Fall 2010

Five Early American Botanists: Works and Opinions of Rafinesque

Charles T. Ambrose
University of Kentucky, cambros@uky.edu

Right click to open a feedback form in a new tab to let us know how this document benefits you.

Follow this and additional works at: https://uknowledge.uky.edu/microbio_facpub

Part of the History of Science, Technology, and Medicine Commons, and the Medical Humanities Commons

Repository Citation
Ambrose, Charles T., "Five Early American Botanists: Works and Opinions of Rafinesque" (2010). Microbiology, Immunology, and Molecular Genetics Faculty Publications. 61.
https://uknowledge.uky.edu/microbio_facpub/61

This Article is brought to you for free and open access by the Microbiology, Immunology, and Molecular Genetics at UKnowledge. It has been accepted for inclusion in Microbiology, Immunology, and Molecular Genetics Faculty Publications by an authorized administrator of UKnowledge. For more information, please contact UKnowledge@lsv.uky.edu.
Five Early American Botanists

WORKS AND OPINIONS OF RAFINESQUE

Constantine Samuel Rafinesque (1783-1840) was Professor of Botany and Natural History (Zoology) at Transylvania University from 1819 to 1826. Of the dozen or so well recognized American botanists of the early nineteenth century, he was the most colorful and controversial. This essay notes five of his fellow botanists whose works are included in Transylvania's Special Collections and quotes the opinions of Rafinesque that they held. Most of the book titles cited below are in the Special Collections.

Rafinesque lived in the U.S. during two periods, 1802-05 and 1815-40. His most significant work is the two-volume *Medical Flora* (1828, 1830). He was an insatiable field botanist who discovered thousands of new plant species and submitted such a flood of papers with new Linnaean names that in 1819 the editor of the *American Journal of Science* refused his further submissions. Fellow naturalists questioned his credibility and even his sanity. Critical, caustic comments about him that circulated in the private correspondence of American botanists included "that rattle headed genius," a rogue, "a most bare-face liar," deranged, "an unprincipled charlatan," and others.

**Thomas Nuttall, 1786-1859,** was an English naturalist who explored the regions around the Great Lakes and along the Missouri River in 1801-12. He collected many plant specimens, some of which had been identified by Lewis and Clark in 1804-06 but were lost in transit. Nuttall lived in England during the War of 1812, returned to the U.S. in 1815, and published *The Genera of North American Plants* in 1818. The Special Collections has only Nuttall's *An introduction to systematic and physiological botany,* 1827. His correspondence contains a letter from an older botanist who complained that Rafinesque gives superficial descriptions of plants and "makes a genus where hardly a species can be made." 1 (Page 157)

**Benjamin Smith Barton, M.D., 1766-1815,** taught botany and natural history at the University of Pennsylvania and published the first American hand-book of botany, *Elements of Botany,* 1803. (See second edition, 1812.) Although Barton lived before the controversial period of Rafinesque's career (after 1819), they shared common interests beyond botany. Both studied American Indian tribes and ancient Indian ruins. Barton correctly attributed the prehistoric mounds in Ohio to Native American mound builders and speculated that they predated the Biblical chronology of mankind.

**Amos Eaton, 1776-1842,** was a lawyer and surveyor who, during a land dispute in the Catskills, was accused of forgery and imprisoned for nearly five years in the New York State Prison. During this period he studied botany and geology and in 1806 taught the rudiments of flower structure to John Torrey, the young son of the prison's fiscal agent (see below). On his release, Eaton took classes in botany, chemistry, and mineralogy at Yale College and later lectured on these subjects at Williams College. In 1817 he published his *Manual of Botany for the North America,* which went through eight editions. (See Transylvania's fifth and sixth editions, 1829 and 1833.) In Troy, New York, he co-founded the Rensselaer School (now Rensselaer Polytechnic Institute), which during the early nineteenth century rivaled London as a center for geological studies.

In 1818 Eaton complained about the deluge of new plant species names submitted by Rafinesque: "What is the matter with Rafinesque?... We are not amused with the usual quantity of the new names and wonderful acts of Mr. R. written by himself... His name is absolutely becoming a substitute for egotism." When Eaton finally met Rafinesque in 1816, he conceded, "He is a..."
curious Frenchman. I am much pleased with him; though he has many queer notions.”

John Torrey, M.D., 1796-1873, whom Eaton introduced to botany by age 10 at the New York State Prison, became an assiduous collector of plants. He graduated from the College of Physicians and Surgeons in 1818 but forsook medicine for field botany. On the morning of his wedding day in 1824 he wrote the last pages of *A Flora of the Northern and Middle Section of the United States*. He is notable for replacing Linnaeus’ sexual system in plant classification with the natural method involving all plant structures, which Rafinesque had long favored. Torrey is generally viewed as most responsible for making botany a remunerative profession in the nineteenth century. Just as Eaton had instructed him in botany, so Torrey befriended and influenced Asa Gray, the final botanist in this essay.

Torrey was particularly annoyed with Rafinesque’s persistent discussion of “perpetual mutability.” Yet with this idea Rafinesque anticipated by several decades a major part of Darwin’s theory of evolution by natural selection, i.e., the continual emergence of new species. It might be said that Rafinesque was driven by great energy and enthusiasm, but that his reputation was destroyed by the impatience of his genius.