CARL H. EIGENMANN

CARL H. EIGENMANN, who died April 24 at Coronado, California, was born in Flehingen, Germany, March 9, 1863. He came to this country when a boy of 17, and located at Rockport, Indiana. Two years later he entered Indiana University, where he graduated in 1886. He remained the next year for graduate study and was given the A.M. degree. He was married to Rosa Smith, of San Diego, California, August 20, 1887, and together they spent the next year at Harvard studying fishes. He was given the Ph.D. degree under Jordan in 1889. The next two years were spent in collecting fishes for the British Museum in western United States and Canada. He was made professor of zoology at Indiana University in 1891 at the time Jordan left for Stanford. In 1908 when the graduate school was organized, he was made dean. In addition to these positions he was curator of fishes in the Carnegie Museum, Pittsburgh, from 1909 to 1918. In 1895 he established a freshwater biological station in northern Indiana, and remained as its director until a few years before his death.

In order to collect materials for a study of degenerative evolution in the blind vertebrates, he made expeditions to the cave regions of Indiana, Kentucky, Missouri, Texas and Cuba. For a study of fishes he made four trips to South America and sent students on other expeditions.

His contributions to zoology number more than 200. His fellow scientists have spoken concerning the worth of these by electing him to membership in the National Academy of Sciences, the American Philosophical Society, and other societies. While most of his contributions were concerned with taxonomic studies of fishes, his interests were not limited to this field. His study on the germ cells of Cymatogaster was a pioneer piece of work on the origin and segregation of these cells in the vertebrates. At the time he established the biological station, his interests were in the field of variation. In fact that was one of his main reasons for starting a station. The rediscovery of Mendelism in 1900 put an end to such studies and he turned to the cave vertebrates. His study of degenerative evolution stands as a monumental piece of work. At that time he was convinced that the Lamarckian principle was a factor in evolution. In later years when the evidence became overwhelming in the opposite direction he generously changed. His studies of the South American fish fauna were planned in his younger days but were not executed until after the completion of his work on cave forms. Perhaps a man who has never worked in this field is not competent to judge such work, but if I were to venture an opinion, I should say that they place him in the first rank of ichthyologists of all time. It is very unfortunate that he was not permitted to complete the comprehensive studies he had planned and undertaken.

It is interesting to know that Dr. Eigenmann entered college with the intention of studying Latin and Greek. Uninspiring teachers in these subjects and contact with Jordan turned him toward zoology and particularly the fishes.

While Dr. Eigenmann's main interests were in research and while he spent most of his time and energy in doing research he was an inspiring teacher. This is clearly shown by the many students who have continued to follow zoology as their life-work. Perhaps in the strictly pedagogical sense he was a failure as a teacher because his one fundamental method was to let the student find things for himself. There was often much floundering around and loss of time but if the student finally arrived he knew how he got there and incidentally had learned something about how to get to the next place. His attitude was not one of indifference toward the student but he used this method because he believed it the best. His interest in his students did not end the moment they left him. He always kept their future interests in mind and when vacancies arose he asked for the graduates who could fill the place. Another of his good qualities as a teacher was his confidence in the student. He believed he could cause a student to strive harder to make good by giving him more than he was actually worth than by giving him less than he was worth and applying the prodding iron. He applied the same method to the younger men in his department. He assigned them a task and left them to sink or swim. By this method he showed his confidence in their ability to accomplish results. Here, as with the student, the method worked. As an associate within his department, Dr. Eigenmann was very exceptional. The work was divided and each was expected to do his part without supervision. While he was head of his department things were managed in a democratic way. Seldom was anything done without consultation with his staff. In fact during the last twelve years of his life he took little part in the management of his department. More than this he always lent his help and encouragement in every way possible, particularly for the advancement of research.

As a man he was, as one of his friends once said of him, a human being. With all his intense interest in his work he always had time to talk to a student or a colleague. It is true that the conversation might end in fishes. Always there was a ready wit, a

sparkle in the eye and a good story. These latter qualities made him an interesting lecturer and were valuable aids in the search for funds for his scientific expeditions. He was a man of determination. It was this characteristic which added to his interest and zeal and carried him through the immense amount of work which he did. He was a fighter for what he believed to be the right. This was demonstrated again and again in the working out of university problems.

I think it should also be said that while on his scientific expeditions to South America and Cuba he always tried to further the friendly relations of those countries and the United States and, I think, to some extent succeeded.

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THE death of Dr. Carl H. Eigenmann removes one of the most eminent workers in the field of systematic zoology and one of the ablest of natural history teachers, withal the most tireless of explorers.

He was born at Flehingen, Germany, in 1863. In 1865 he came to Rockport, southern Indiana, with an immigrant uncle, and worked his way upward to the State University of Indiana, when he proposed to study law. In his second year in college the old classical course was modified, and students in sophomore Latin were allowed to substitute natural science for the required subject. To the surprise of the professor of Latin it was his best and not the weakest students who took advantage of this breach of tradition. Of these, Carl Eigenmann was the leader. His work was of the highest order, and he soon adopted ichthyology as his specialty, becoming later instructor in zoology under Dr. Jordan; and when Dr. Jordan, with Professor Gilbert, left Indiana in 1891 for Stanford University, he appointed Eigenmann professor of zoology, which position he held for the rest of his life, becoming later dean of the graduate school.

In Indiana, Eigenmann was a vigorous and inspiring teacher of science, leading many of his students to do original work.

He soon carried out on a large scale a detailed exploration of the prodigious fish fauna of the Amazon and ultimately of the other rivers of Brazil. His collections of fishes from this region soon outnumbered all others put together. Before returning to Indiana, Eigenmann was curator of fishes in the California Academy of Sciences and later in the Museum of San Diego. In that city he married Rosa Smith, a fellow student in Indiana, and the author of some notable papers on fishes. In 1888 his great series of papers on Brazilian fishes was begun at Harvard University where he was enabled to study the enormous and not exaggerated collections made by Professor Agassiz. This paper and seven others, mostly on Brazilian materials, were joint products of himself and his wife, being recorded as "Eigenmann and Eigenmann." On his return as instructor to Indiana a number of reviews of leading families of fishes were published by Jordan and Eigenmann. In 1894, his personal explorations in Brazil began, to be continued as time and funds permitted for the next twenty years. In this work various students assisted. A remarkable feature was the fact that he never failed to receive offers of help from business men who found out what he was trying to do. He made apparently little effort to get such help, but as in Agassiz's case, there were men "not willing to see so brave a man struggle without aid." A reason for such assistance lay in Eigenmann's plain, unaffected earnestness, and the total absence of any disposition to pose.

By 1904, the work of exploration was well under way and in 1908 it was taken up and supported by the Carnegie Museum at Pittsburgh, when Eigenmann, without leaving the faculty of Indiana, became curator of fishes, adding hundreds of species to the treasures of that museum. This relation was maintained until about 1922. In all, 155 new genera were defined by Eigenmann and his students, 35 by Eigenmann and Eigenmann, and 5 by Jordan and Eigenmann, making a total of 195 new genera, containing about 600 species. Eigenmann's technical papers number upwards of 170. One of the most important is the study of the blind cave-fishes of North America. Of most of the scientific societies of this country he was a member.

Eigenmann was an excellent teacher, a clear-eyed observer, with persistence and energy of the highest rank. Plain and direct, genial and kindly in all his relations, though with no special effort at elegance, he held the affection and respect of his colleagues and students.

In stature, Eigenmann was of medium height, stoutly built and of sturdy, though not distinguished appearance. He enjoyed robust health until his last two years, when he was somewhat broken as a result of mosquito-borne fevers of the torrid zone.

His wife and four children, three sons and one daughter, survive him.

DAVID STARR JORDAN

SCIENTIFIC EVENTS

INSTITUTE OF PACIFIC RELATIONS

IN the summer of 1925, one hundred and forty unofficial representatives from eight countries met