

SCIENCE

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GEORGE H. HORN.

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MSS. intended for publication and books, etc., intended for review should be sent to the responsible editor, Prof. J. McKeen Cattell, Garrison-on-Hudson, N. Y.

GEORGE HENRY HORN was born in Philadelphia, April 7, 1840, and died at Beesley's Point, N. J., November 24, 1897. He was stricken with apoplexy in December, 1896, resulting in hemiplegia, and thereafter passed most of the time, until his death, at or near the seashore.

Dr. Horn received his preliminary education in the Jefferson Boys' Grammar School, and from this entered the Central High School of Philadelphia, July, 1853. He graduated February 11, 1858, with the degree of Bachelor of Arts, and received his Master's degree from the same institution in July, 1863. He entered the University of Pennsylvania as a medical student soon after receiving his first degree from the High School, and received the degree of M. D. in 1861, his graduating thesis being on 'Sprains.'

The patriotic young physician enlisted in the U. S. Army in 1863 and received a commission as Assistant Surgeon, March 1st, of that year. He was first attached to the Second California Cavalry, Department of Pacific, until July 14th of the following year, then commissioned as Surgeon to the First California Infantry Volunteers, retaining this position until the term of service of this regiment expired, December 3, 1864. He was again mustered into service May 22, 1865, as Assistant Surgeon of his old regiment, the Second California Cavalry,

and was commissioned as Surgeon of the Second California Infantry, September 23, 1865. His services terminated with that of the staff of his regiment, April 16, 1866.

In the course of his service he spent some time in California, Arizona and New Mexico, in territory which was at that time almost unknown to collectors or students of Coleoptera, or, indeed, any order of insects. From the beginning Dr. Horn had been interested in natural history, and his tastes in this direction had been encouraged and stimulated by some of his teachers in the High School. The opportunity given by his service in these unknown territories was not neglected, and large collections of insects, principally Coleoptera, were made. In the course of his collecting he met with many ludicrous and some dangerous experiences; but he gradually interested many of the soldiers in his work, and some of the rarities in his collection were taken, according to his statements, by privates who picked them up and brought them to him. This was the most extensive field experience gained by the doctor, and throughout his life he was always much more interested in the fauna of this particular territory than in that of any other. His familiarity with the region and the peculiar difficulties of collecting in it led him to attach unusual interest and value to specimens originating there, and, as a result, his collection was most complete for this particular fauna. Dr. Horn was naturally an original student, and began his work in Entomology in 1860, even before graduating from the Medical School. Yet his first paper was on Molluscs, not insects, though his first descriptions of new Coleoptera appeared only a few months later.

On his return to Philadelphia he established himself as a physician, with an office at the then residence of his father, at the corner of Fourth and Poplar streets, and this office he retained until his death, al-

though for some time previously he had not been practicing. When he began work his father, Mr. Philip Horn, carried on business as a druggist, and back of the store the doctor had a little room for consultations. This also he retained long after the drug business had passed out of his father's hands.

The neighborhood in which the doctor settled was a populous one, and he soon began to make a specialty of the diseases of women and children, gradually acquiring a large obstetrical practice, and being often called in consultation in difficult or unusual cases.

Dr. Horn never married, and much of his time, when not actually engaged in the outside business of his profession, was passed in a large room on the second floor, in which he had an iron bedstead, two or three chairs, a huge desk, a small table or two, and shelves and cabinets wherever there was room to place them. The desk, except for a small space near the middle of one side, was always piled with books, papers and specimens in boxes of all kinds. The chairs were piled with material of the same character; the shelves and cabinets were filled to overflowing. When a visitor arrived whose entomological taste entitled him to admission to this apartment he either sat on the bed, or a chair was cleared for his accommodation. Not unusually, the bed was more or less filled with books and papers, and everything was always in such condition that scientific work could be resumed at a moment's notice whenever the doctor came in from a round of calls or had a few moments to spare during office hours. A physician in active practice does not have much time during the day, and in the special line in which Dr. Horn was engaged night calls are not infrequent; so that his hours of sleep were frequently more or less irregular and always scant. When no calls took him away he would work until midnight or long afterwards, over his collections. Almost

as a necessary consequence of the constant readiness of his room for work, it was forbidden to do any cleaning, except in the immediate vicinity of the bed. During the entire time that I was acquainted with Dr. Horn—and this was nearly eighteen years—I can remember no more than one occasion when the room had been actually swept and scrubbed in its entirety. When Dr. Horn began to give up active practice, several years ago, he ceased to sleep in this room, and it was not long before the bed was piled as high as the table with books, boxes and other literary or entomological material.

For many years Dr. Horn seemed to have no interest in life outside of his profession and his scientific work in Coleoptera. His collections in this order increased enormously, as did his knowledge; so that, even during the lifetime of Dr. Leconte, he was the man best acquainted with the structural characteristics of the North American Coleoptera.

It is almost impossible to speak of Dr. Horn without also referring to Dr. John L. Leconte, his fellow townsman, and for many years also his fellow worker in Coleoptera. Although at first there was some friction between him and the younger man, who was very positive in many cases where the older, more experienced student was inclined to be conservative, yet the two men soon became firm friends, and so continued during their joint lives. The combination was useful to both. Dr. Leconte was, by all odds, the broader man; his knowledge of nature at large was much wider, and he saw his specialty, the Coleoptera, much more truly in their relation to the other orders of insects, and this class in its relation to the rest of the animal kingdom. Dr. Horn was much more completely a specialist, with little interest outside of the Coleoptera, but in this knowledge of detail was infinitely greater, and the result of combining two such men appears in the Classification of the

North American Coleoptera, which is their joint production. There is no other work which will compare with this in the amount of condensed strictly scientific, technical information on this order of insects. Unfortunately, these characters, which render it so valuable to the advanced student, rather repel than attract the tyro.

Dr. Horn was by nature an arranger of things. In his hands the most hopelessly mixed lot of specimens separated themselves naturally; he found characters where none had been suspected, and his appreciation of the value of apparently immaterial or insignificant structures resulted in some of the most brilliant work that he did. He had an almost intuitive perception, which enabled him to arrange a large mass of species in a natural series. He had also the power of persistent and practical application, the ability to do continuous hard work, which enabled him to give a solid scientific foundation to the conclusions that he had reached. He had a facile pencil, which he used in illustrating his work. His pictures were by no means artistic, for that faculty was to a great extent lacking; but somehow his drawings, even when they were mere outlines, seemed to convey the information that he intended they should, so that his sketches were always a real help.

It is difficult for one who is not a specialist to appreciate the work that was accomplished by Dr. Horn. The number of titles of papers published by him is not especially large. It does not exceed 240, all but six entomological, and in these about one hundred and fifty new genera and about fifteen hundred and fifty new species were described. But this does not fairly express the work that was accomplished, because, by all odds, the greater part of Dr. Horn's species and genera were described in connection with monographic work, so that while a paper might contain descriptions

of only one new genus or only a few new species it would yet contain descriptions of all the genera and all the species of a large group. He wrote few short papers and, as he never was an editor, was not compelled to supply 'fillers.' He believed in monographic work covering considerable groups, or at least a large genus, and rarely wrote critical or review notes. He was by no means a diffuse writer, and his papers are models of brevity, and of clear, succinct statement. His descriptions of species and genera have never been excelled, and one is rarely left in doubt as to which species the doctor had before him when writing. His monographic and revisional papers are almost all built with the evolutionary idea constantly in mind. The preliminary divisions are always made upon well defined structural characters, and around each type of structure its derivatives are grouped. His belief was that species are not isolated facts or productions, but that they are parts of a great scheme, which it is the work of the systematist to unravel. Species are the products of their surroundings, and each species consists of an aggregation of individuals. No one specimen, to his mind, ever could represent a species. It required at least a male and a female, and a proper definition of a species is one that would include also all the variations of both sexes; therefore, Dr. Horn never had a 'type' specimen, because he did not admit that any individual could be a type of a species. The species consists of a certain combination of characters; all the individuals containing this combination of characters are equally types of the species; therefore, there was not anywhere in his collections any individual marked as a type of any species described by him. In fact, Dr. Horn never considered the individual; to him it was simply an evidence of the existence of a certain combination of structures, and no more. A well-known Coleopterist has com-

pared Dr. Horn's description of species to an excellent portrait whose likeness to the original is so great as to be recognizable at the first glance.

While the most of the work done by Dr. Horn referred to the North American fauna, he was yet well acquainted with the general character of the Coleopterous fauna of the world at large, and in his most notable papers he considered our own species and genera in comparison with those of other countries. The two papers which effectually fixed his place in the first rank of workers in entomology were his 'Genera of Carabidæ,' published in 1881, and his paper on 'The Silphidæ,' printed in 1880. The first cited was the most brilliant of the two; the second required much the more painstaking labor. Both of these have been accepted by all students of this order.

Dr. Horn's influence upon Coleopterological work in North America has been so great that almost all the present students are following his methods wherever they are doing similar work. He was a 'closet naturalist,' a worker with dry specimens; he never dealt with microtomes or sections, and considered life histories of subordinate importance, though necessary to a complete understanding of the insects in all cases. Nevertheless, his work will always stand as a contribution to knowledge, because it is original, accurate, and, with a vital meaning so far as it goes. It will stand the test of time and of critical examination in the future, for it is well done.

His rank and standing were recognized in foreign countries, some of which he visited several times to familiarize himself with their best collections, as well as in America. He was an honorary member of the Societé Entomologique de Belgique, of the Societé Entomologique de France, and of the Entomologischer Verein in Stettin; an active member of the Societas Entomo-

logica Rossica, and a corresponding member of most of the other foreign societies as well as of the k. k. Zoologische-Botanische Gesellschaft in Wien. He was an honorary member of most of the American entomological societies, and a corresponding member of many other natural history societies throughout the country.

From an early date he was connected with the Academy of Natural Sciences in Philadelphia, where he held the office of Corresponding Secretary for fourteen years, and was a member of Council and of the Finance and Publication Committees for long periods of time. He was also a prominent member of the American Philosophical Society, in which he was Secretary and Librarian at the time of his death. In the American Entomological Society he was always a leading member, succeeding Dr. Leconte as President in 1883, and he was also Director of the Entomological Section of the Academy of Natural Sciences. In 1889 he was appointed professor of entomology at the University of Pennsylvania; but the position was a purely honorary one, and he did not teach or lecture.

Personally he was a good friend and a genial companion. While not in any sense a 'social' man, he could at times relax completely and act as though no such science as entomology existed. It is more than probable that his intense and continuous application and the nervous tension induced by it contributed to his death. That the doctor himself realized that he was doing too much is proved by the fact that for several years he had gradually reduced his active practice, and finally gave it up entirely, to spend a large portion of the summer at least at the seashore. But the mischief had been done and the final blow was only a little delayed.

Entomological science can ill afford to lose a man of his calibre!

RUTGERS COLLEGE.

JOHN B. SMITH.

PRESENTATION OF PROFESSOR MARSH'S COLLECTIONS TO YALE UNIVERSITY.

At the meeting of the Yale Corporation, held on the 13th inst., O. C. Marsh, Professor of Paleontology, formally presented to the University the valuable scientific collections belonging to him, now deposited in the Peabody Museum. These collections, six in number, are in many respects the most extensive and valuable of any in this country, and have been brought together by Professor Marsh at great labor and expense, during the last thirty years. The paleontological collections are well known, and were mainly secured by Professor Marsh during his explorations in the Rocky Mountains. They include most of the type specimens he has described in his various publications. The collection of osteology and that of American archæology are also extensive and of great interest. The present value of all these collections makes this the most important gift to natural science that Yale has yet received.

At the same meeting the Yale Corporation accepted Professor Marsh's gift by a unanimous vote, and expressed their high appreciation of his generosity to the University.

Professor Marsh's letter accompanying his deed of gift is essentially as follows:

To the President and Fellows of Yale University.

GENTLEMEN: It is thirty years and more since Mr. George Peabody established at Yale, by a gift of one hundred and fifty thousand dollars, the Museum that now bears his name. This was in 1866, the year I began my work as Professor of Paleontology, and I secured this gift mainly with a view of building up a Department of Paleontology that should be a school of original research as well as one of instruction. The collections of natural history which I had thus brought together were subsequently deposited in the Peabody Museum, and from that time I have endeavored in every way to increase these collections, so that at present they are in many respects the most extensive and valuable in this country.

It has always been part of my plan that these scientific collections should eventually become the property of Yale University, and from the first I pro-