergism between his industrious work habits and his remarkable powers of observation. Possessing the courteous demeanor of a true Southern gentleman when greeting people, Morgan served as wonderfully personable envoy for the USDA. We and our science miss him and shall forever remain in his debt.

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