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BOTANICAL EXPLORERS OF THE SOUTH-EASTERN UNITED STATES by H. Harold Hume

The southeastern United States, and in particular the part now embraced within the state of Florida, is an unusual area from the standpoint of its plant life. Here nature with a lavish hand scattered far and wide an unrivaled flora. It has no counterpart either in the United States or in the whole world. The number of species is great and individual specimens of the higher plants so numerous that in the pristine condition they completely covered the surface of the soil on all but the poorest lands. In support of this statement it may be added that there are known to be more than 3,500 flowering plants (3,512 are listed in Small's Manual) and there are 314 trees, all native to Florida alone. By way of further emphasis, attention is called to 8 pines, 5 magnolias, 27 oaks, 15 hollies and 17 sunflowers native in Florida.

Why this great variety of plant life? In brief, the presence of such a variety of plants is due to geographical location, present climatic conditions, topography, water and land relations, and those climatic and geological factors that affected plant distribution in ages past. We may divide the plants now native in this great region roughly into three groups: (1) those with extended distribution northward, which we may designate as northern plants, (2) tropical plants, and (3) plants peculiar to the region,- that is, not native elsewhere. In this area are found some of the most useful, some of the most beautiful, and some of the most interesting plants to be found anywhere on the earth.

NOTE: This paper was in part read by Dr. Hume in St. Augustine before the last annual meeting of the Florida Historical Society.

Is it any wonder, then, that the southeast section of the United States almost from the time of its first settlement attracted the attention of many who for various reasons were interested in plants and plant products? Such was the case, and into this region there came a number of plant explorers searching out the plant life of the region and making it available for various uses in other parts of the world. Botanists and plant explorers came notably from the northern United States and from Ireland, Scotland, England and France. For the most part those who came from foreign lands selected Charleston, South Carolina, as the center of their operations, because even at an early date Charleston was a good port, a gateway of ingress and egress for the whole area. Through summer heat and winter cold, through storm and flood, through fair weather and foul they traversed the land, gathering its plant treasures to cure the sick, to add to economic wealth, to grace the gardens of distant lands, and to increase the knowledge of botanical science. Through their efforts, knowledge of the plants of our state and of the adjoining southeastern area was built up and today we are their debtors. In all, the study of plants of the southeastern United States carried on through exploration extends back over a period of more than-two centuries.

Who were these men? As already stated, they came from various places and for the most part returned whence they came. A few stayed on and lived out their lives in the land they explored. In three noteworthy cases fathers were accompanied by their sons and some of these sons continued their fathers' work after they had laid it aside. Listed chronologically with the date of their first coming into the southeast, the more important of these men were: Mark Catesby (1722); John

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Ellis (1764); John Bartram (1760, 1762) and his son William (1765); Thomas Walter (settled in South Carolina in early life. Date perhaps (1760†); John Fraser and his son John (1780); Andre Michaux and his son Francois Andre (1785); Alvan Wentworth Chapman (1831); Hardy Bryan Croom (1834); John K. Small (1891).

Sketchy biographical details are uninteresting and perhaps the more so since they must in this instance cover the lives of peaceful men in one of the ordinary pursuits of life, but they are all that space will allow. Seldom are monuments erected to the memory of those who have blazed a trail into unknown fields of scientific knowledge. History records the lives of statesmen, of warriors; it records the details of tremendous battles where thousands died, but history has taken little note of painstaking endeavor, of long years of diligent research in scientific fields. There is nothing spectacular about the goings and comings of such men. They have not caught the public fancy. They have made neither news nor history in the usual sense of those two words, but it is to such men that we owe our present day knowledge of the plants of this southeastern area of which Florida is a part.

Here then, are a few notes on the lives and work of some of those who made botanical explorations in the southeastern United States. The list is by no means complete, and it is not intended to be. The names of Alexander Garden (1730-1791), Stephen Elliott (1771-1830), Charles T. Mohr (1824-1901), Abram P. Garber (1838-1881), Charles S. Sargent (1841-1927) and Allen H. Curtis (1845-1907) for instance might well be added, but it is left for some one else to fill in the omissions.

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MARK CATESBY

Born Sudbury, England, 1679 Died London, England, Dec. 23, 1749

Mark Catesby, before entering actively upon his botanical explorations or studies, had lived in Virginia for seven years. No doubt it was during this period of contact with the plants of that section that his interest was aroused. He came to Charleston, South Carolina, in 1722, at the age of fortythree, and gave his time to collecting plants, illustrating and writing about them. The results of his work were published in eleven numbers beginning in 1730 and ending in 1748 just prior to his death. These publications were under the title "Natural History of Carolina, Florida and the Bahama Islands, " a magnificent work. He was interested in animals as well as plants and with each plate of plants he illustrated an animal. His plate of Zephyranthes atamasco, for instance, was accompanied by a picture of our native quail or bobwhite. The illustrations throughout were beautifully executed. Several plants have been named for him,- one of the most interesting being Lilium Catesbaei named by Walter. It is the only true lily native in the peninsular part of Florida.

JOHN ELLIS

Born Dublin, Ireland, 1710 Died London, England, Oct. 15, 1776

John Ellis, the Irishman, became a wealthy merchant in London and in 1764 was appointed King's Agent for West Florida, an office that was extended for him to include Dominica in 1770. His first botanical interest was in fungi and in marine algae, although he also collected flowering plants and sent specimens and seeds in large numbers to England.

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JOHN BARTRAM Born Marple, Pa., March 23, 1699 Died Kingsessing, Pa., Sept. 22, 1777.

Of all those who came into this region, John Bartram perhaps has attracted wider attention than any of the others. Essentially he was a plant explorer. His interest in plants began in early years and he devoted a large part of his lifetime to studying, collecting, and disseminating them. His explorations extended over a large part of the eastern United States from New York to Florida. His first excursion into the southeast took him as far as Charleston in 1760 and he was again in South Carolina in 1762. His excursion into Florida started from Philadelphia July 1, 1765. He arrived at Charleston, South Carolina, July 7, 1765, and remained in the area until April 10, 1766, when he set sail for his home in Pennsylvania. His explorations in Florida were for the most part confined to the St. Johns river, its lakes and its vicinity. He explored the river to its source in the region west of Titusville. He visited St. Augustine and left the state by boat from that city for Charleston instead of returning northward by land. On this exploration he was accompanied by his son William. Over a period of many years John Bartram sent plants and seeds in large numbers to England and he was responsible for the introduction of many American plants into the gardens of Europe. His principal correspondent in England was Peter Collinson. He established a botanic garden at Philadelphia, the first in America, and to this sent seeds and living plants gathered on his journeys. Much interest has been attached to one of his findings, a beautiful flowering tree for which his son William proposed the name Franklinia Altamaha in honor of Benjamin Franklin. This was found

in Georgia in the vicinity of Fort Barrington in 1765. He sent a specimen or specimens to his botanic garden where it was established. All plants of this species now growing in America or elsewhere trace back to Bartram's garden as it has never been found in the wild since William Bartram last saw it.

> WILLIAM BARTRAM Born Kingsessing, Pa., Feb. 9, 1739 Died Kingsessing, Pa., July 22, 1823

As already stated, William Bartram accompanied his father on his expedition that extended down into Florida. He was so pleased with the beauty of Florida's plants and the Florida landscapes, of which plants are so large a part, that he prevailed upon his father to establish him as an indigo planter on the St. Johns river in 1766. This proved to be an ill-advised venture and a dismal failure. He returned to his home in Pennsylvania within a year. In April of 1773 he embarked upon his own explorations in the southeast and continued them until 1778. Part of his travels covered about the same territory that he had journeyed over in company with his father in 1765-66, but he extended his journey through western Florida and as far west as the Mississippi river. Hence, it will be noted that his travels in the southeast and south, in part with his father and later alone, took place within the period 1765-1778 and that he was actually in the field for a period of about six years. He published (Philadelphia, 1791) an account of his explorations in a volume that has attracted extended attention both in time and printed space. It is commonly referred to as "Bartram's Travels" but actually it bears the title "Travels through North and South Carolina, Georgia, East and West Florida, the Cherokee Country, the Extensive Ter-

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ritories of the Muscogulges, or Creek Confederacy, Soil and Natural Productions of these Regions, together with Observations on the Manners of the Indians." It was reprinted in England and Ireland and was translated into German, Dutch and French. There is a recent reprint in the United States dated 1928 and two other books on Bartram's travels and his writings have appeared recently– "William Bartram, Interpreter of the American Landscape" by H. B. Fagin, 1933; and "John and William Bartram, Botanists and Explorers, 1699-1823" by Ernest Earnest, 1940. Another, Bartram's report to his London patron, annotated by Francis Harper, is now in press.

In his "Travels" Bartram listed and described many plants of the regions he traversed, estimated their values and recorded their habitats. The work is a botanical contribution of real merit in addition to its great human appeal. From the very beginning it was appreciated and it will be appreciated through the years to come.

THOMAS WALTER

Birth date (uncertain) 1740 (?) Died St. Johns parish, S. C., Jan. 18, 1789

The exact date of Walter's birth is uncertain but probably it was 1740. At any rate he came to South Carolina and spent the remainder of his life there. His classic botany, "Flora Caroliniana", attests his ability as a botanical student and writer. He established a botanical garden at his home in St. Johns parish, South Carolina, and was buried there.

In the British Museum I saw a herbarium prepared by Walter, the plants beautifully mounted in a large bound volume. It is sincerely hoped that this treasure has not been destroyed in the reckless and fiendish bombings of London.

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JOHN FRASER

Born Tomachloich, Scotland, 1750 Died Chelsea, England, April 26, 1811

From Scotland, John Fraser came to America from time to time. He was in Newfoundland during the American Revolution and afterwards in our area. He explored as far south as Cuba and was accompanied by his son John from 1799 to 1810. After his death his son took up his plant work in the southeastern states. He was of great assistance to Walter in the preparation of the "Flora Caroliniana."

ANDRÉ MICHAUX

Born Satory, France, March 7, 1746 Died Madagascar island, Nov. 13, 1802

Of all those plantsmen who came into the southeastern region André Michaux was the one who covered the greatest amount of American territory. He came to collect plants for the King of France, and his explorations extended from Hudson bay down to Florida as far south as Lake Munroe, and from the Atlantic ocean to the Mississippi river. His well-kept diary attests his careful scrutiny and accurate observations on the plants of our area. Unfortunately, a large portion of it was lost so only a part has been published. He arrived in New York on October 1, 1785, and sailed from Charleston for France on August 13, 1796. His plant explorations in the southeast began in 1787. In America he established two gardens, one across the river from New York city in New Jersey and the other in Charleston. These gardens were used in preparing plants for shipment to France. He is credited with having brought several plants into the gardens of the southeastern states, among them the sweetscented Olea fragrans, the Persian pomegranate

and the tallow tree. *Flora Boreali Americana* is his contribution to an understanding of American botany. Shortly after his return to France, he embarked upon another exploration and in faraway Madagascar died of a fever.

> FRANCOIS ANDRÉ MICHAUX Born Versailles, France, Aug. 16, 1770 Died Seine-et-Oise, France, Oct. 23, 1855

André Michaux had as his companion his son, Francois André, who after the death of his father carried on his plant explorations. He, too, was a tireless traveller under what were, at the time, most difficult conditions. He was in America from 1785 to 1790, and again from 1801 to 1803 when he made his headquarters in Charleston and traveled in South Carolina, Kentucky and Tennessee. Trees were his main interest and he published extensively about them. After his return to France in 1809 he gave the principal part of his time to the culture of American trees.

ALVAN WENTWORTH CHAPMAN Born Southampton, Mass., Sept. 28, 1809 Died Apalachicola, Fla., April 6, 1899

Dr. Alvan Wentworth Chapman must be regarded as our own botanist because he lived and worked in Florida for so many years. He was graduated from Amherst in 1830; taught in a private family, 1831-1833; became principal of an academy at Washington, Georgia, in 1833, and remained there until 1835. He studied medicine, moved to Quincy, Florida, in 1835 and began his medical practice. In 1837 he moved to Marianna where he lived for a short time, returned to Quincy, and finally located in Apalachicola in 1847 where he continued the practice of medicine until his death in 1899. Chapman's "Flora of the Southern United States,"

dated 1860, published in New York City, was, for more than forty years, our manual of the plants of this region. Though dated in 1860, Doctor Chapman did not see a copy of his work until after the War Between the States was over, and it was due to the interest of Dr. Asa Gray that the plates from which the work was printed were preserved during that troublous period. This manual ran through three editions. the second being issued in 1883. The main portion of this volume was the same as the first but new plants were added in a supplement and later a second supplement was added. This second edition with two supplements is comparatively rare and perhaps is the most prized of the three. The third edition was issued in 1896, three vears before his death in 1899. Doctor Chapman added many new species to the list of Florida plants, among which may be mentioned, in passing, Zephyranthes Simpsonii, Viburnum densiflorum, Asdropogon maritius and Salvia Blodgettii. The whole number is very considerable. A genus of mosses. Chapmannia, was named for him. Doctor Chapman was a contemporary of Dr. Asa Gray and Dr. John Torrey. He carried on a wide correspondence with botanists both in America and in Europe, and many interesting stories are told of his life and work. Some of these were brought together by Miss Winifred Kimball and published by Dr. John K. Small in the Journal of the New York Botanical Garden. From these the following items have been gathered.

He was an unusual and interesting character. He stood over six feet, erect, dignified and handsome, hard and stern, with a strong profile and snow-white hair. In his late years he became very deaf, which affliction he said was not entirely detrimental because, "if I can't hear people's groans they won't send for me". He admitted that except

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for easing a soul into or out of the world he had done his best practice with hot baths and bread pills. He strongly believed in fresh air and sunshine.

Dr. Chapman was an ardent Union man and his wife was a southerner from New Berne, North Carolina. About the war they could not agree, so they separated for its duration and she went to live in Marianna, and they did not see each other for four years, though he heard from her once. When I visited the little graveyard in Apalachicola to photograph his tomb, I found at the foot of the grave two little Confederate flags. Miss Kimball, who accompanied me and who had known the doctor intimately for many years, said, "I believe he would turn over in his grave if he knew those flags were there." Because he favored the Union his life was constantly in danger, and whenever the guerillas overran the town they raided his drug store. Then he would betake himself to Trinity Episcopal church and hide there until they left. There were cushions in his pew for as he said, "If I must hide, I decided I might as well be comfortable." Doctor Gray, America's most famous botanist, came to Florida to visit Chapman, who had been writing him about a new rhododendron he had found. The two went out to where it grew. Kneeling beside it, Doctor Gray examined it carefully, then rising and extending his hand, said, "You are right, I never saw this species. I congratulate you on Rhododendron Chapmanii". And so it was named for Chapman.

He was an associate of Dr. John Gorrie, our pioneer in refrigeration. When asked how much Gorrie made from his invention, Chapman replied, "Relatively nothing. He was no business man, was Gorrie. If he had been he never would have invented artificial ice."

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Dr. Chapman's modest monument in the little cemetery in Apalachicola bears this inscription:

Alvan Wentworth Chapman

1809-1899

The Eminent Botanist Whose Writings and Researches On the Flora of the South Met With Distinguished Recognition At Home and Abroad.

HARDY BRYAN CROOM Born Lenoir county, N. C., Oct. 8, 1797 Died near Cape Hatteras, Oct. 9, 1837

Among the early students of southern plants whom we may distinctly claim as Florida botanists was Hardy Bryan Croom, who studied the flora of the western portion of the state. He was born in North Carolina in 1797 and moved to Quincy, Florida, in 1830. Though he had studied law he never practiced it, for botany was his first love. He lost his life in a steamship wreck in 1837, but during the seven years prior to that time he studied Florida plant life assiduously and has handed down to us through his communications in the American Journal of Science and Arts much valuable information covering the region in Florida where he lived.

He it was who found and described that interesting pitcher plant, *Sarracenia Drummondii;* and he it was who first found and brought to the attention of botanists that rare and unusual tree, *Torreya taxifolia,* which was named for Dr. John Torrey, an associate of Dr. Asa Gray. There still stands on the grounds of the state capitol in Tallahassee an old, wide-spreading specimen of *Torreya taxifolia,* said to have been planted by Croom– a living monument to his deep interest in Florida plant life.

Croom's untimely death prevented the carrying out of his plan to explore the entire state of Florida

with Doctor Chapman. A shaft bearing a beautiful inscription has been raised to his memory in Saint Johns Episcopal churchyard at Tallahassee, which described Hardy Bryan Croom as "Amiable without weakness; learned without arrogance; wealthy without ostentation; benevolent without parade."

JOHN KUNKEL SMALL Born Harrisburg, Pa., Jan. 31, 1869 Died New York city, Jan. 21, 1938

Dr. Small's first contact with the southern states was in 1891 when he made a trip into North Carolina. He came on his first journey to Florida in 1901. Until his death his interest in the floristics of Florida never ceased, and he made one trip or more every year up to the time of his last illness. He brought to his studies of the plant life of Florida a trained mind, fixity of purpose, and great physical stamina. No journey by land or bog or water was too difficult, and hardships challenged his powers. About his journeys and the plants he found he wrote more than ninety papers and his was the rare gift of taking his readers with him on his travels. He was a field botanist but he was equally at home with dry herbarium specimens.

In 1903 his "Flora of the Southeastern States" was published, a great volume of 1370 pages followed by a second edition in 1913. These volumes he revised completely and in 1933 brought out his "Manual of the Southeastern Flora." This contains 1,554 pages and deals with 5,500 different kinds of plants. As a result of his explorations and his studies, knowledge of the plants of this our area has been advanced more than it could ever be except through the lapse of many years. He found a limited scattered knowledge; he expanded it, added to it greatly, and made all of it usable. Those

who knew him as I did through many years appreciate his ability, his integrity and his devotion to botanical science. To him we are indebted beyond all others.

These then, are some of the men who have made possible our present-day knowledge of the plant life of the southeast. They have been the explorers who have opened up a great field of botanical knowledge and broadened our scientific horizon in that field.