

Less-Known Biologists of Lancaster County

BY EUGENE R. RIGHTMYER

In the scientific spirit of this age knowledge, thoughts and ideals have attained new horizons; the quest to understand ourselves and our environment has become veritably dynamic, and the wealth of knowledge inestimable and diverse. But the sole contributors to this treasure have always remained the same—the minds of human beings. This article concerns such persons, in particular those scientists of one geographical and historic political and cultural component of Pennsylvania — Lancaster County. The English statesman and historian, Thomas Macauley, had said that the history of a country is best told in a record of the lives of its people. In conformity with this idea but in reference to the natural history, the "Contributions to Biology by Lancaster Countians," of which this article is an excerpt, had been prepared.¹ Among the contemporary Pennsylvanians of this county, there are those whose work in biology will be acknowledged hereafter; but the following pages introduce biologists native to or resident of Lancaster County, whose lives and work in pure science have been completed and should be recognized. And of these scientists only the less-known are related in length.

In the latter half of the eighteenth and the beginning of the nineteenth centuries, Lancaster County was well represented in the biological sciences by a triumvirate of Henry E. Muhlenberg, Father of American Botany; Frederick V. Melsheimer, Father of American Entomology; and Benjamin S. Barton, Father of American Materia Medica. To Muhlenberg and Melsheimer, both devout and scholastic Lutheran ministers of the German element,

¹ The thesis, "Contributions to Biology by Lancaster Countians," written in 1950-51, can be found at the Library or Department of Biology of Franklin and Marshall College.

natural science was an avocational interest; but to Barton it represented his undivided interest and lifetime labors. The five nineteenth century biologists—Jacob Stauffer, Simon S. Rathvon, Samuel S. Haldeman, Thomas C. Porter and Abram P. Garber—were mutually interested in the development of many branches of biology in the county. And sharing the propagation of science in the nineteenth and twentieth centuries was H. Justin Roddy, a teacher and student of natural science as was Thomas C. Porter. In the study of these contributors to American science, certain general facts become evident. First, the lives of Muhlenberg, Melsheimer, Stauffer and others were devoted considerably but not narrowed exclusively to biology. Secondly, they were mostly botanists and entomologists interested in the taxonomical phase of the sciences; and thirdly, in scientific experimentation and observation the laboratory is not limited by confining walls or microscope's field but includes the immediate environment, the county and the world.

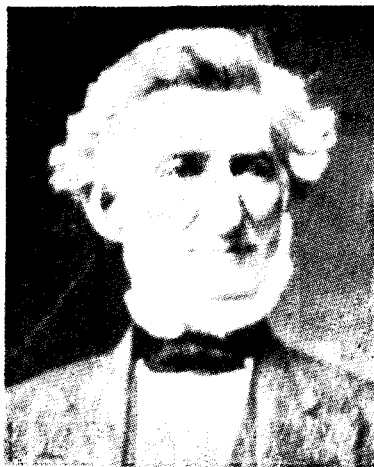
From Henry E. Muhlenberg, a colonial man of letters and science, to John K. Small of the New York Botanical Gardens, from Frederick V. Melsheimer, a former German mercenary of King George III, to H. Justin Roddy, a naturalist by instinct, there have been many biologists at work exploring the county's flora and fauna. The purpose of this article is to point out the character and scope of some of these scientific worthies and to give the reader, briefly in each instance, such accounts as will enable him to know and to appreciate their love and study of nature. Likewise, in judging today's progress, it's necessary for us to review the achievements of those who have stimulated the continued research and industry.

Jacob Stauffer (1808-1880)

An enthusiastic nineteenth century naturalist was Jacob Stauffer, who studied entomology and botany and produced a great quantity of notable botanical drawings. A descendant of John Stauffer, who had emigrated from Switzerland in 1710, Jacob was born in Manheim, Lancaster County, on November 30, 1808, the son of Samuel C. Stauffer and Hannah Wright. Endowed with a "common country-school education," he was early put behind the counter of his father's store in the town. Early in his youth he

displayed exceptional talent in drawing and painting; and had his father approved of art as a career, Jacob undoubtedly would have made it his lifework. Like many boys his early interests also leaned toward military display and were nurtured by a retired West Pointer boarding with his father. With this advantage in training, he was appointed adjutant of the Eighteenth Regiment of the Pennsylvania Militia in May, 1825, later became first major and on the expiration of Colonel Hostetter's term, succeeded him to that rank.

When he reached his majority, he moved to Philadelphia, became acquainted with Sully, Irman and other artists and engravers,



Jacob Stauffer

and took instructions in drawing and oil painting. Having no money to continue his studies, he got a clerkship in a counting-house and later in the recording office of Philadelphia. However, in 1830 he returned to Manheim, opened a general store and subsequently introduced the first printing press in the village to supplement his income. But, his pursuits in medicine and botany prompted him to gradually sell his merchandise and to become an apothecary. Although active in the community's administration, tradition tells us that he was not too successful in business. In 1840 he exchanged his Manheim property for one in the village of Richland, now incorporated in the borough of Mount Joy, where

he introduced the first printing press, a lithographic press and daguerreotypy.

Despite these pursuits he managed to devote time to natural science, especially botany, outdoors in the Chickies valley, tramping the hills, fields and swamps, collecting specimens and making notes and drawings. His artistic talent, keen perception and interest in science produced a great enjoyment and facility in illustrating plants and insects painted mostly in watercolors. By the expression of such personal qualities Jacob Stauffer became one of the most versatile local botanists and a constant contributor to agricultural and scientific journals.

In his autobiography, the son, David McNeely Stauffer, wrote:

...and among my earliest recollections are the happy Saturdays spent in long walks through the countryside with my father, searching for rare plants and insects . . . In the Panic year of 1858 financial reverses came to my father; as a result of endorsing for a presumably wealthy friend, he lost all he had in the way of property. My older half-brother Francis H. Stauffer, was then the editor of the 'Daily News,' of Lancaster City, and at his solicitation my father moved to that town and opened an office as a patent-lawyer.²

During the first few years he had his office in the room of the Lancaster Athenaeum of which he had charge. However, his increased business forced him to seek better facilities in the city where he remained until his death in March, 1880.

In his early botanical rambles, he made some important observations on the parasitism of certain species of native *Scrophulariaceae* and of the *Comandra umbellata* which Professor Asa Gray of Harvard, a correspondent of Stauffer, had published in *Silliman's Journal*, 1853. Urged by Gray to publish his drawings with description, Stauffer himself set up the type, lithographed the illustrations, printed and bound the same in pamphlet form. Assisted by his father, the oldest son started the *Mount Joy Herald* in 1854, in which appeared weekly articles in botany illustrated by the father. In J. I. Mombert's "An Authentic History of Lancaster County," are two treatises by Stauffer on the county's reptiles and fish (including three new species of the latter). Although his illustrated publications contained information drawn from an extensive library, such tangible proof of his industry has depleted

² The unpublished manuscript of David McNeely Stauffer's autobiography is in the possession of the Franklin and Marshall Library.

considerably through the years. In his ability to adapt himself to almost any branch of science, his most extended studies in entomology on the habits and metamorphoses of insects were recorded in large illustrated manuscripts; unfortunately, their scientific value and recognition depreciated because of failure to be published.

As Alexander Harris wrote about Stauffer in 1872:

Very few of his most intimate friends have any idea of the extent of his labours, yet it is acknowledged by all who know him that he is well versed in almost every branch of science; and if a strange plant or insect is found and a name wanted for it, you are usually advised to 'go to Stauffer, he can tell you' . . . On asking him why he never published a book, his reply was, 'I first wished to know what I knew that was not known before . . . besides, such books as some men compile are no credit to them. I have purchased such, and found nothing new and no improvement on works previously written on the same subject; this has admonished me to be cautious.'

Stauffer, "a naturalist by instinct," was one of the founders and first secretary of the county's Linnaean Society organized in 1862. Such organizations as well as journals, state geological and natural history surveys, museums, botanical gardens and federal explorations were factors closely associated in the studies of the county's biologists.

Jacob Stauffer's accomplishments in biology have been obscured in years, a misfortune due in part to his failure to preserve his works in publications. Yet few men have possessed a greater versatility of talent and labored so enthusiastically, so long and so little influenced by desire of an immediate reward.

Samuel Steman Haldeman (1812-1880)

It is astonishing that one man, as the subject of this sketch, could give attention to so many abstruse branches of learning with such success. A biologist and philologist of German descent, he was born the oldest of seven sons of Henry Haldeman and Frances Steman on August 12, 1812, at Locust Grove, a family homestead on the eastern bank of the Susquehanna River. Until the age of thirteen Samuel went to the local schools, receiving the little education afforded and spending his vacations outdoors where his habits of observation were developed and later applied in scientific study. As a boy he loved nature, wading in the Sus-

quehanna for shells, collecting plants and traversing the river shore for minerals, arrowheads and relics. In his little museum in the loft of the family carriage-house, he used to arrange the collected specimens and anatomical preparations of animals.

In the spring of 1826, at the age of fourteen, he was sent to the classical academy of Dr. John M. Keagy at Harrisburg for two years and then proceeded to Dickinson College, where his interest in natural science was advanced under Professor Henry D. Rogers. However, feeling trammelled by the routine of college life and study, he returned home to continue his studies and to gradually accumulate a library and cabinets of geological, conchological and entomological specimens. From that time forth he directed his own studies, attended lectures at the University of Pennsylvania and lectured in the 1830's, a vogue of that time, on scientific and linguistic subjects. His parents approved his devotion to science; but partly to silence people's criticism, young Haldeman assumed more practical work—assisting his father in the sawmilling business at Chickies.

In 1836 Professor Henry Rogers, one of Haldeman's college instructors and the state geologist of New Jersey, was appointed state geologist of Pennsylvania and called upon his former pupil to help him complete the field operations in New Jersey. In April, 1837, Haldeman occupied a similar position in the Pennsylvania Geological Survey, his first work being the sectional study of the Susquehanna River and eventually broadened to include Dauphin and Lancaster counties. He returned to his home at the mouth of the Chickies Creek, where the remaining forty-two years of his life were mostly passed at study. Although he did accept several professorships and lectured, he preferred being master of his own movements at home. At Chickies he was joined by his brothers, Edwin and Paris, in manufacturing pig iron but did not undertake any active management of the business. Rather, he experimented in the construction of furnaces and in the use of anthracite coal for smelting.

In 1842 he lectured on zoology at the Franklin Institute, Philadelphia, from 1850 to 1855 occupied the chair of Natural Sciences at the University of Pennsylvania and then became Professor of Natural Sciences in Delaware College, confining his course to several months of each year without residing permanently at the



Samuel Steman Haldeman

college. At the same time he became Professor of Geology and Chemistry in the Pennsylvania State Agricultural Society.

Because of his exactness and thoroughness in all departments of science, he became eminent as an entomologist; but his life interest was channeled not toward entomology or geology, but toward philology. As J. P. Lesley wrote in his memoirs of Professor Haldeman,

His observations of the living forms of nature had revealed to him a world of sounds . . . Thus he had early entered the halls of the science of philology by quite a different door from that in common use.

In his study of languages and investigation of their syllabic combinations, the first result was "Elements of Latin Pronunciation" in 1851, the first of a series of philological works. Seven years later his "Analytic Orthography" won the Trevelyan prize in England over eighteen competitors. In 1870 he was appointed to the newly instituted Professorship in Comparative Philology at the University of Pennsylvania, held until his death, and was president of the American Philological Association in 1876. Agassiz said of him, "That man Haldeman has an idea behind every word he utters."

Although Samuel S. Haldeman achieved greater distinction in linguistic and philological studies both at home and abroad, his work in the natural sciences deserves our attention. In his career as a naturalist, he took an active interest in various branches of science, especially conchology and entomology. As he himself had written in 1844,

I collected on the banks of the Susquehanna long before I knew the meaning of genus and species,

so his first important treatise was in the field of conchology.³

In July, 1840, he issued the first number of his "A Monograph of the Fresh-Water Univalve Mollusca of the United States," which was completed in nine parts by 1845. In this monograph, superior in the style and finish of its plates, he described the *Scolithus linearis*, a new genus and species of fossil annelid, the oldest organic remains found at that time and discovered by him during his employment by the Pennsylvania Geological Survey. The original

³ Refer to Ellis and Evan's "History of Lancaster County, Pennsylvania," 1883, for more details.

shells had been presented to the Academy of Natural Sciences of Philadelphia; and those of the publication on the genus *Leptoxis*, published in Paris, presented to the Delessert-Lamarck collection in that city.

In the list of his publications ten are found devoted to conchology, of which the last appeared in 1863. But it is impossible to assign periods to his studies; for one study seems to have been carried on simultaneously with and often to be an outgrowth of another. While engaged in geology he was preparing his work on shells; and when in the midst of conchology (1844), he issued an entomological communication under the general title "Zoological Contributions."

Professor Haldeman should be listed among the founders of American entomology as his work followed closely that of Say and was contemporaneous with Le Conte's work on Coleoptera. In 1843, the year of Haldeman's paper, "Coleoptera of Southeastern Pennsylvania," he wrote a friend:

I have learned enough of entomology to know that a person may make a good conchologist, who would have made a very ordinary entomologist.⁴

In 1844, he wrote,

I intend to devote myself almost exclusively to this branch of zoology hereafter, and am gradually acquiring a good entomological library. I collected 2,050 specimens last season in all the orders, but principally coleoptera, with about 300 hymenoptera.⁵

Of the twenty-five entomological works, Haldeman's principal ones were "Materials toward a History of Coleopterous Longicornia of the United States" and the revision by him and his fellow entomologist, J. L. LeConte, of Frederick E. Melsheimer's "Catalogue of the Described Coleoptera of the United States," published by the Smithsonian Institution in 1853.

From his first appearance as a writer upon natural history, Haldeman seems to have never been idle; contributions in periodical literature to geology, conchology, entomology, paleontology, astronomy, ornithology and phonology numbered in the hundreds. His "On Species and their Distribution," 1851, which opened a question developed into the theory of Darwinism, was favorably

⁴ C. H. Hart, "Memoir of Samuel Steman Haldeman LL.D., Professor of Comparative Philology in the University of Pennsylvania," p. 15.

⁵ *Ibid.*, p. 16.

mentioned by Darwin himself in the preface of "Origin of Species." Acknowledgments for his aid and suggestions are given in various American scientific journals and often papers were submitted to him by the Smithsonian Institution for examination. Letters of inquiry were received by him from all parts of the nation and abroad.

He returned this confidence in his knowledge by an unbounded liberality in giving of it all who asked. No letter remained unanswered, no request unfilled that it was possible for him to grant.⁶

In addition to the duties entailed by several professorships, he was an active member of many societies and was complimented



Simon Snyder Rathvon

by honorary membership in twenty-eight societies both in America and Europe. The University of Pennsylvania conferred upon him the degree of Doctors of Laws in 1876.

From the preceding pages it is observed what an active, earnest life and career Professor S. S. Haldeman led. He was a practical man as a student and, owing no doubt to the catholicity of his studies, had none of the narrowness common to some scientists. Yet, his work in philology will probably be best remembered despite spending over fifteen years in the biological sciences.

⁶ F. Ellis and S. Evans, "History Of Lancaster County, Pennsylvania," p. 888.

Simon Snyder Rathvon
(1812-1891)

Simon Snyder Rathvon was born the son of Jacob Rathvon, a gunsmith, and Catherine Myers, at Marietta on April 24, 1812. At eight years young Rathvon attended four or five terms at local schools from 1820 to 1822, at the end of which he was able to "read, write and cypher—at least as far as compound addition."⁷ This completed his formal education. Although possessed of industrious habits and ordinary faculties, he did not appreciate an elemental education until too late in life to avail himself of the usual opportunities of obtaining it. Therefore, at ten years he hired himself to farmers in East and West Donegal and Rapho townships, alternating farm work with labor along the Susquehanna River in the spring. In July, 1827, he apprenticed himself to John Bell, a tailor of Marietta, for five years without any stipulation of schooling and after his apprenticeship set up a tailoring business in his native town.

In the fall of 1832 he became a member of a literary society later merged into the Marietta Lyceum of Natural History, whose members included Professor S. S. Haldeman and Judge J. J. Libhart. Rathvon's affiliations with the society and with literary men of the vicinity made him conscious of his own intellectual deficiencies, and to understand and realize the want was a sufficient cause for action. Perhaps his whole scientific and literary advancement received its first impetus from this society. By taking the opportunities for intellectual improvement afforded, new planes of knowledge and thought were opened to him, he devoted his spare time to the study of mineralogy, herpetology, orinthology and to the collection of specimens of the county. The relation to the society continued until November of 1833, when he disposed of his tailor shop and moved to Philadelphia.

In 1834 Rathvon returned to Marietta, re-established himself in business and married Catharine Freyberger. Many of the earlier years of married life were a series of struggles to maintain a family of seven sons and four daughters. In September, 1839, he discontinued business again in Marietta and took work in his brother's dry goods store in Lancaster. Two years later he re-

⁷ Alexander Harris, "A Biographical History of Lancaster County, Pennsylvania," p. 466.

turned to his native village, began business for the third time, but again moved, this time to Lancaster where he remained until his death on March 19, 1891.

As early as 1837, as a member of the Marietta Lyceum, Simon Rathvon had evinced a taste for natural science. In the summer of 1842 he began the study of entomology to which he had been attracted by the following incident:

I was one day sauntering along the banks of the Chiquesalunga when I encountered two men engaged in frog shooting. One of them had just shot a large frog and he called my attention to it, from the fact that, although he had shot the whole head off, the reptile seemed to toss its body about with unabated vigor. I soon discovered that there was something within it that produced its peculiar movements and on opening it I found its stomach was occupied by a large black, living beetle, also two dead ones, and several fragments of similar beetles. These beetles were entirely new to me, and of no ordinary character. I secured them and when I reached home, I impaled them amongst my other insects. Although I had previously been interested in mineralogy, and somewhat in ornithology, I did not know of a collector nor a collection of insects in the world. One day the late Professor Haldeman of 'Chiques Rock' came into my shop, as he always did when in town, when his keen eyes immediately fell with delight upon my small collection. He informed me that the large black beetles were *Xyloryctes satyrus*; that they belonged to the order Coleoptera, and the family Scarabidae in the division Lamellicornia. That definition was about as 'clear as mud' to me, and he recognized it with a grim smile.⁸

Rathvon often humorously related his "first entomological experience" to have occurred at five years of age, when

seventeen-year locusts were all tangled in the hair of my head, and my mother and some of the neighbors who were present, indulged in a first-class terror."

Rathvon had been an ardent writer upon scientific and kindred topics; his first article was published in 1844 in *The Argus*, a weekly paper of Marietta. Since then his contributions, numbered in the hundreds, had appeared in the *Pennsylvania Farm Journal*, *American Entomologist*, *Lancaster Farmer* of which he was editor from 1869 to 1884, and various newspapers, journals and state agricultural reports. Chiefly interested in the economic side of entomology, he published twenty-nine papers covering, for the most part, insects of the garden and orchard.

Rathvon received his chief encouragement in entomology through associations with the elder Samuel Haldeman. In 1842,

⁸ S. M. Sener, "Simon S. Rathvon, Ph.D.," p. 7.

⁹ *Ibid.*, p. 10.

Professor Haldeman had received the entomological collection of Professor Hentz of Alabama and included it in his own collection. Many years later, Rathvon received the consolidated collection so that his collection contained that of Hentz and Haldeman and the original *Xyloryctes satyrus* removed from the frog's stomach, the nucleus of ten thousand species of Coleoptera from six continents, still at the Franklin and Marshall College Museum.

Rathvon had been a founder of the Linnaean Society of Lancaster, became its curator, treasurer and entomologist over a period of twenty-eight years, and also assisted in the founding of the Lancaster County Agricultural and Horticultural Society. In 1861 he became Professor of Entomology to the State Horticultural Society and succeeded Professor S. S. Haldeman to the same title in the Philadelphia Horticultural Society. Furthermore, he was a corresponding member of scientific societies as the Academy of Natural Sciences of Philadelphia and the American Entomological Society.

In June, 1878, the honorary degree of Doctor of Philosophy was conferred upon him by Franklin and Marshall College.

If Rathvon's study and investigation in entomology did not bring him material wealth, they at least brought him honors and recognition as an authority on entomological topics by such naturalists as Le Conte and Cope. In tribute to this devotee to science, S. M. Sener, "an humble friend and pupil," wrote that

Dr. Rathvon has not even labored for applause but for an unselfish love of nature, and freely has he imparted his knowledge to all who sought for information from him . . . and if a higher reward than merely earthly be the lot of devoted aspiration to science . . . a large inheritance in heaven will be his portion.

Thomas Conrad Porter (1822-1901)

No formal introduction must be given to the subject of this sketch, Thomas Conrad Porter, whose literary, scientific and religious labors are in the annals of Franklin and Marshall College, the county and state. His ancestry is represented by two peoples instrumental in the development of Pennsylvania—the Germans and the Scotch-Irish. He was born on January 22, 1822, at Alexandria, Huntingdon County, as the son of John Porter, a Presbyterian of Ulster-Scot descent, and Maria Bucher of German ancestry. At the age of twelve he was sent to the Harrisburg

Academy where he prepared to enter Lafayette College, where he was graduated in 1840 at eighteen years of age. The next three years were spent at Princeton Theological Seminary, where he completed the course in 1843, the same year he received his Master of Arts degree from Lafayette College. The greater part of the years 1843 and 1844 were spent at his father's home in Alexandria, during which time he did much studying of natural history, especially of botany. These years, perhaps the most valuable part of his education, gave him unusual equipment in literature and science which rewarded him in later life. Having previously served a mission church in Monticello, Georgia, for two years, he was ordained by the German Reformed classis at Lebanon, Pennsylvania, in 1848. Then he returned to preach among the German people of his native state as a pastor of the newly organized Second Reformed Church in Reading.

In the sermons of this preacher illustrations were drawn from nature in demonstrating the wisdom and goodness of God.

For more than twenty-five years he lectured on Science and Religion; and in these lectures he discussed with the utmost freedom every question of the day pertaining to this field, and uttered his convictions with perfect frankness . . . Dr. Porter's teaching often emphasized the fact that, while we have revised our interpretation of many parts of the Scripture by the light of natural science, these revisions have not weakened but greatly strengthened our conviction that the Bible is the unimpeachable record of eternal truth.¹⁰

In 1849 he was elected Professor of Chemistry, Botany and Zoology at the small, struggling Marshall College, Mercersburg. When Marshall College was consolidated with Franklin College in 1853, Professor Porter moved to Lancaster where he retained his professorship and continued botanical research. He served as secretary to the college board of trustees until 1866, when he resigned to become professor of general geology, botany and zoology at Lafayette College, Easton.

For thirty-five years (1866-1901) Porter remained at Lafayette, and for seven years (1877-1884) he preached in the pulpit of the Third Street Reformed Church of Easton. So, he simultaneously served a congregation and conducted a department in an educational institution. In 1890 he succeeded Dr. Traill Green as Dean of the Pardee Scientific Department, until 1897 actively

¹⁰ T. C. Porter, "Essays, Verses, and Translations," p. 13.

fulfilled the duties of his chair at the college, and then became emeritus professor and curator of the college's herbarium.

Thomas C. Porter was a man of varied talents; and before reviewing his scientific pursuits, his literary accomplishments should be mentioned as having been more constant and life-long than any other. He published three volumes: a prose version of Goethe's "Hermann and Dorothea," translations of Shaff's "Life and Labors of St. Augustine" and "The Life and Times of Ulric Zwingli," in addition to many articles contributed to the *Mercersburg Review*. However, it was in the field of natural science that most of Thomas Porter's work was done. In the science of botany he was for many years the authority in the state and deserves a place aside of such American botanists as Gray and Britton. Porter began the collection and critical study of plants, particularly of Pennsylvania, about the year 1836 and continued both until his death. His connections with several colleges in Pennsylvania for over fifty years gave him a wide acquaintance with botanists, especially the students who came under his influence; and his efforts had brought together one of the most complete and representative state herbaria.

It has been stated that no one since the days of Henry E. Muhlenberg had made himself so thoroughly familiar with the flora of Lancaster County. During the thirteen years in this county, Porter did a great deal of botanical exploration along the valley of the lower Susquehanna, passing over much of the ground formerly visited by Muhlenberg. Although the region of Lancaster County had been the scene of continuous botanical exploration and study for nearly a century, the first authentic list of the flowering plants in the county had not been published until 1869—"An enumeration of the indigenous and naturalized plants found growing in the County of Lancaster, Pennsylvania," by Thomas C. Porter, Professor of Botany and Zoology in Lafayette College.¹¹ In the preface to this catalogue the author wrote:

The following catalogue is based upon the results of explorations made during a residence in the city of Lancaster between the years 1853 and 1866 . . . The aim of the author has been to lay a good foundation upon which any one who may wish to continue the work hereafter can build with confidence, for the field is by no means exhausted.

¹¹ Although G. H. E. Muhlenberg had written a flora *Lancastriensis* in the eighteenth century, the manuscript had never been published.

The flora's classification includes a total number of species and varieties of the county equal to 1,368. The rarer ferns and mosses observed and collected in the region of the lower Susquehanna were comprised in a list, "The Flora of the Lower Susquehanna," 1898.

As a part of his extensive work in botany, Porter planned early in his career the preparation and publication of a complete flora of Pennsylvania and in pursuance of this purpose explored nearly every part of the state. Through exploration and co-operation of others for sixty years, the herbarium, the basis for his flora, contained plants from all the counties and was partially damaged by fire at Pardee Hall, Lafayette College, in 1897.¹²

In 1903 Porter's "Flora of Pennsylvania" was posthumously published and edited by John Kunkle Small, his nephew and Curator of the Museum and Herbarium of the New York Botanical Garden at that time, and contained over 2000 species. His most worthy works are this flora, the "Catalogue of the Bryophyta and Pteridophyta Found in Pennsylvania" (1904), and a summary of the state's flora in the "Topographical Atlas of the State of Pennsylvania."

In 1846 Professor Porter explored northern Georgia with Dr. Joseph Le Conte and discovered a number of new species of plants which became the nucleus of his general herbarium increased continuously by American and European exchanges. Interested in the United States Geological and Geographical Survey of the territories, he did pioneer botanical work on the flora of the Rocky Mountains from 1869 to 1874, resulting in "A Synopsis of the Flora of Colorado"; for a long time this had been the only handbook for botanists in that region. With his friend Dr. Joseph Leidy of Philadelphia, he also collected botanical specimens in Wyoming and Colorado.

From 1878 into the 90's Professor Porter generously co-operated in correspondence and in botanical excursions with Dr. Britton of Columbia University while the latter was writing the "Preliminary Catalogue of New Jersey Plants" and "Illustrated Flora." His advice and aid were freely given during the establishment of the New York Botanical Garden, to which he contributed as well

¹² The Porter herbarium is now owned by the Academy of Natural Sciences of Philadelphia.

as to the Academy of Natural Sciences of Philadelphia. During the life of Dr. Asa Gray, Porter was in constant communication with him relative to the progress of the "Synoptical Flora of North America" and with Dr. Torrey of Columbia University.

Dr. N. L. Britton of Columbia University wrote of Porter:

He was in correspondence with nearly everybody interested in native plants in Pennsylvania during his time, and in personal co-operation with most of his correspondents, stimulating interest in natural objects and natural phenomena in a most valuable way, as he was always willing to supply freely any information at his command.

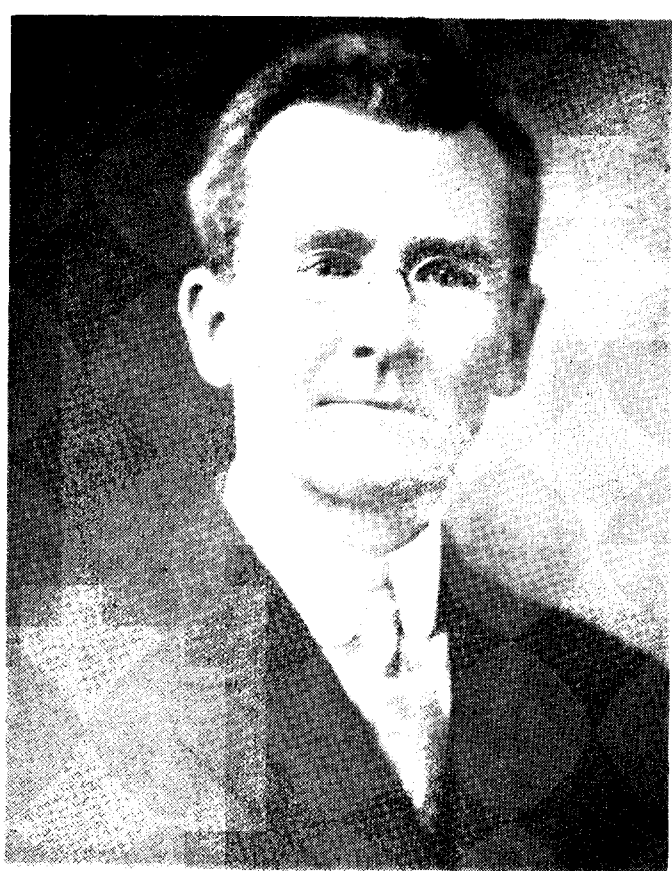
Dr. Porter described as new to botanical science, species and subspecies in the genera *Aster*, *Solidago*, *Carex*, *Avena*, *Melica*, *Calochortus*, *Habenaria*, *Boehmeria*, *Anemone*, *Clematis*, *Arabis*, *Fragaria*, *Geum*, *Prunus*, *Trifolium*, *Astragalus*, *Gerardia*, *Eupatorium*, *Lacinaria*, *Aplopappus*, *Erigeron* and *Cyperus*. In recognition of his services the genera *Porterella* and *Porteranthus* in the Rosaceae and thirteen species have been named in his honor. However, Porter was by choice primarily a co-operator in his scientific work; and Dr. Britton suggests that

his tendency to help others, his almost over-generous nature, militated against his own original work becoming as prominent as its importance warranted.

In 1865 Rutgers College conferred upon him the degree of Doctor of Divinity, and Franklin and Marshall College added that of Doctor of Letters in 1880. He was a founder and first president of the Linnaean Society of Lancaster, a member of the Torrey Botanical Club of New York, of the Philadelphia Botanical Club, of the Academy of Natural Sciences of Philadelphia, and of the American Philosophical Society.

Dr. Thomas C. Porter was at once a scientist, a scholar and a man of letters; and as a botanist his contributions to the published flora of Pennsylvania have merited his memory.

During the first century of our nation's growth (c. 1750-1850) the pioneers, individually and collectively, laid the foundations for the great achievements in American natural history. The scientific pursuits and contributions of biologists like Muhlenberg and Barton are familiar to students of systematic botany; and Stauffer



H. Justin Roddy

and Porter are to be acknowledged for their studies pursued earnestly and steadily throughout their lives. The work of these and other men explains the position that the flora of Lancaster County and surrounding territory holds in the botany of the eastern United States and substantiates the lead taken by Pennsylvania in American botany during the early years of the nineteenth century. Of all branches of natural history, entomology was one of the least cultivated by scientific gentlemen in our country in this period; and yet in Europe's gymnasia and universities, the science was industriously pursued and considered an essential part of a museum of natural history. In this country those few who didn't neglect the science rendered invaluable service to American entomology; and in Lancaster County such men as Melsheimer, Rathvon, and Haldeman were among those.

Likewise, in the latter part of the nineteenth and first half of the twentieth centuries, the names of Garber, Roddy and Small have continued the county's contributions to science. Although these pages couldn't give a detailed survey of all biologists associated with the county, the most important are mentioned and of those the less-known are included as representative of Lancaster County's legacy to science and record of men worthy of imitation by coming generations.