

## OBITUARY

## EDWIN CHAPIN STARKS

EDWIN CHAPIN STARKS, associate professor of zoology emeritus in Stanford University, died at his home in Palo Alto, California, on December 29, 1932. He was born in Baraboo, Wisconsin, on January 25, 1867, and spent his youth mainly in Chicago, where he received his early education, and afterward engaged in business. With an inborn interest in living things he was especially attracted by fishes, and early set about finding out all he could concerning them. He collected specimens of all that came within his range, mounted most of them in a remarkably skilful manner, and found out their names and relationships, searching all available libraries to do so. He entered into correspondence with Dr. Theodore Gill, of the U. S. National Museum, and with Dr. David Starr Jordan, then president of the University of Indiana. His eager inquiries received cordial welcome and prompt response from each of these great naturalists. To Dr. Gill may be traced his interest in the osteology of fishes, which later became his main field of study. Dr. Jordan encouraged him as he alone could, and the avocation of the boy and young man soon became the fixed ideal of his life. In 1893 he entered Stanford University as a special student in zoology, and quickly found a welcome in the enthusiastic group in that department under the guidance of President Jordan and Professor C. H. Gilbert. His definite purpose was to become a zoologist, an authority in the field of ichthyology, and nothing swerved him an instant from that goal. Things which did not bear directly upon this end he banished from his program without hesitation as useless distractions. The then existing major subject system at Stanford made possible a concentration of study and effort rarely found open to-day, especially for the so-called "special student," now almost standardized out of existence. He never took the trouble to fulfil the routine entrance requirements, and thus to become a regular student, nor to qualify for a degree. In such matters and in formal courses he was not interested. The privileges of laboratory, scientific collections and library, the sympathetic advice and guidance of able and inspiring teachers, the daily contact with a select number of ambitious associates gave him all the opportunities he desired. Equipped with an alert and naturally keen mind, and with powers of concentration far above the average, he soon justified the confidence placed in him.

In December, 1894, he accompanied Dr. Jordan and several other students on a zoological collecting trip to Mazatlán, Mexico, the first of many such field journeys in which his love of travel and adventure

and of the study of living things in their natural surroundings was to have full range. The following summer he took part in an exploration of Puget Sound, headed by Professor Meany, of the University of Washington, in which the first systematic dredging in that body of water was undertaken. Back at Stanford in the fall, he again left in December, 1895, for southern waters, this time with Dr. C. H. Gilbert on the Stanford Expedition to Panama, where four months were filled with intensive field work upon the fishes of that region.

He was married in June, 1897, to a fellow Stanford student, Miss Chloe F. Lesley, who later also became a member of the faculty, and as associate professor of graphic art was retired in 1932. Their daughter, Dr. Dorothy J. Starks, is now an instructor in radiology in the Stanford University School of Medicine.

In 1897 he was appointed to an assistantship in the U. S. Biological Survey under Dr. C. Hart Merriam at Washington, where he spent two busy years. An opportunity to join the Harriman Expedition to Alaska in the summer of 1899 was eagerly seized, as it opened a new field of experiences and an excellent opportunity for acquaintance with the noted group of scientists taking part in it. On his return he became curator of the museum and assistant professor of zoology in the University of Washington. In 1901 he was called to Stanford as curator of zoology, was made assistant professor in 1907, and associate professor in 1927, in which capacity he served until his retirement in 1932.

In 1904 Professor Starks took part in a field trip for the U. S. Bureau of Fisheries in Oregon, under the leadership of Professor J. O. Snyder. In 1910 the Stanford Expedition to Brazil, headed by Professor J. C. Branner, gave him an opportunity to become acquainted with its northern and northeastern coasts and to make extensive collections of fishes there. A trip to Europe in 1907 to visit museums and to form personal contacts with zoologists, whom he had already known through correspondence and exchange of publications, was followed by a longer one with his family in 1913 and 1914, a part of which was spent in research in the Zoological Station at Naples and in museum work, the remainder in travel and in art studies.

The summers of 1909 and 1912 found him again on the waters of Puget Sound, in the former year as instructor in zoology at the Friday Harbor Marine Laboratory, in the latter as an investigator there. In the summer and fall of 1926 he made his last long collecting trip, a private one undertaken to the Philippines to secure certain forms for osteological study not otherwise procurable.

Throughout all these years and almost up to the very end of his life his scientific writings steadily appeared, the total number reaching more than eighty. Based upon each of the above expeditions were extensive reports dealing with faunistic and distributional results, either written by himself alone, or in collaboration with Dr. Jordan, Dr. Gilbert or others. The most notable of his many publications deal with the comparative osteology of fishes, in which he became a recognized authority. His careful analytical studies in this difficult field have thrown much light on the relationships of a large number of genera and families, and have furnished a solid basis for their classification. Not a little of the value of this series of studies is due to the unfailing cooperation of his wife, Mrs. Chloe Lesley Starks, whose superb artistic skill and accuracy provided his papers with illustrations not to be excelled anywhere.

Professor Starks was a life member of the California Academy of Sciences, to the *Proceedings* of which he contributed many important papers. He was also a corresponding member of the Zoological Society of London and a fellow of the American Association for the Advancement of Science.

As a teacher he was exceptionally gifted. His broad sympathy with students, his patience and clarity in exposition, his contagious enthusiasm, and his kindly humor won the affection and admiration of all his pupils. As a colleague he held a high place in the estimation of his faculty associates. His modest, retiring disposition led him to shun publicity, but his constant and generous hospitality within his own home drew around him a group small but unusually devoted.

Apart from his scientific work Professor Starks' interests were many and varied. Although a naturalist he found no pleasure in hunting or angling, but took the greatest delight in outdoor life, and in travel contacts with other places and peoples. He was an avid reader and his well-selected library gave evidence of his breadth of interest in the best in literature and art. His usual recreation was sought in his workshop, and from it issued from time to time artistic and beautiful products of his craftsmanship in wood and metal that were the wonder and envy of his friends. Photography and fine printing were also hobbies in which he excelled. His experiences and observations on each of his many expeditions were carefully recorded in separate journals, illustrated with sketches and photographs. Three of these, his own printing and binding, models of fine bookmaking, are highly prized by those of his friends who were fortunate enough to receive copies.

A broad appreciation of the beautiful in nature, in life, literature and art enriched his years. Upon his

release from teaching responsibility he looked forward to continued activity in research and travel. But it was not to be. Never robust physically, an increasing cardiac weakness terminated his life after a short illness. His scientific writings will stand as a memorial to his exact and painstaking industry and high scholarship, his former pupils, his colleagues, and his friends will cherish still more the memory of a kind and joyous personality, sincere and faithful to the end.

F. M. MACFARLAND

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### HERMAN THEODOR HOLM

DR. HERMAN THEODOR HOLM, who was on the staff of the Department of Agriculture for several years and who was connected with the department in various phases of scientific work for many years, passed away at Providence Hospital, after a brief illness, on December 26, 1932.

Dr. Holm was born in Copenhagen, Denmark, on February 3, 1854, and graduated under Warming from the University of Copenhagen in 1880. He was appointed to the Denmark North Polar Expedition in 1882 as botanist and zoologist under Admiral Garda and for some two years was icebound in Greenland. He added greatly to the botanical knowledge of West Greenland, and his extensive knowledge of altitude and circumpolar floras compelled attention of all interested in this subject.

On April 12, 1888, Dr. Holm landed in New York City, and as soon thereafter as possible applied for citizenship. He enjoyed telling that he was an American by choice and that we "could not help ourselves." Very soon after coming to this country he was appointed assistant botanist in the U. S. National Museum and occupied that position from 1888 to 1893, and was then appointed assistant pathologist in the U. S. Department of Agriculture. In 1897 he resigned this position, but, as above stated, he did much work for the department in connection with special botanical problems, drawing, and translating. For drawings that show the anatomy of plants he had no peer, and he read and translated all the Teutonic languages and many Latin languages. So wedded was he to his scientific work that some years ago he moved to an isolated farm in Maryland in order to have uninterrupted time for his work, but was finally persuaded to accept a position on the research staff of the Catholic University of America, where he was given ample room for his collections. Many of his papers were published in Germany. It seems regrettable that American botany should come to us through translation.

Although wedded to his profession Dr. Holm was