

Early America in Plant Names (Part II)

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A great surge of natural history collecting by explorers, colonists, and travellers began with the discovery of the New World and reached its height during the seventeenth and eighteenth centuries. This article concludes our series of sketches on the lives of colonial and pre-colonial botanists, naturalists, and horticulturists whose contributions to American natural history have been commemorated in the names of plant genera. Part I, which included a historical introduction, appeared in the summer issue of the *Quarterly*.

Claytonia: JOHN CLAYTON (1694-1773)

There were two John Claytons in Virginia during colonial times, the first (1657-1725) having arrived at Jamestown in 1684 and serving there as vicar for two years. The books, chemicals, and scientific instruments which he shipped from England for his use in the colonies were, unfortunately, lost at sea. In 1686 he returned to England where some of his observations on the natural history and inhabitants of Virginia were published by the Royal Society, even though they were written from memory without notes or specimens.

The second John Clayton (1694-1773), perhaps a distant relation to the vicar, arrived in Virginia in the early 1700s, probably about 1715. Because of his training in civil law, he was appointed assistant clerk of Gloster (now Gloucester) County, becoming clerk about 1720 and occupying that position until his death. He was an avid collector of seeds and specimens, and formed a close friendship with Catesby while the latter was in Virginia.

Later Clayton sent many if not most of his collections directly to Catesby, who shared them with other continental botanists, notably Gronovius (1690-1762), the Dutch botanist, who in turn shared them with Linnaeus. In the late 1730s Clayton sent Gronovius his manuscript, "A Catalogue of Plants, Fruits, and Trees Native to Virginia", in which he had classified the plants according to the system of John Ray. Gronovius and Linnaeus revised the paper using the Linnaean system. Unbeknown to Clayton, Gronovius published it under his own name in 1739 as *Flora Virginica*, though he did acknowledge Clayton's contribution. His rationale was that he was afraid Clayton's work, like that of Banister and others, would be lost if not published. An enlarged and corrected edition appeared in 1762. Unfortunately, Clayton's drawings and herbarium were destroyed during British raids near the end of the Revolutionary War.

Our common spring beauty, *Claytonia virginica*, was named in Clayton's honor by Linnaeus. With its red-veined pink petals, this is one of the earliest and most widely recognized spring wild flowers in the eastern part of our country.

Mitchella: JOHN MITCHELL (1711-1768)

Another multi-faceted individual of the colonial period was John Mitchell, who was born in Virginia and was trained as a physician at Edinburgh and Leiden. He returned to Virginia in 1731 or 1732, settling at Urbanna on the Rappahannock River. There he began collecting plants and corresponding with the important botanists of the time. Because of ill health, he returned to England

to live in 1745, taking with him more than a thousand specimens he had collected, some material of Clayton's, and plants being sent to Linnaeus by Colden. Unfortunately, very little of this collection ever arrived in a usable condition, as Mitchell's ship was captured by a French privateer and all his possessions were taken. He and his family arrived in London like refugees, and his collections were ruined by the time they were returned to him. Mitchell earned the distinction of writing the first American taxonomic paper, "Dissertatio Brevis de Principiis Botanicorum et Zoologorum . . .", in 1738, and he discovered ten new plant genera. His most remembered achievement, however, was his *Map of the British and French Dominions in North America with Roads, Distances, Limits, and Extent of the Settlements*. Published in 1755, it was the most important map in American history and was used as recently as 1932 to settle boundary disputes in a New Jersey vs. Delaware case.

Mitchell is commemorated by *Mitchella repens*, or partridge berry, named by Linnaeus. It is a creeping evergreen herb found in woodlands of the eastern United States. The genus also has one Asian species.

Bartramia: JOHN BARTRAM (1699-1777)

In 1728 John Bartram established a botanical garden, traditionally considered to be the first in North America, on the west bank of the Schuylkill near Philadelphia. Bartram was born in Chester (now Delaware) County, Pennsylvania, and was raised as a farmer with little formal education. His botanical interests were perhaps stirred by an inward desire to know more of the natural world about him. On a day in 1725, as legend has it, he paused to rest from his plowing and idly plucked a daisy. Of it he later wrote: "What a shame, said my mind, that thee shouldst have employed so many years tilling the earth, and destroying so many flowers and plants, without being acquainted with their structure and uses." His botanical edu-

cation was encouraged by James Logan, who is said to have loaned him botanical texts from his own library and taught him enough Latin to be able to read them. Bartram visited and corresponded with most of his botanical contemporaries in America and corresponded with those in Europe. His son, William (1739-1823), is remembered as a naturalist, explorer, plant collector, natural history illustrator, and author of *Travels through North and South Carolina and Georgia . . .* (1791), which is valued for its literary influence as well as its scientific contribution.

John Bartram was commemorated by Linnaeus with *Bartramia indica*, a small flowering shrub native to tropical Asia. This name has become invalid, however, and the plant is now called *Triumfetta rhomboidea*. (The name *Bartramia* was given to three other plants by three other botanists, too; all were found to be invalid.) Bartram's name is still remembered by a genus of mosses named by Hedwig. *Bartramia pomiformis*, or apple moss, is widely distributed in North America and occurs locally in Starved Rock State Park.

Gaultheria: JEAN-FRANCOIS GAULTIER (1708-1756)

Another in a succession of physician-botanists sent to Quebec by the King of France was Jean-François Gaultier. He was provided with meteorological instruments and he conducted the first meteorological survey of the colony. The governor, La Galissonnière, commissioned him to draw up a list of the trees and shrubs growing in North America which deserved to be collected and cultivated because of useful qualities. Gaultier included instructions on gathering and preserving the seeds and roots properly for their survival in transport to Paris. Copies of the list were distributed to the scattered French settlements to help encourage collecting.

When Kalm visited Quebec, he and Gaultier botanized together. In gratitude for Gaultier's



help, Kalm named (via Linnaeus) one of the new plants he had discovered in his honor. *Gaultheria procumbens*, or wintergreen, is a low creeping evergreen shrub that is native in eastern North America; it is sometimes used as a ground cover.

Stellera: GEORG WILHELM STELLER (1709-1746)

Georg Wilhelm Steller served as naturalist-physician on Vitus Bering's historic voyage to Alaska in 1741. Apparently he was one of the first white men to step on Alaskan soil, where he spent only ten hours, yet accomplished enough in that time to earn a lasting place in history. While exploring Kayak Island on July 19, 1741, he became convinced that he was on North American soil when a companion brought him a bird and he recognized its similarity to the eastern jay which he had seen, years before, pictured in Catesby's *Natural History of Carolina*. . . The bird has come to be known as Steller's jay. Despondent that Bering had decided to return home only a day after locating America, Steller noted bitterly: "Ten years the preparation for this great undertaking lasted, and ten hours were devoted to the work itself." Steller's account of his own observations was the first scientific paper on Alaskan natural history.

Steller is commemorated with *Stellera*, a genus of semi-woody shrubs native from Persia to China, named by Johann Georg Gmelin (1709-1755). Steller's name is perhaps more familiar, however, in the common names of some birds, sea animals, and geographic places in Alaska.

Kalmia: PEHR KALM (1715/16-1779)

From Uppsala, many students of Linnaeus spread across the world to explore and collect plants. One of them, Pehr Kalm, was sent to North America by the Swedish Academy of Science upon Linnaeus' recommendation. Kalm traveled by way of England, where he obtained letters of introduction to American naturalists, and arrived in Philadelphia

in 1748. Bartram and Colden were his American botanical connections, and he collected plants in Pennsylvania, New Jersey, and New York. Gaultier accompanied him in Quebec. Kalm returned to Sweden in 1751, and the diaries of his travels were published between 1753 and 1761. The first English translation, *Travels into North America*, appeared in 1770-1771, and is perhaps one of the best accounts of life in pre-revolutionary America.

Linnaeus honored his student with the genus *Kalmia*. The most handsome member is the mountain laurel, *Kalmia latifolia*, native to North America. This broad-leaved evergreen shrub with clusters of unusual rose to white flowers is related to the rhododendrons and is often planted with them in cultivation.

Gardenia: ALEXANDER GARDEN (1730-1791) Another late colonial botanist was the Scots-born Dr. Alexander Garden, who arrived in North America in 1752, settling in Charles Town, South Carolina. Garden was quite disappointed with the state of medical botany as he found it. In 1753 he wrote to his botany professor at Edinburgh: "Upon the whole I find most Practitioners here totally ignorant of Botany, that if it was not from what they Learn from the Negroes, Strollers, and Old Women, I doubt much if they would know a Common Dock from a Cabbage Stock." He later wrote to Linnaeus in 1755: "Mr. Colden, Mr. Bartram and Mr. Clayton are the only Botanists whom I know of on the continent." On a northern trip he visited Bartram at his botanic garden, which he described to Colden: "His garden is a perfect portraiture of himself, here you meet a row of rare plants almost covered with weeds, here with a Beautifull Shrub, even Luxuriant Amongst Briars, and in another corner an Elegant and Lofty tree lost in common thicket . . ." Garden was a Loyalist who returned to England after the Revolution and never forgave his son who fought with the Rebels.

Linnaeus honored Garden by naming the Cape jasmine for him. Linnaeus named it *Gardenia florida*, but the species name has been replaced by one given by John Ellis, *G. jasminoides*. Native to China and Japan, it is a woody shrub with fragrant, solitary white flowers.

Kuhnia: ADAM KUHN (1741-1817)

The only native-born American to study under Linnaeus was Dr. Adam Kuhn of Germantown, Pennsylvania. He studied in Europe from 1761 to 1768, the first two years being in Uppsala. He returned to Philadelphia where, as professor of materia medica and botany in the College of Philadelphia, he was the first professor of botany in America. Apparently he was somewhat pompous and arrogant. John Ellis, writing to Linnaeus in 1770, says of him: "Dr. Kuhn is one of those American chiefs that despise us Englishmen. I sent him some seed of *Rheum palmatum* by a friend and he had not the decency to thank me; but his German pride will do him no service, for thank God, we shall now humble those American revolvers. He is, to my knowledge, infinitely obliged to you; without your care in cultivating his mind he would have been a mere savage".

Although Kuhn did little to advance the cause of botany in the colonies, Linnaeus did bestow the name *Kuhnia* on a new genus, of which Kuhn had brought him living material. One member is *Kuhnia eupatorioides*, or false boneset, a medium-tall herbaceous perennial with white flowers that is found in the eastern United States and a few western states.

Brickellia: JOHN BRICKELL (1749-1809)

Two John Brickells lived in the colonies. Both were born in Ireland, both were doctors, and both settled in the Southeast—one in North Carolina, the other in Georgia. The birth and death dates of the first Dr. John Brickell are not recorded, but his work is known to have flourished between 1730

and 1745. His *Natural History of North Carolina* (1735) was largely a plagiarization of John Lawson's *New Voyage to Carolina* (1709). He also published *A Catalogue of American Trees and Plants which will bear the Climate of England* (1739).

The second Dr. John Brickell lived a generation later, coming to North America in about 1769. He was a keen observer of the local vegetation and published many of his botanical findings in *The Medical Repository*, an American journal.

It was to the second John Brickell that the American botanist, Stephen Elliott, dedicated the genus *Brickellia*. This group of perennial herbs is native to the warmer parts of the western states and Mexico. The plants are composites and bear flowers that are usually white or cream-colored.

Muhlenbergia: GOTTHILF HEINRICH ERNST MUHLENBERG (1753-1815)

Like Kuhn, Muhlenberg was a native Pennsylvanian of German ancestry. In 1763 he and his two brothers were sent to Germany to be educated. He returned in 1770, was ordained in the Lutheran Church, and began his ministry in Philadelphia. Just before the British occupation of the city in 1777, he and his family fled to the country and there he began his study of botany. When he accepted a pastorate in Lancaster, Pennsylvania, in 1780, he continued his botanical studies and by 1791 had collected more than a thousand specimens from that locality. His "Index Florae Lancasteriensis", published in 1793 with a supplement in 1799, contained more than 454 genera. Grasses and reeds were a particular interest. As a result of his *Catalog of the Hitherto Known Native and Naturalized Plants of North America . . .* (1813), he earned the epithet, "American Linnaeus".

Muhlenberg, who advised botanists to "hasten slowly", is remembered with the genus *Muhlenbergia*, named by von Schreber. Most species of this grass are native to America, and a few are Asian.