Ernest C. McCulloch

ERNEST C. McCULLOCH passed away December 8, 1948, at Pullman after an illness of several months. He was Professor of Veterinary Bacteriology and also a member of the Department of Bacteriology and Public Health at The State College of Washington and consultant on disinfectants for the State Department of Health.

Dr. McCulloch was known nationally for his work on disinfectants and germicides. He was author of a universally adopted textbook on these subjects.

A graduate of Kansas State College with the degree of D.V.M., he received his Ph.D. in bacteriology from the University of Wisconsin. Before coming to The State College of Washington, he was associated with the Department of Health of the City of St. Louis and the Pennsylvania Salt Company.

Early in life Dr. McCulloch became interested in raising cattle and spent some time in the Amazon region of South America. His venture failed because of an epidemic unknown to local authorities. Being a born researcher this experience led him into his work in veterinary medicine, bacteriology, and public health.

His research was concerned chiefly with disinfectants and germicides, yet he found time to devote to the problems of mastitis in cows, of tarweed seeds as a cause of cirrhosis of the liver in pigs and horses, and of many others. Every problem that presented itself was thoroughly and completely investigated.

Dr. McCulloch has been an active member of our Association. He took a most active part in the planning of the Bacteriology-Public Health section, developing it into the active section which we now have. His interest for many years as a member of the Board of Trustees will long be remembered. He worked and counseled always for the best interests of the Association and the encouragement of young scientists.

Not only will his many friends miss him, but we of the Northwest Scientific Association have lost from our group one whose life work had just begun and who had many research problems unfinished. In order to perpetuate his memory at The State College of Washington, funds are being raised to establish a collection of scientific publications to be known as the McCulloch Memorial Collection. A fine tribute to a fine scientist.

R. F. E. STIER
C. H. DRAKE

Abstracts of Papers Delivered before the Annual Meeting of the Northwest Scientific Association December 27 and 28, 1948

Botany - Zoology Section

NOTES ON THE PARASITES OF A WHITE PELICAN (*PELECANUS ERYTHRORHYNCHOS*)

IN JULY, 1947, a white pelican was collected in Adams County, Washington, and examined for parasites. In the gular pouch were 51 biting lice, *Tetraphthalmus titan.* The stomach contained 387 nematodes, as yet unidentified. The small intestine had attached to it 214 tapeworms belonging to the genus *Hymemolepis.* Three species of trematodes were present in the small intestine: *Bolbophorus confusus,* 134; *Phagicola longa,* 3; and *Ribeiroia ondatrae,* 10. The presence of *Ribeiroia ondatrae* in the pelican constitutes a new host record, according to Mr. McIntosh of the United States Bureau of Animal Industry. The host, in spite of its parasites—some 799 in number—appeared to be in good physical condition.

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BIOECOLOGY IN WILDLIFE EDUCATION

THE BIOECOLOGIC APPROACH appears to be the most natural and direct method for studying wildlife and solving intricate management problems; yet bioecology has been largely neglected in college training as a basis for wildlife investigations and management. The entire community of plants, animals, and human beings must be considered as one united whole if the detailed aspects of wildlife populations and their complex inter-relationships to the environment are to be more completely understood. Much of the complexity and unwieldiness of bioecologic study, which seems to be the main objection of American ecologists, may be overcome by: (1) realization that bioecology