ULYSSES ORANGE COX.

(IN MEMORIAM.)

BARTON WARREN EVERMANN.

Ulysses Orange Cox was born on a farm near Farmland, Randolph County, Indiana, September 29, 1864. He died at Denver, Colorado, August 25, 1920.

As a boy living in the country, in daily contact with nature, it was but natural that a real love for, and an interest in, animals and plants should soon possess him. In this respect this boy was not particularly different from other boys who have had the great good fortune to have been brought up in the country; for there, Nature is calling, ever calling, and rare indeed is the country boy who fails to hear the call and give heed to it. He can always see the sky, the clouds and the stars; he sees and feels the soil, and digs into it; he wanders through the open woods and the dark forests; he learns to know the streams, the hills, the growing and ripening crops, and the wild animals about him; daily, even hourly, he sees the birds, the insects, and the shy folk that abound for him who would be their friend; the domestic animals on the farm he learns to know intimately; and he learns the sweet sounds which wind and running water, and birds and insects make when he is hunting, fishing, or merely roaming in the woods and fields or along the streams. This is the *real productive school* in which all country boys are enrolled; the school in which more knowledge is acquired than in all the after years.

Ulysses Cox early began the serious study of animals and plants. His first published contribution to science was "A List of the Birds of Randolph County, Ind.," which appeared in the Ornithologist and Oölogist. While yet in his teens he began teaching in the country schools of his native county. He organized the high school at Farmland and was its superintendent. His experience in these schools led him to suggest a system of consolidated schools, since put into effect by Superintendent Driver with excellent results. In 1884 he graduated from Bryant's Commercial School at Indianapolis. He completed the Teacher's Training course at the Central Normal College the next year and in the same year he entered the Indiana State Normal School, from which he was graduated in 1889.

After teaching two years in the Farmland high school and assisting in the spring terms in the Indiana State Normal School, he was elected head of the department of general science in the State Normal School at Mankato, Minnesota, where he made an enviable record as an organizer and inspiring teacher. He organized and adequately equipped the chemical and physiological laboratories in that institution.

Mr. Cox took leave from his teaching duties in 1897 and entered Indiana University, from which institution he was graduated in 1900 with the degree of A. B. in zoology, his time in the University alternating with teaching during part of the year. He received the degree of A. M. in 1902.

In the fall of 1904, President Parsons had an idea that he would like to have the present writer reenter the faculty of the Indiana State Normal School as head of the department of biology. He said that I did not have to give a decision at once. The next spring he came on to Washington and renewed the invitation which was very tempting. But I had other irons in the fire which I did not wish to let get cold. My interest in the Indiana State Normal School was great, and when I began wondering where a good man could be found for the place, I had an inspiration: "U. O. Cox is the man for you." I said to Dr. Parsons, who at once replied: "You are right! Cox will make an ideal head for that department; I'll write to him at once." And thus it was that Professor Cox was called back to his alma mater in 1905, where he remained until his death.

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U. O. Cox's interests and abilities lay in many lines. He was a keen business man, careful and methodical in his habits and methods. He was unusually skillful in the use of tools, which was of great help to him in devising apparatus for use in his teaching. While primarily and most deeply interested in zoology and botany, he was an all-round naturalist. In 1891 he was a member of the Dr. J. T. Scovell expedition to Mount Orizaba, Mexico. He made a collection of the birds of the region and discovered and described a new species of towhee, *Pipilo orizaba*. While at the State Normal School at Mankato he had charge of the U. S. Weather Bureau Station at that place, making observations three times daily and posting the records every morning. He was also employed at various times by the

United States Fish Commission in connection with the exploration of rivers and lakes. He built and equipped the house-boat "Megalops" with which he made a trip down the Mississippi River for the Minnesota Geological and Natural History Survey. In 1893 he was with the writer on an investigation of the streams of Nebraska, South Dakota, and Wyoming for the United States Fish Commission. In 1896 he studied Lake Pend d'Oreille and certain streams in the State of Washington, and in August of that year he and I went with the Mazamas (a club of mountain climbers, chiefly of Portland, Oregon) to Crater Lake, Oregon, where we made certain investigations for the U. S. Fish Commission. These investigations included the making of several soundings and the taking of serial temperatures at 100-foot intervals from surface to bottom of the 2,000 feet of depth of that very wonderful lake.

Another investigation he made for the U. S. Bureau of Fisheries was a study of the freshwater mussels (Unionidæ) of the lower Wabash River. In a small launch, towing a barge on which to carry their collections, he and our good mutual friend, the late Dr. J. T. Scovell, examined the Wabash critically from Terre Haute to Vincennes, with special reference to that species of mussel known as the "mucket" (*Lampsilis ligamentinus*), which is one of the best in pearl button making. Just at that time Professors George Lefevre and W. C. Curtis of the University of Missouri were carrying on their brilliant investigations on the artificial inoculation of fishes with the glochidia of Unionidæ. They desired a large number of fine muckets, and Professor Cox was able to supply them with abundant and excellent specimens from the Wabash. In a letter to Professor Cox, Dr. Lefevre wrote:

> "I want to thank you for your kind assistance in securing for our recent experiments at La Crosse such a fine lot of muckets and yellow backs. They were received in excellent condition and furnished us with an abundant supply of glochidia for the infection of the fish. Twenty-two of the muckets contained ripe glochidia and fifteen of the yellowbacks, yielding altogether a sufficient quantity for the infection of nearly the entire lot of fish which we had on hand, namely, about 25,000.
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> "There was no indication that the muckets were not at the height of the breeding season, as the pouches were gorged with glochidia in every specimen containing them, but the yellowbacks appeared to be on the decline, as we found quite a number of completely spent females. The experiments were highly successful in every way, and we are greatly indebted to all who contributed their assistance to the work."

Soon after his election as head of the department of Biology in the Indiana State Normal School, the State Legislature provided for the teaching of agriculture in the public schools. Provision for instruction in that subject in the Normal was at once made, and Professor Cox was placed in charge. This was in addition to his other numerous duties. The rooms in the basement, then occupied by the department of Biology, were soon outgrown and, largely through the efforts of Professor Cox, a new Science Hall, adequate in its appointments and architecturally beautiful, was soon

provided for his department. One of the unique features of this building, the general plans for which were made by Mr. Cox, is a roof garden for which he had longed and of which he had dreamed for many years. In that roof garden he grew a large part of the plant material used in his botanical work.

Cox was also a good photographer, so he made provision in the new building for a well-equipped dark-room where he developed thousands of negatives and made vast numbers of stereopticon slides of which he made constant use in his teaching.

In his home he had a well-equipped printing press which he had installed for the use of his son Warren, but it is more than likely he made greater use of it than did the son. On this press he printed the outlines of his lectures, laboratory directions, syllabi of subjects, and many other aids to teaching and for distribution among his students.

Mr. Cox possessed considerable musical ability. He sang tenor very well, and, while at Mankato, organized and directed an orchestra in the Normal School.

When agriculture was added to his subjects in the Normal at Terre Haute, he found the experience and training he had gained on his father's farm of great benefit to him and his students. He soon bought a small farm south of town which he largely used for experimental and instructional purposes with his classes.

As already intimated in this sketch, Mr. Cox was a man of broad interests and varied attainments; he was an all-round man in the best sense of the word. As a man of affairs, he was active in civic, scientific, and educational circles. He took a keen and active interest in matters of community and public concern. As a naturalist, he was most interested in birds and botany, but his natural history studies were not confined to those lines. He early showed an interest in mollusks as evidenced by his paper on the mollusks of Randolph County.

Mr. Cox was equally and unusually efficient, whether in the field as a collector and observer, or in the laboratory and class-room as student, teacher or investigator. During his student days and as my laboratory assistant in the Indiana State Normal School, he was (with the exception of Dr. Scovell) my most frequent companion on trips a-field. Together we explored practically all the woods, fields, ponds, and streams within a radius of ten to fifteen miles of Terre Haute. Among favorite places to which we frequently went were the Five-mile pond north of town, Coal Creek, Honey Creek, and the Goose Pond some nine miles south of the city. These were all places of unusual interest to the zoologist and to the botanist. The Goose Pond was most interesting, for there we found several species of birds not often seen elsewhere in the county—among them the least bittern, great bittern, coot, pied-billed grebe, Carolina rail, and Virginia rail. All of these species nested in that pond. Most interesting of all, we found the white water lily there in abundance. Mr. Cox suggested that we gather a considerable number of these beautiful, fragrant flowers and take a bouquet of them to certain students who were ill. The flowers were so abundant that we gathered not only enough to take a fine bouquet to each student whom we knew to be ill, but we took one to every young lady student in our classes, and to each lady member of the faculty! This

incident is told to illustrate the kindly, sympathetic spirit which was so characteristic of Mr. Cox. He was ever ready to bring a little more sunshine into the life of any one who needed it.

As student and investigator, Mr. Cox was most painstaking and conscientious, quiet, industrious, level-headed and cautious. He never reached conclusions or announced results except such as were sustained by the available evidence.

As a teacher, he was one of the very best I ever knew. His success lay largely in his absolute honesty with his subject and his students, his quiet, unobtrusive manner, and his large human sympathy. His students loved him; they could not do otherwise.

As a member of the faculty, he was useful in many ways for the general good of the institution. There were so many things of general interest that he could do better than any one else; and he was always willing and ready to perform any duty assigned to him. These qualities peculiarly fitted him to service as Dean of the Faculty, which position he held during the last two years of his life, in addition to the regular duties of his department.

Personally Mr. Cox was one of the most lovable of men. I can do no better than quote from the resolutions adopted by a committee of the Faculty:

"During these years of daily association we have learned to appreciate and revere the eminent virtues of our friend and colleague. His indefatigable industry, his unselfish devotion to duty, even when physically incapacitated, his gentle, kindly and obliging disposition made him admired and loved of all, both fellow-teachers and students.

"Devoid of petty ambitions and aspirations, his attitude towards life was gracious and optimistic, free from carping criticism and querulousness. Disappointment met with equanimity; success with poise and serenity.

"His strict devotion to his chosen work did not isolate or estrange him from cordial and sympathetic human relations. Mr. Cox was always the kindly man, as well as the efficient teacher and scientific scholar."

Professor Cox was a member of numerous scientific societies, among which may be mentioned the following:

Indiana Academy of Science; American Association for the Advancement of Science, of which he became a Fellow in 1906; Washington Academy of Science; New York Academy of Sciences; The Mazamas; American Ornithologists' Union; Biological Society of Washington; American Forestry Association; American Society of Naturalists; National Geographic Society; American Nature Study Society; and The Wilson Ornithological Club.