PROFESSOR WILLIAM MORTON WHEELER

WITH A LIST OF HIS PUBLISHED WRITINGS

Professor Wheeler was born in Milwaukee, Wisconsin on March 19, 1865 and died suddenly in Cambridge, Massachusetts on April 19, 1937 shortly after passing his seventy-second birthday. He had retired from active teaching in 1934, but was still energetically engaged in the continuance of his biological investigations which had extended, without interruption, over a full half century.

Young Wheeler was educated in Milwaukee, for a time in the public schools and afterwards in the Englemann German Academy. He was later graduated in 1884 from the German-American College, a remarkably efficient school, with ideals based on those of the fine group of early German immigrants whose culture dominated Milwaukee during the latter part of the last century. He always attributed much to the training received at the Academy; perhaps too much, for he was certainly their star pupil of all time. There he received a broad education, and developed his first interest in the classics, which he read extensively, never forgot and referred to frequently in his later writings. At this point his formal education ended for a period of six years.

Wheeler had always been much interested in Natural History, and was greatly delighted when in 1884 Professor H. A. Ward of Rochester brought to Milwaukee a collection of stuffed animals, skeletons, and other natural history specimens, with the idea of selling them in that city as the nucleus for a public museum. Ward was so pleased with Wheeler that he offered him a position in the Ward's Natural Science Establishment at Rochester. This was accepted
and Wheeler spent a year arranging zoölogical material of all kinds and identifying specimens for Professor Ward. At that time he prepared a check-list of shells, so well done that it is still useful to conchologists after the lapse of more than fifty years! At the Ward Establishment he met Carl Akeley, later famous taxidermist. Concerning their early association and life-long friendship Wheeler has written interestingly in his obituary of Akeley, published in 1927. This contains also reminiscences of Wheeler's own early youth.

He left Ward's in 1885, returned to Milwaukee and at the invitation of the well-known entomologist, Dr. G. W. Peckham, who was then principal of the Milwaukee High School, accepted a position to teach German and physiology there. After he had taught in the high school for two years, he was made custodian of the newly established Milwaukee Public Museum where he remained until 1890. During this period there was established nearby the Allis Lake Laboratory, a biological station, to which Professor C. O. Whitman came as director. From contact with this laboratory and especially through the interest of one of its staff, Dr. William Patton, Wheeler was induced to undertake a study of insect embryology. With the help of Dr. Patton he mastered the necessary microscopical technique, procured a microtome and set to work, utilizing such time as he could spare from his duties at the museum.

Professor Whitman was then called to Clark University, and recognizing young Wheeler's genius in the problem he had undertaken, offered him a fellowship at Clark. This he accepted in 1890 and two years later was granted the degree of Doctor of Philosophy for this "Contribution to Insect Embryology" which had its inception in the happy circumstance of the establishment of the Allis Laboratory. The next year Wheeler spent in Europe, first at Würzburg, then at the Naples Zoölogical Station and finally at Liège before returning to America. He then went to the University of Chicago, where he remained for five years, first as instructor in embryology and after 1896 as assistant professor. During this period his interest in insect embryology was waning, and he became more interested in other phases of entomology.

In the autumn of 1899 he accepted a position as Professor of Zoölogy in the University of Texas. There, with the aid
From a photograph taken in 1915 by Professor A. L. Melander at Berkeley, California, during the summer meeting of the American Association for the Advancement of Science.
search and for the training of students in the several branches of applied biology. At first the Bussey Institution formed a part of the Graduate School of Applied Sciences, but a few years later the institution staff was made a separate faculty of the University and Professor Wheeler was appointed its dean. He served in this capacity from 1915 to 1929. He frequently spoke of this long stay at the Bussey as including the best years of his life. During that time he always had clustered about him some half a dozen graduate students working in entomology toward the degree of Doctor of Science, which was the applied science degree awarded by the University to students in applied biology. Most of these students now hold responsible positions in colleges, universities or similar institutions in America and abroad, and their consistently high attainments show very clearly the deep influence exercised by his remarkable intellect upon their subsequent careers.

In 1929 he resigned from the deanship and moved his work to Cambridge, pending the completion of the New Biological Laboratories. No new dean was appointed, as the several biological units of the University were soon to be consolidated and made a part of the Faculty of Arts and Sciences, with headquarters in the new building. There he spent his last years, continuing to teach until his retirement in 1934. After that he still retained his same quarters in the laboratory, where he worked continuously until the last day of his life, even more actively than before, since the time previously devoted to lectures and students could be spent upon his own research. During this time his energy and enthusiasm never lagged and, as he told me only a few days before his death, he had already on hand collections of ants that would take him many years to work up. This, of course, did not take into account the many related biological problems that continually arose in his mind in connection with taxonomic work. At that moment he was just finishing his last extensive manuscript dealing with mosaic anomalies in ants, an investigation which had unexpectedly developed from the study of some collections of ants recently received from the American tropics.

Most persons conversant with Professor Wheeler's published contributions to biological science and to entomology
in particular, will regard these as his greatest achievements. There are, however, a favored few who have had the good fortune to derive from him, through personal contact, either as students or colleagues, a vast amount of information and inspiration which they will always treasure and some of which they will be able to pass on to their own students and younger associates. Wheeler always dealt with his students as he would with colleagues. With his broad intellectual viewpoint he could do this with ease, and without apparent effort he would quickly stimulate these young men to accomplishments quite beyond their own expectations. He was always enthusiastically interested in his own work and however deeply immersed in it, was always ready to welcome the student who wandered into his laboratory at any time. Frequently, such conferences would turn to an account of what he was doing at the moment or to a critical review of some important book which he had just read. The immediate effect of such contacts was frequently disheartening in the extreme, as it emphasized the extent of any biological problem and the inadequate background of the young man who was attempting to solve it. However, the final result of a series of such meetings was highly salutary, and it gave to most of his students the impetus needed to complete their work well, and furthermore to prolong their studies after the inevitable doctor's thesis had been finished. This ability to instill his own ideals of research into the minds of younger men was a salient characteristic of his personality and it has done much to further the real advance of entomological investigation in many fields.

To see him casually in his laboratory, working over a box of mounted specimens of ants and attaching to them labels with their Latin names, one would have taken him for a taxonomist pure and simple. Under such circumstances he was, and the endless amount of material from all parts of the world that passed through his hands during the thirty-five years that he was an authority on the classification of ants resulted in the description of an enormous number of new species, sub-species and varieties. Such work requires immense concentration, continuous study and perfect familiarity with a maze of literature. As a result most taxonomic workers lose interest in all the problems of general biology.
Wheeler was a glaring exception to this rule as his encyclopaedic familiarity with the structure and adaptations of ants not only served to increase his interest and curiosity in the many other phases of biology, but enabled him to approach them with a minute, systematic knowledge of detail utterly beyond the common range. This method of approach is especially notable in connection with his papers on gynandromorphs in ants, the behavior of ant-lions and worm-lions, and his contributions on the evolution of social and parasitic habits among insects.

Professor Wheeler's thirst for reading was insatiable and as he read the several common European languages with great facility, the literary field in which he could browse was very wide. His interest in literature was almost exclusively serious although it was by no means restricted to entomology, biology or even to the natural sciences. It was, however, primarily confined to biology, psychology and philosophy in the widest sense, although few of his friends or colleagues were ever able to bring to his attention any book of general interest with which he was unacquainted. Most frequently he had read it through (which meant literally that) for although he read with great rapidity, his very retentive memory allowed no details to be forgotten. In addition, a pencil in his hand was intermittently busy underlining sentences or marking paragraphs to which he might wish later to refer. Similarly, every bundle of reprints that came to his desk, and there were a great many of these, was carefully examined, first, to cull out any in which he could see nothing of interest. The others were read almost in their entirety.

He had such a keen sense of humor that he derived a great deal of fun from many books and dissertations that were not intended to furnish amusement. This undoubtedly made up in great part for the lack of light reading on his book-shelves. In company, however, he was very fond of a good story, and no matter what the subject, his conversation was always enlivened with a humor uniformly appealing to his wide range of friends and colleagues. When it came to the point, Professor Wheeler was extremely outspoken and he did not mince words in voicing either approbation or disapproval no matter to whom his remarks might be directed. He always
spoke in good faith, however, and his opinions were almost always accepted in the spirit they were given.

Much more could be said of Professor Wheeler's academic career and scientific writings. A fine appreciation written by several of his colleagues has appeared in Science.¹ He received several honorary degrees and medals in recognition of his entomological investigations. He enjoyed membership in numerous important societies; honorary membership in three foreign and two American entomological societies. During his long residence at Harvard he took a leading part in the activities of the Cambridge Entomological Club and a continued interest in its journal PSYCHE to which he contributed several short articles in almost every volume.

Wheeler was an unusually keen and enthusiastic collector. After the first few years, his immediate interest was centered almost entirely on ants, but he never failed to bring back from any excursion many other valuable specimens. He traveled extensively through the United States, Mexico and other parts of tropical America and twice visited Australia; also his visits to Europe and North Africa offered opportunities for collecting that were never neglected. He had returned from an extensive and strenuous trip with his wife into Mexico only a few weeks before his death.

The list of titles in the appended bibliography is believed to be a practically complete list of Professor Wheeler's biological books, memoirs and papers. It has been compiled primarily from a catalogue which he himself maintained, and I have one of his younger students, Professor F. M. Carpenter to thank for preparing the preliminary draft during my own protracted absence from America.

This bibliography speaks for itself as to the varied interests and accomplishments of Professor Wheeler. It cannot of course give any indication of the great clarity of his scientific statements and the fine literary style which pervades all of his writings. From the latter standpoint alone several of his humorous and satirical addresses could lay claim to rank as classics. In addition each contains several cleverly concealed and well documented scientific pills which represent the real thesis of the communication. By far the

¹June 4, 1937; vol. 85, pp. 533-535.
greater number of papers deal with ants, many with other social insects, a number with various types of parasitism and with evolutionary phenomena. Although nearly all relate to insects directly, only those concerned entirely with taxonomy can be classed as strictly entomological in that they do not contain material of immediate interest to other biologists.

Among those who knew him personally or through his writings, he had a host of friends, almost no enemies, and certainly all regarded his intellectual accomplishments with an admiration that will never fade till they join him in the great unknown.

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PUBLICATIONS OF WILLIAM MORTON WHEELER

1885


1887


1888


1889


Homologues in Embryo Hemiptera of the Appendages of


1890


1891


1892


A Dipterous Parasite of the Toad. Psyche, vol. 6, p. 249.
1893


1894


1895


1896


1897


The Maturation, Fecundation and Early Cleavage of
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1898


1899


1900


The Female of Eciton sumichrasti Norton, with some notes on the habits of Texan Ecitons. American Naturalist, vol. 34, pp. 563-574, 4 figs.

The Habits of Myrmecophila nebrascensis Bruner. Psyche, vol. 9, pp. 111-115, 1 fig.


A New Myrmecophile from the Mushroom Gardens of the Texan Leaf Cutting Ant. American Naturalist, vol. 34, pp. 851-862, 6 figs.


1901


Microdon Larvae in Pseudomyrma Nests. Psyche, vol. 9, pp. 222-224, 1 fig.


1901


1902


Natural History, Oecology or Ethology? Science, n.s., vol. 15, pp. 971-976.


1903


A Decade of Texan Formicidae. Psyche, vol. 10, pp. 93-111, 10 figs.


The Origin of Female and Worker Ants from the Eggs of Parthenogenetic Workers. Science, n.s., vol. 18, pp. 830-833.


1904


The Obligations of the Student of Animal Behavior. The Auk, vol. 21, pp. 251-255.


1905


Dr. O. F. Cook's "Social Organization and Breeding Habits of the Cotton-Protecting Kelep of Guatemala". Science, n.s., vol. 21, pp. 706-710.


The Expedition to Colorado for Fossil Insects. The American Mus. Journ., vol. 6, pp. 199-203, 5 figs.

1907


1908


1909


现出 is the Ants of Isle Royale, Michigan. Report Michigan Geol. Surv., 1908, pp. 325-328.

1910


Small Artificial Ant-Nests of Novel Patterns. Psyche, vol. 17, pp. 73-75, 1 fig.


A New Species of Aphomomyrmex from Borneo. Psyche, vol. 17, pp. 131-135, 1 fig.

A Gynandromorphous Mutillid. Psyche, vol. 17, pp. 186-190, 1 fig.


1911


On Melanéterius infernalis Fall. Psyche, vol. 18, pp. 112-114, 1 fig.


Three Formicid Names which have been Overlooked. Science, n.s., vol. 33, pp. 858-860.


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1912


1913


A Giant Coccid from Guatemala. Psyche, vol. 20, pp. 31-33, 1 fig.


Ants Collected in Georgia by Mr. J. C. Bradley and Mr. W. T. Davis. Psyche, vol. 20, pp. 112-117.


1914


The American Species of Myrmica Allied to M. rubida Latreille. Psyche, vol. 21, pp. 118-122, 1 fig.


1915


A New Linguatulid from Ecuador. Rept. First Harvard Exped. to South America (1913), appendix, pp. 207-208, 1 pl.


Paranomopone, a New Genus of Ponerine Ants from
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1916


1917


1918


1919


1920


The Subfamilies of Formicidae, and Other Taxonomic Notes. Psyche, vol. 27, pp. 46-55, 3 figs.


1921


Notes on the Habits of European and North American


1922


The Ants of Trinidad. American Mus. Novitates, No. 45, pp. 1-16, 1 fig.

A New Genus and Subgenus of Myrmicinae from Tropical America. American Mus. Novitates, No. 46, pp. 1-6, 2 figs.


II. The Ants Collected by the American Museum Congo Expedition, pp. 39-270.

VII. Keys to the Genera and Subgenera of Ants, pp. 631-710.

VIII. A Synonymic List of the Ants of the Ethiopian Region, pp. 711-1004.

IX. A Synonymic List of the Ants of the Malagasy Region, pp. 1005-1055.


1923


A Singular Habit of Sawfly Larvae. Psyché, vol. 30, pp. 9-13, 1 fig. (with W. M. Mann).

Formicidae from Easter Island and Juan Fernandez. In


The Occurrence of Winged Females in the Ant Genus Leptogenys Roger, with Descriptions of New Species. American Mus. Novitates, No. 90, 16 pp., 5 figs.

1924


Ants of Krakatau and Other Islands in the Sunda Strait. Treubia, vol. 5, pp. 1-20, 1 map.

1925


A New Guest-Ant and other new Formicidae from Barro


1926


1927


Ants Collected by Professor F. Silvestri in Indochina.


The Occurrence of the Pavement Ant (Tetramorium caespitum) in Boston. Psyche, vol. 34, pp. 164-165.


1928


A New Species of Probolomyrmex from Java. Psyche, vol. 35, pp. 7-9, 1 fig.


Societal Evolution in E. V. Coundry’s “Human Biology and

1929


The Identity of the Ant-genera Gesomyrmex Mayr and Dimorphomyrmex Ernest André. Psyche, vol. 36, pp. 1-12, 1 fig.


1930

History of the Bussey Institution In S. E. Morison’s “Development of Harvard University since the Inauguration of


Two Mermithergates of Ectatomma. Psyche, vol. 37, pp. 48-54.


Ant-tree Notes from Rio Frio, Colombia. Psyche, vol. 37, pp. 107-117, 1 pl. (with P. J. Darlington, Jr.).


1931


1932


1933


1934


Ants from the Islands off the West Coast of Lower California and Mexico. Pan Pacific Entom., vol. 10, pp. 132-144.


1935


Observations on the Behavior of Animals during the Total


1936


1937


Mosaics and Other Anomalies Among Ants. 95 pp., 18 figs. Harvard University Press, Cambridge.

In collaboration with his former student, Dr. Wm. S. Creighton, Professor Wheeler had begun the preparation of a Handbook of North American Ants. Much of the preliminary manuscript for this volume was already finished and Dr. Creighton plans to carry the work to completion in the near future.
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