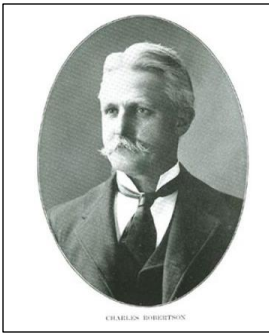


Professor Charles Robertson



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Pioneers of science have been like pioneers in other lines. They have blazed out the trail to distant and as yet unexplored countries in which lies the opportunity for future investigation. These men were able to accomplish the seemingly impossible because of their ruggedness of body, unconquerable determination, and a versatility of mind which adapts itself to each new problem. Of these was Charles Robertson of Carlinville, Illinois.

Robertson was a man of few contacts with contemporary scientists. He was, perhaps, better read and had a more intimate knowledge with the subjects about which he wrote than others of his time; yet because of his regard for facts as he saw them, he seldom in his long series of publications, lasting from 1886 to 1931, mentioned anything outside of the subject which he had in hand.

He was born June 12, 1858, the son of Dr. W. A. Robertson, a pioneer doctor of Illinois. His educational opportunities were poor. After finishing the common school, he studied under the guidance of his father, who desired his son to take up medicine. He then became a student at Blackburn University a local institution now known as Blackburn College. Having completed the courses in which he was interested, he attended Harvard University specializing in botany and zoology. In 1880 he became a member of the faculty of Blackburn which position he held for six years after which time he retired to give his full attention to his studies on the ecological relationships existing between insects and plants within the Carlinville area. In 1898 he was recalled to the professorship of biology and occupied the chair for twelve years. After this time he again took up active work in summarizing his long investigations of his chosen field and the publishing of "Flowers and Insects."

He remained an active member of the scientific fraternity to the very last. He collected insects in Florida only a few months prior to his death which occurred June 1, 1935 at his home in Carlinville.

He was a man of unity of purpose and demonstrated this not only in his scientific but in his daily life. He was born and he died in the same town. He lived in but two houses, his father's and his own. He had many acquaintances, but few friends. His friends were of the long time variety. He belonged to a card club which was organized in the days of euchre during the 'eighties and continued until it was ended by his death, the last survivor of the original organization. He, however, was friendly toward his students. Each was his child and to each he gave a father care. The list of his students who have made names for themselves largely because of his influence would be too long to publish. It is safe to say that among the scientists of the United States and probably the world there is no better example of a man who devoted his entire life to scientific pursuit with zeal, unity of purpose, and regard to facts.

In early as 1880 he became impressed with the work begun by Herman Muller and recorded in the book, "Die Befruchtung der Blumen durch Insekten" and several papers by Charles Darwin on the same subject. In the introduction to the series of papers entitled "Flowers and Insects," Robertson states that it is his purpose to verify and enlarge upon the work of Muller. To illustrate his foresightedness and methodical characteristics, he outlined an experiment which was to investigate the insect-flower relationship of all of the plants growing within a ten mile radius from his home and to be continued through a period of at least twenty-five years. This investigation necessitated the locating of every species of flowers growing within this radius, the collection of all insects working upon these species, and the noting of the relationship between each species and its floral host. To do this he had to become familiar with and make collections of all the plants within the area. He had to collect, preserve, and determine all of the insects working upon these plants; and having done this, it would then be possible to record the relationships found and to bring these relationships with a proper interpretation to the scientific world.

He estimated just what would be needed for the long-time experiment and purchased all of the materials necessary to the work. This included pins, insect boxes, cyanide, bottles, notebooks, herbarium sheets, and other accessories. Any botanist or entomologist will appreciate the foresight of Robertson when he remembers the sorrows which come from

not being able to get repeat orders for such materials. Robertson's investigations consisted of collecting flowering plants, obtaining the identification, and studying them with reference to their insect relationships. In the course of his undescribed species of plants several of which he described himself. Having ascertained his flora, he turned to the observation of insect activities upon the flowers, and of the insects themselves. At the very beginning, he discovered that he was in advance of the biologists of that time as plants and insects which he collected commonly were almost unknown in literature. He soon found that it was next to impossible to find anyone who could identify the insects he sent in. Of this period he wrote:

"On account of the impossibility of getting all of the insects identified it was necessary to describe the new species and match the sexes thus making a digression which interrupted the study and involved an intrusion into a field which there was no inclination to cultivate."

It is said that this forced digression from the study of the floral ecology was responsible for Robertson's greatest contribution to science as every student of entomology is familiar with the excellent keys and large number of original descriptions which he contributed to entomological literature. Robertson's method of investigation to extend a long period of years brought into operation methods which were unique. Having over two hundred plants to study, it was necessary to work from early spring to late fall. Often the plants which he was intensely studying bloomed only a short time and grew at a great distance from his home, thus escaping the very observations which he wished to make. It is to be remembered that Robertson did his traveling in a one-horse buggy and over unimproved roads. In order to have the plants at his disposal throughout their blooming period he moved them to his own yard the year before the study was to be made, so that, no matter what the weather, he had the plants at hand. One of his best papers and one which was never published had to do with this moving of plants and their insect visitors. He could not convince himself whether the plant received the same attention after having been moved as it would have received where it had previously been, and therefore the paper is still among his effects.

Robertson was a friend of Coulter, the botanist. He, therefore, began the publication of his papers in the "Botanical Gazette." After several on the adaptation of plants to insect visitors, he began the series "Flowers and Insects" in 1886. This series was carried on until 1898 when the papers appeared in other publications and ended in 1927. These additional papers are to be found in the "Transactions of the St. Louis Academy of Science," the "American Naturalist," "Scientific Monthly," and "Ecology." Several short articles commenting upon the work of others appeared in "Science."

During the publication of his major papers, Robertson was contributing to the "Canadian Entomologist," "Transactions of the American Entomological Society," "Bulletin of the Brooklyn Entomological Society" and a few other entomological papers along with the summaries of his own papers written in German which appeared in German scientific periodicals. In 1928 he brought out a summary of his life's work in a volume entitled "Flowers and Insects" published by the "Science Press." While this book is but a check list of the flowers and their insect visitors which occur within his area, it is a handbook for entomologists and botanists. Outside of a few short items relative to his chosen work, Robertson has no other items in the list of his papers. He dreaded the press and seldom if ever gave expression to anything that would be of value in a newspaper. He often expressed himself by saying that he wished nothing printed under his name unless he was certain that the statements were facts.

Robertson was versatile in many ways. This is best illustrated by the fact that along with being a biologist he was a fluent student of languages and was a teacher of Greek. He wrote many of his original descriptions in Latin. He corresponded in their native languages with scientists in Germany, Italy, and France, and was a regular subscriber to many of the zoological publications of Europe. It made little difference what he was called upon to do, he could render the service as well as the professional in that line. In addition, it is to be said that he was a very successful business man. As a teacher he could cause his pupils to become enthusiastic over subjects which are generally considered as being extremely tiresome. During the period of time during which he taught Greek, his class was popular and it was within this class that he probably displayed his personality more than elsewhere. He used the New Testament as a textbook. While Robertson was not a church man and never expressed his views upon religion, it was not safe to mention anything derogatory to religion or to the New Testament in his presence. Many a student thought it up-to-date to be somewhat atheistic and made remarks, supposing that he would receive prestige at the hands of Robertson, instead receiving verbal fogging from this man who seemingly might be agnostic. Robertson's ethics were reverence for truth no matter where found

and it is this trait in his character that led him to be so intolerant of persons who made observations and rushed a paper into print without a knowledge of what they were saying or of what already had been printed. Whenever Robertson presented a paper, each statement in it had been verified many times, literature had been searched, and every reference consulted, that the statement presented might be the last word upon the subject.

As a teacher of biology he was without parallel. He never asked students to go on field trips. They asked him for permission to go as they knew he was in the field at least three days each week during the year. Those trips were more instructive than the class work. Many of these students have taken up lines of specialization and have become leaders because of their personal contact with a man who was able to plan for many years ahead and who had the strength and determination not only to do the work himself but to point out to his students how they could work along a similar line. Robertson was not active in society or in organizations. He was a long time member of the American Association for the Advancement of Science, the Saint Louis Academy of Science, the Cambridge Entomological Club, and several other botanical entomological societies. He was elected to membership in many European scientific organizations. He found in the Saint Louis Academy of Science a group of men with whom he became intimately connected. A group of these men met each spring for a period of years at a lake in Macoupin County, Illinois, there carrying on a scientific conversation mixed with recreation. Each other these celebrations brought into being many papers by those who received an inspiration from Robertson. With the organization of the University of Chicago and because of the friendship between Coulter and Robertson, he was invited to a professional chair in that organization. He, however, refused because he did not wish to give up his plant experiments in Carlinville.

As a man, Robertson was every inch a scientist. Of medium height, with almost white hair and mustache, he had a pleasant expression which made students like him upon introduction. He could see the funny side of almost any situation. At the same time he had a sternness about him that made students revere every word he spoke. There was no such thing as frivolity in his class room. It was work and work to a purpose. His home life was ideal. His business relationships were everything that could be expected of any man. He conducted a large number of farms and was always the friend of his tenants.

He is probably best remembered by those entomologists and botanists who had the opportunity of visiting with him at his Florida home near Inverness. This home was purchased in the 'nineties and every winter found him there where he could continue his work. The results of his Florida collections appear in a publication of the Saint Louis Academy of Science. During the years, he entertained at his Florida plant preserve many of the scientifically inclined men, not only of the United States but of Europe as well. He had just returned to his Illinois home from Florida when his last illness came upon him. He died after a very brief period of sickness. This man, best known to the scientific world as Chas. Rob., which occurs as authority for the many scores of insects, and as Charles Robertson which occurs after one of America's greatest scientists well known on both sides of the Atlantic.

To sum up the life of this man it is best to give a quotation from Dr. 'W. E. Andrews, a contemporary and at one time a fellow teacher with Robertson, who in writing to the Honorable J.E. McClure, the veteran journalist of Illinois said:

"How I wish you had written for Charles Robertson, Gentlemen, Scientist, Scholar a most unusual man withal."