

PRESIDENT'S ADDRESS

THE CAVALCADE OF BOTANISTS IN OKLAHOMA

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In "The Cavalcade of Botanists of Oklahoma" only those botanists who have been here and passed on will be mentioned. The amount of space given each one is not necessarily proportionate to his rank as a botanist, but has been determined principally upon available details concerning him. If the author has omitted any persons whose names should appear in this paper, it has not been done intentionally.

The writer is indebted to a large extent for the material collected to Miss Wanona Henson who worked out her Master's thesis on "Early Botanists of Oklahoma" under the direction of the author. Miss Henson has graciously consented for the writer to use whatever of this material he might choose.

Millions of years have passed after the sea receded from what is now Oklahoma for the last time, which was during the Cretaceous period. During this time the area has developed through geologic, climatic, and seasonal successions the vegetation now being explored and exploited by man.

The first known white man to set foot upon this region was Vasquez de Coronado, who visited the western part of the territory in 1541-42. There were no botanists with his expedition, but Coronado took notes on the country through which he passed, and in his report to the "Holy Catholic Caesarian Majesty" he said, "We found no kind of wood in all these plains away from the gullies and rivers, which were very few." In 1601 an expedition led by Juan de Onate of Santa Fe crossed a part of what is now western Oklahoma. He stated that the ground was useless for agriculture and suitable only for a hunting ground for savage tribes.

Thomas Nuttall, an Englishman, was the first botanist to visit this region, arriving by way of the Arkansas River in 1819. He always described the countries he passed through as to whether they were wooded or prairie, et cetera. He traveled through the southeastern part of the state through the Ouachita Mountains and down to the Red River. On returning to Fort Smith, he continued up the Arkansas River to the mouth of the Grande River. After ascending the Grande River a short distance, he went west across what is now Oklahoma. Nuttall discovered many new species of plants and his discoveries extended the known range of many eastern species which were not thought to extend this far west. In 1834 he listed 550 species from Arkansas and Oklahoma, only a small per cent of them being from what is now Oklahoma. Nuttall was not only a botanist but also an ornithologist and geologist. It has been said that Nuttall in his explorations in North America personally made more discoveries than any other botanist except, perhaps, Dr. Asa Gray. Regarding Nuttall's personality, it is said that he was disorderly in his dress, excessively economical, and that he lived the life of a recluse except for the companionship of a few friends and the botanists with whom he was associated. Such Oklahoma plants as *Allium nuttallii*, *Zygadenus nuttallii*, and *Monolepis nuttalliana* have been named after him.

In 1820 Major Stephen H. Long's expedition to the Rocky Mountains passed east through Oklahoma along the Canadian River. Dr. Edwin James was the botanist of this expedition. He described the vegetation of the

region as well as many of the individual plants. Two lists of plants collected on Major Long's expedition were published, one by James and a later one by Dr. John Torrey. One of our important grasses of the Southwest, *Hilaria jamesii*, is named after James. Thomas Saye accompanied Major Long on his expedition as geologist and naturalist. He also made some botanical observations.

Washington Irving in 1832 was the next explorer to come through this part of the country. Charles Joseph Lathrobe was the botanist with him. Lathrobe was an Englishman who loved to travel. You might say he was a world traveler for he had done quite a bit of mountain climbing in the Alps and other places before coming to America. Irving described Lathrobe as being a man with a thousand occupations. He was a botanist, geologist, hunter of beetles and butterflies, musical amateur, and a sketcher of no mean pretensions. He was indefatigable and quite a sportsman. Irving said, "Never had a man more irons in the fire and, consequently, never was a man more busy nor more cheerful." Irving described his explorations in "Tour on the Prairies." Lathrobe described his in "The Rambler in North America." Each gave details not found in the other's works.

The next expedition of botanical interest in Oklahoma was made by Captain R. B. Marcy in the summer of 1852. Captain Marcy's mission was to explore the boundary of the Red River between Oklahoma and Texas. Dr. G. G. Shumard, who was surgeon of the expedition, collected about 200 species of plants. About half of these were collected within the present boundaries of Oklahoma. These plants were identified by Dr. John Torrey, who has been mentioned previously. One of the scrub oaks which is found quite abundantly in the Arbuckle Mountains, *Quercus shumardii*, was named after Dr. Shumard.

In 1853 Captain Whipple headed a government survey party to explore a route for a railroad from the Mississippi River to the Pacific Ocean. This route passed through Oklahoma. Dr. J. M. Bigelow was the botanist on this survey. He collected about 125 species of plants within the present boundaries of Oklahoma. One of the annual blue-grasses of Oklahoma, *Poa bigelovii*, was named in his honor. These plants were identified by Dr. Torrey. A separate report on the Cactaceae collected on this survey was made by Dr. G. Engelman and Dr. Bigelow. During this survey Bigelow made a hypothetical line transect from the Mississippi River to the Pacific Ocean illustrating the type of vegetation through which he passed.

A survey of the Creek Indian boundary line was made by Sitgreaves and Woodruff in 1858. Dr. Woodhouse, a physician and naturalist, was with these parties and made collections of plants found in that region. He collected 709 specimens, including many duplicates. Later he made a second expedition with Woodruff and collected 157 plants which were different from those collected on the first expedition.

Dr. T. E. Wilcox collected several hundred species of plants in what is now western Oklahoma from 1875 to 1877. Details concerning his action have not been found. The plants he collected were determined by Alphonso Wood.

In 1892 Bohumil Shimek did some collecting around Oklahoma City. Professor Shimek's collecting in Oklahoma is not important, but the height to which he rose in later years makes us glad to include him among the early Oklahoma botanists. Dr. Shimek was of Bohemian descent, his parents having been political refugees who emigrated to America from Bohemia in 1848. Dr. Shimek was graduated from the University of Iowa

in civil engineering. After he worked as a railroad engineer for two years, he became an Instructor of Zoology at the University of Nebraska. In 1890 he returned to the University of Iowa as a member of the botany staff and later became Head of the Botany Department. In the field of zoology his interest was in snails. He became interested in fossils and also in geology. Most of his botanical contributions were on ecology in relation to the prairies. Shimek worked hard in behalf of Czechoslovakia when she was trying to obtain her independence in 1918. He and his friend, Thomas G. Masaryk, planned much of the strategy which finally resulted in Czechoslovakian independence. Masaryk was elected as the first president of the new republic, and Shimek the first president of its Council of Higher Education.

Dr. James Clinton Neal was the first biologist at the Oklahoma A. and M. College. He came to this institution about 1893. For a time he was Director of the Experiment Station and Professor of Botany and Entomology. Later, a new director of the Experiment Station was employed and Neal continued as Professor of Botany and Entomology. Dr. Neal's records, as well as most of the early faculty members' personal records at Oklahoma A. and M. College, were destroyed in the fire of 1914. The main thing about his personality was that he was very absent minded. One day he asked a friend to take him out collecting in his wagon. They had gone but a short distance from Stillwater when Neal, seeing an insect he wanted, asked his friend to let him out and wait for him. After waiting for about two hours the friend finally grew tired and went home. The next day he met Professor Neal on the street and asked him what had happened to him the day before. The professor said he had caught an insect and then another, had forgot his waiting friend, had continued collecting, and had not reached home until late that night. Professor Neal published some material on insects, grasses, and weeds. Mr. A. N. Caudell was Neal's assistant in botany and entomology. He later became an authority on the order Orthoptera.

In 1898 Dr. Albert H. Van Vleet was employed at the University of Oklahoma. He received his training in Iowa and Nebraska and received his doctoral degree from the University of Leipzig. He was the first member of the faculty of the University of Oklahoma to have a doctorate. He turned down a position in New York for \$1800 a year to accept the one at the University of Oklahoma which paid only \$1200 at that time. He was Professor of Biology from 1898 to 1909 and Dean of the Graduate School from 1909 until the time of his death in 1925. Van Vleet was active in collecting specimens of both plants and animals. He desired that the University should have a complete collection of plant life of the Territory of Oklahoma and always worked toward that end. He also made a rather complete collection of animal life of Oklahoma Territory. These were all well mounted and sent to the St. Louis World's Fair Exposition in 1904. Two disastrous fires at the University took a large part of Dr. Van Vleet's collection, as well as important documents, books, and other personal collections which he had made here in the United States and abroad. The losses sustained in these two fires had a discouraging effect on him. Dr. Van Vleet is described as a man who was too modest for his own interest. During the latter part of his life, he was offered many honors from societies and organizations which wished to give him recognition. He did not, however, accept any of these offers. He was described as a "capable-looking man with a deep chest, vigorous physique, and frank manners, quick smile, and a little hesitancy of speech that prefaced a clever comment and a quiet wit that broke over his face before it came to his tongue." While he was Director of the Oklahoma Geological Survey he discovered a new fossil which was named in his honor. He was quite a public-spirited man, interested in the affairs of community and state. He helped organize

the scientific section of the Territorial Teachers' Association and the Oklahoma Historical Association. He was a member of the Norman Chamber of Commerce and served until his death as chairman of its Committee on Good Roads and County Interests. He was Vice President for Oklahoma of the Ozark Trails Association and State Director of School Gardens during World War I. He was credited with bringing about the construction of the highway from the Cleveland County line to Lexington, a road which bears his name.

E. E. Bogue was Professor of Botany and Entomology at Oklahoma A. and M. College from 1899 to 1901. He was well trained for those early days, but he was a better entomologist than botanist. He published a list of 750 species of Oklahoma plants in 1900 as "An Annotated Catalog of the Ferns and Flowering Plants of Oklahoma."

Dr. E. M. Wilcox was a member of the faculty of Oklahoma A. and M. College from 1901 to 1902 as Professor of Botany and Entomology. His abilities as a botanist and entomologist were about equal. He was a graduate of Harvard. His personal record was destroyed in the fire of 1914.

Walter R. Shaw was a member of the Oklahoma A. and M. College faculty from 1902 until 1906. He was Professor of Botany, Entomology, and Geology. He was a professor of the "classic" type, wearing a Van Dyke beard, side-burns, and long hair. He was very methodical and precise, as was shown by the way he and his wife took care of their child. The child had to be fed at an exact time and had to sleep at an exact time and for a certain length of time.

The late H. C. Cowles, a prominent plant ecologist of the University of Chicago, was called in as a witness in the dispute between Oklahoma and Texas over the oil which lay under the Red River. He was able to aid in this dispute by his establishment of the different ages of the trees on either side of the river. This was done by counting the annual growth rings on the trees.

Dr. L. H. Pammel, who was Head of the Botany Department at Iowa State College for almost forty years, made three visits to Oklahoma—in 1888, 1921, and 1929. After his visit in 1921, he wrote a report entitled, "A Day Near Muskogee, Oklahoma", in which he reported his collection of plants and observations on the visits. Dr. Pammel is most widely known for his work on poisonous plants, grasses, and honey plants.

Dr. A. S. Hitchcock, who was the world's authority on grasses, visited the state several times. The author was unable to secure information as to dates or plants collected.

Dr. G. W. Stevens became Head of the Biology Department at the Northwestern State Teacher's College at Alva in 1903. He held this position for almost fourteen years. He specialized in taxonomy and geographic distribution of plants. He, perhaps, collected more plants within the State than any other botanist. Dr. Stevens always planned his vacations with a view of exploring some new region. Dr. T. C. Carter of Alva, a former student of Dr. Stevens, and later associate worker with him, said "His friends in Oklahoma were numbered in the thousands." He was an excellent and inspiring teacher. His doctoral thesis was "The Flora of Oklahoma." His manuscript was never published, but it is now in the hands of the Botany Department at the University of Oklahoma. A great many of the plants in the A. and M. College herbarium bear Dr. Stevens' labels.

From 1914 to 1915 N. O. Booth was Professor of Horticulture and Botany at Oklahoma A. and M. College. His personality was pleasant, but he was not easy to talk with. He required definiteness in his work and took every opportunity to gain recognition for himself.

In the fall of 1916 Dr. R. E. Jeffs came to the University of Oklahoma as an Instructor of Botany. Later he was raised to Associate Professor and was Acting Head of the Botany Department from 1925-1927. He continued with his work at the University until a short time before his death in 1933. Jeffs was a pleasant, rather quiet, and retiring individual. He had a keen sense of humor and no one enjoyed a good joke more than he. He was an excellent teacher and a good research scientist. Among his published works at the University of Oklahoma are "The Primary List of Ferns and Seed Plants of Oklahoma", by Jeffs and E. L. Little, Jr.; "Growth Rates and Plants", American Journal of Botany, 1925; and "A Key to the Ferns and Seed Plants of Oklahoma", 1931.

Professor C. W. Prier taught at Northeastern State College, Tahlequah, from 1917 until his death in 1927. He was a graduate of the University of Oklahoma and also held a master's degree from that institution. Nature study was a hobby with him and he made many collecting trips. His collection of grasses of Oklahoma was the most complete for the state at the time of his death in 1927. The collection was purchased by Oklahoma A. and M. College and is now a part of its herbarium.

In 1912 C. D. Learn joined the faculty at Oklahoma A. and M. College as an Instructor of Botany. He was an Assistant Professor from 1915 to 1920. Professor Learn was quiet, energetic, and reserved. He left Oklahoma A. and M. College for Fort Collins, Colorado, in 1920, remaining there as a taxonomist until 1932. Many of the plants in the Oklahoma A. and M. College herbarium bear his labels.

Dr. C. O. Chambers came to Oklahoma A. and M. College in 1915 as Head of the Botany Department and remained until 1924 when he resigned. Dr. Chambers, a bachelor, was well liked by everyone. He would do anything not to step on another's toes, even if he had to sacrifice. He had an unsuspected wit. Because of his poor health he gave his rather dry lectures sitting down, which made them even less interesting. He was a good thinker, however, and was quite an effective teacher of small groups.

Dr. E. C. Angst came to the University of Oklahoma as Assistant Professor of Botany in September 1929. His untimely death in the spring of 1930 ended what promised to be an outstanding career.

February 16, 1942, marked the passing of Robert Bebb, an outstanding amateur botanist in the state. Mr. Bebb had collected plants in many parts of the United States. In 1910 he bought a floral business in Muskogee, Oklahoma. This he developed into what is now known as the Bebb Floral Company. Most of Mr. Bebb's spare time was spent in botanizing and identifying plants. After his retirement in 1936 he gave practically all his time to this pursuit. During his life he developed a private herbarium of some 30,000 plants which he willed to the University of Oklahoma. His collection is now known as the Robert Bebb Herbarium. Mr. Bebb had a pleasant personality, was a good conversationalist, and had thousands of friends.

J. Richard Carpenter was a promising young ecologist. He was at the University of Oklahoma from 1933 until 1935, when he was selected as a Rhodes Scholar to Oxford, England, from Oklahoma. He returned to the University of Oklahoma in 1938 and remained there until 1940, when he went to Durham, North Carolina. He published "An Ecological Glossary" which was the first attempt to bring all ecological terms into one volume. He also published numerous shorter papers along the general line of ecology.

This is the cavalcade of botanists who have laid the foundation for the study of botany in Oklahoma.