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OF

GEORGE PERKINS CLINTON

1867–1937

BY

CHARLES THOM AND E. M. EAST

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G. P. Clinton

GEORGE PERKINS CLINTON

Chronology

1867. Born May 7, at Polo, Illinois.
1886. Graduated, Polo High School.
1890. B.S., University of Illinois. Assistant Botanist, Agricultural Experiment Station, and Assistant in Botany in the University of Illinois.
1894. M.S. in Botany.
1900. Graduate Student in Botany, Harvard.
1901. M.S., Harvard.
1902. D.Sc., Harvard.
1902. Botanist, Connecticut Agricultural Experiment Station at New Haven, July 1, 1902.
1902–1925. Botanist, State Board of Agriculture (Connecticut).
1903–1927. Chairman, Committee on Fungous Diseases of Connecticut Pomological Society.
1904. Agent and Expert, Office of Experiment Stations, U. S. Department of Agriculture, studying coffee diseases in Puerto Rico.
1906–1907. Studied fungous diseases of the brown-tail moth at Harvard, 1906. Continued the study in Japan, 1907.
1908. Agent, Bureau of Entomology, U. S. Department of Agriculture, to prevent the spread of moths.
1909. Collaborator, to seek parasites of the Gypsy moth in Japan.
1915–1927. Lecturer in Forest Pathology, Yale.
1916. Collaborator, Plant Disease Survey, U. S. Department of Agriculture.
1926–1929. Research Associate in Botany, Yale.
1937. Died, August 13th at New Haven, Connecticut.

GEORGE PERKINS CLINTON*

1867–1937

BY CHARLES THOM AND E. M. EAST

George Perkins Clinton was born in Polo, Illinois, May 7, 1867. He was known to his fellows as Botanist of the Connecticut Agricultural Experiment Station, a post which he held for thirty-five years. His background was an ancestry which had its roots among the founders of New York and New England. Direct progenitors on both sides of the family served in the American Revolution. He was the son of John Waterbury Clinton who was born in Andes, New York, but moved to Ogle County, Illinois, when a young man, as a teacher; there he married Caroline Perkins whose family had moved from Delhi, New York, to Buffalo Grove, Illinois. Two great-grandfathers, Joseph Clinton and Rufus Perkins, fought in the Revolutionary War; one grandfather, Timothy Perkins, in the War of 1812, and an uncle, Edgar Perkins, was in the Civil War. John Waterbury Clinton published the "Polo Ogle County Press" for nearly fifty years. He was interested in all the early movements toward popular education which resulted in the establishment of colleges throughout the state. As editor of a paper in a community predominantly interested in farming, he supported the development of the University of Illinois, and especially its agricultural work. He was a collector of coins, stamps, geological specimens, personal and historical material especially concerning the region in which he had settled. His house was full of books and magazines. His one hobby that may have turned his son toward botany, was his development of flower gardens. We have thus the background of a scholar.

One of his teachers writes that young Clinton was a "studious, hard-working pupil," "very much disgusted and impatient with himself if he made a mistake" and very ambitious to make a record for scholarship. There is no report of his first stimulus

* Dr. Florence A. McCormick, who was closely associated with Dr. Clinton during the later years of his work at New Haven, collected most of the materials used in this memoir.

to study plants but by the time he graduated from high school at Polo in 1886, he had acquired the beginnings of a collection of native species of the prairies, and an interest in botanical training which led him to seek information about the University of Illinois. This brought him into contact with M. B. Waite of Oregon, Illinois, not far from his home. Mr. Waite was already specializing in botany at the University and working in the field as assistant during the summer. Clinton entered the University in the fall of 1886.

The great figure in botany at the University of Illinois for many years was Prof. T. J. Burrill, who was about at the height of his career when Clinton was in college. In connection with The Illinois Natural History Survey, Burrill kept his special students and assistants collecting and classifying the flora of the state. Clinton was early assigned to the fungi and when he graduated in 1890, went to work for the University as an assistant. Preliminary publication upon two of the great groups of parasitic fungi had been made by others before Clinton graduated. The manuscript upon the smuts (Ustilagineae) was in process and fell to him. He published the smuts of Illinois while in the service of the University.

He remained with Dr. Burrill until 1900, working for the most part upon the fungi of the state. Fourteen publications are reported for this period. Those of us who knew him in the laboratory in the late 1890's and shared an acquaintance with him for the next forty years, know that he changed little in appearance during that time. Then as later, he was a slight man, serious, methodical, purposeful, chary of word unless he was sure of his audience but worthy of a hearing when he chose to speak.

One who saw much of him during his professional career reports that in spite of close and persistent application to the work on hand, "He was never too busy to help a comrade or a colleague, to the best of his ability; and his comments never failed to show a keen insight into the problem under discussion" and again, in thirty years of acquaintance he was not heard to

say, "A word about an acquaintance that could be called sharp, or mean or disagreeable."

The casual visitor found Clinton the formal, cautious scientist, sparing in the use of words but succinct in his discussion of the problem presented. Only when one got behind the scenes and found him jealously using and treasuring for thirty years the chair and desk inherited from Thaxter, he caught the strain of hero worship which put high value upon the ideas and ideals of his predecessor. Then in his memoir of that friend, we find the poetic spark which fired that elemental imagination which somehow lights the way for every constructive worker through long years of unremitting application to problems which are deadly to men who lack that inspiration.

The correspondence of those ten years in the Illinois Survey inevitably brought him into contact with Dr. Farlow at Harvard. This led to a visit to Cambridge, and in 1900 Clinton took leave from his University assistantship for graduate study with Professors Farlow and Thaxter. He took with him his Smuts of Illinois. His thesis extended it to the Smuts of North America and, like many another who fell under the spell of Thaxter—he carried away that group as a life task. Other assignments might come and go, the monographic work upon the smuts was still in process when he died. Fortunately he had arranged with associates for the completion of work in progress thus to insure that his revision of the Smuts of North America will be published.

He received the doctorate of science at Harvard in 1902, and became a member of the honorary society of Sigma Xi. The post of botanist at the Connecticut Agricultural Experiment Station at New Haven, once honored by Thaxter himself, was given to Clinton, July 1, 1902. He retired from it on July 1, 1937, after thirty-five years of distinguished service, and died August 13, 1937.

The record of those thirty-five years appears principally in the biennial reports of the "Station Botanist" and in the publications of the state societies interested in agriculture. Clinton's survey of the outstanding disease records of a year show how

close a watch he maintained upon the parasitic diseases of Connecticut crops. In addition, each such report shows one or more studies of particular diseases or of special fungi or fungous groups. Connecticut presents a wide range of conditions—forests, rolling hills, areas devoted to forage crops, intensive market gardening, tobacco as a special crop, apples, peaches on a commercial scale, ornamentals, and greenhouse products—one has but to read the topics in Clinton's reports to find that he was keenly alive to the problems of crop production throughout the state. No group was ignored or neglected.

The working plant pathologist consistently watched Clinton's reports for summaries of progress, for new methods, for observations and illustrations of the newly recognized disease or for the foreign invader. In each case the history and significance of the disease was presented together with the definite additional material developed by Clinton and his colleagues working at New Haven. These papers were illustrated by photographs and drawings chosen to convey to the grower as complete as possible a concept of the type of injury to crop plants attributable to the infecting agent. Many fungi were carried to the laboratory where life histories were worked out carefully. Among such special studies, we find Phytophthora of potatoes with special investigation of the production of oospores, Phytophthora of Lima beans, Thielavia as a root rot of tobacco, the bacterial disease—tobacco "wild fire," an elaborate series of papers upon the chestnut bark disease, another series upon white pine blister rust, a survey of the heteroecious rusts observed in the state.

He began work on what are now known as the virus diseases about 1903. In various forms, references to the group appear in each report. In 1914, experimental work on tobacco mosaic over a number of years was brought together in his well known paper—Calico of Tobacco. The whole matter again appears in his joint paper with Dr. McCormick in 1928.

Clinton was an active member of various societies covering the agricultural field in Connecticut. Few state meetings were held without his presence and participation. Aside from his

general reports, his name appears upon eighteen committee reports to the Connecticut Vegetable Growers' Association, upon twenty-four reports to the Connecticut Pomological Society, and as author or joint author of twenty Experiment Station bulletins. He interpreted his place of the Station Botanist as a service job. To the broad interest in plants and consecration to the interests of the state so typical of Burrill, he added the critical taxonomic point of view characteristic of Farlow and the persistent, patient descriptive ideals of Thaxter.

As a Connecticut scientist, in addition to the groups already mentioned, he was a member of the New England Botanical Society, the Connecticut Botanical Society, the Connecticut Forestry Association.

The merit of his contributions to agriculture and to botany was recognized early by his colleagues beyond the state service. Although he was modest and unassuming, he was constantly in demand for counsel and instruction. Harvard called him back once. Yale made use of him for a dozen years. The United States Department of Agriculture requisitioned his service from time to time and the Phytopathological Society made him its president in 1912. His election to the National Academy of Sciences was welcomed by all who knew him in 1930.

In addition, he was a Fellow of the American Association for the Advancement of Science, Fellow of the American Academy of Arts and Sciences since 1914, member of the Mycological Society of America, of the American Society of Plant Physiologists, of the American Naturalists and of the Botanical Society of America.

Clinton was a confirmed collector. He began building his personal herbarium as a boy at Polo, Illinois. Four years at the University added the plants of South Central Illinois; ten years on the Survey made him a discriminating collector whose critical eye caught host and parasite in the same glance. His herbarium grew from every journey and each assignment. Thus he added series from Canada, from the United States, from Puerto Rico, Panama, Hawaii, Japan and from parts of Europe reached on his trips abroad. Each expedition was a scouting trip—his wide

acquaintance with host plants and parasites made him alert to detect the spread of plant disease into new territory and to anticipate its significance to his own state.

His herbarium with the record of fifty years of field work, was given to the Connecticut Agricultural Experiment Station. The descriptive literature assembled by him remains with the collection. The two together will make that station a place of pilgrimage to the phytopathologist seeking to follow the story of the fight to save our crop plants from destructive pests.

Clinton married Anna J. Lightbody of Pekin, Illinois, on August 9, 1892. Their only son, Harry Lightbody Clinton, was killed in France, fighting with the American troops in the World War. This loss saddened the latter years of the father's life. He never lost his sense of acute grief. Work in increasing amounts was his only means of escape. While he retired voluntarily July 1, 1937, he retained the title of consulting botanist and went to work each day as usual, as long as he was able to get there. Mrs. Clinton continues to live in New Haven, Connecticut.

The annual loss to agriculture from plant diseases is variously estimated all the way from half a billion to three billion dollars. Whatever may be the true figure, the loss is great. The only protection of the public against such enemies, is a home guard, smaller than an army regiment in times of peace, composed of fighters armed with that knowledge of the character and habits of the enemy which comes from thorough training in plant pathology. One who occupied an outpost along this battle line was lost when George Perkins Clinton died August 13, 1937.

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