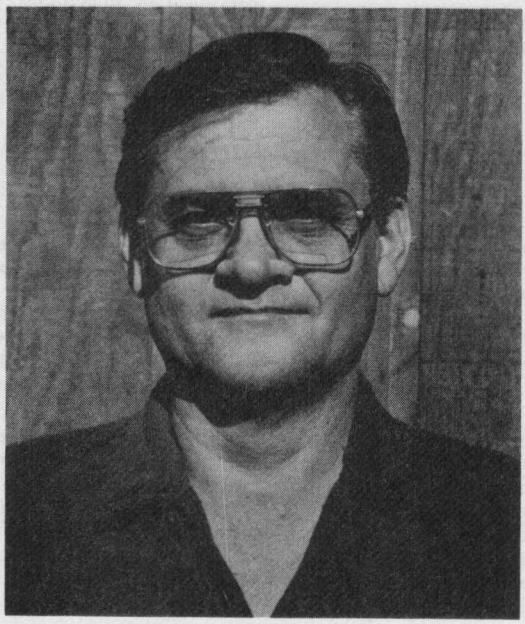
OBITUARY

Edwin I. Hazard
1935–1985



Edwin I. Hazard, a member of the American Mosquito Control Association and an outstanding invertebrate pathologist, died April 8, 1985 in Lake Charles, Louisiana, following a heart attack.

Ed was born in Wilmington, Ohio, on March 14, 1935, and grew up in that area during his early years. He obtained a Bachelor of Science degree in Biology from nearby Wilmington College in 1957, a Master of Science degree in Entomology from Ohio State University in 1960, and did additional graduate studies at Ohio State University from 1960–61. He did further graduate studies towards his Ph.D. in 1966 and 1969 at the Czechoslovakia Academy of Science in Prague under Dr. J. Weiser.

Ed began his federal career as a Research Entomologist with the U.S. Forest Service in 1961. His real career in biological control began in 1963 when he joined the staff of the Insects Affecting Man Research Laboratory at Gainesville, Florida. Ed assumed leadership of the Gulf Coast Mosquito Research Laboratory, Lake Charles, Louisiana in 1981, a post he held until his death.

Ed's association with mosquitoes began in those early years at the Insects Affecting Man Research Laboratory and this interest led him to work in the field of biological control. His work with parasites and pathogens introduced him to microsporidian parasites of mosquitoes which became his main scientific interest. The abundance of microsporidia in mosquitoes provided Ed impetus to attempt to resolve microsporidia taxonomy and to determine the efficacy of microsporidia as biological control agents. To this end, Ed traveled to Africa, Asia, Australia, Central America and South America to collect and catalog microsporidia in mosquitoes and blackflies. He traveled to many of these places as a World Health Organization consultant, since he was a member of the WHO/TDR Scientific Work Group on Biological Control of Vectors.

Two of Ed's major works were the redescription of the genus *Parathelohania,* a microsporidian found in anopheline mosquitoes, and the revision of Microsporidia (Protozoa) close to *Thelohania,* which were published as USDA Technical Bulletins. With his intricate knowledge of microsporidia in mosquitoes, he was able to document sexuality and gametogenesis in microsporidia. A milestone was achieved this past year when Ed, working along with Dr. Tony Sweeney of the Australian Army Malaria Research Unit, determined that copepods were required as the alternate hosts of certain microsporidia to infect mosquitoes. *Amblyospora* spores from *Culex* mosquitoes, which never produced infections when fed directly to mosquito larvae, produced infections in copepods when

fed spores. Another morphologically distinct spore then developed in the copepod and this spore produced infections when fed to mosquito larvae.

Ed Hazard was one of the world's leading taxonomists of microspora and all of his accomplishments were leading to his ultimate goal of bringing order to the taxonomy of Microsporidia. Thanks to his drive, expertise and research ability, some of the microsporidia now have the potential to be important biological control agents of certain mosquitoes.

Though Ed was a skilled scientist, more important to many was his ability to graciously and effectively teach and impart this knowledge to others. He trained numerous junior scientists in his microsporidian techniques and gave so freely of his knowledge, that his legacy will be carried on through them. Ed was admired and loved by many colleagues, co-workers and friends because of his unswerving loyalty, helpfulness, forgiveness, zeal and total commitment to his research.

Ed is survived by his 12 year old son, Allen and his mother, Elizabeth. They and all of his friends and colleagues will deeply miss him. With his death, USDA-ARS has lost an outstanding scientist at the height of his publishing career.

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