

Charles Vancouver Piper: The Agrostologist

A profile of the first chairman of the USGA Green Section.

BY MICAH WOODS

Charles Vancouver Piper is remembered today as the first chairman of the USGA Green Section and as the senior author of the seminal *Turf for Golf Courses* (1917). His contemporaries, however, knew him as a world-renowned botanist and agronomist, and in the scope of Piper's work, his turfgrass investigations were simply a small part of a remarkable and productive career.

Piper was born in Victoria, B.C., in 1867, and his family soon moved to Seattle, where his father had a bakery near the intersection of First Avenue and Cherry Street. As a young man, Piper was an avid botanizer. He joined the Young Naturalists Club and was collecting plants near Seattle as early as 1883. Piper studied at the Territorial University (now University of Washington) there, and in 1885 he graduated with nine other students.

In 1888, Piper climbed Mt. Rainier in a party that included John Muir, the Sierra Club founder. During the descent, Piper nearly lost his life; all save Piper and Muir had crossed an ice bridge over a crevasse, and then the expedition photographer heard a "cry [that] made the very blood in our veins turn cold. This time it was Piper. He stepped into the middle of the bridge and it had given way with him; he had thrown himself forward and caught."

"My alpenstock and the whole ice bridge fell into the crevasse," remembered Piper in 1915. "I have often wondered what would have happened if I had attempted to go across the bridge in the ordinary way."



Charles Vancouver Piper (Courtesy of Manuscripts, Archives, and Special Collections, Washington State University Libraries)

It was at this time that Piper began extensive botanical investigations that he would carry on until his death in 1926. Botany was his passion, and he collected and described many new species. He exchanged plant specimens with herbaria and other collectors; with Edward Lee Greene of Berkeley and Charles Sprague Sargent at Harvard, Piper disputed the former's classification of the Oregon white oak, *Quercus garryana*. When President Cleveland established forest reserves in the 1890s, Sargent wrote to Piper, noting, "There is a very bitter feeling in the west

against these reservations and we are going to have difficulty in holding them unless local public sentiment can be aroused in their favor. I count on you to do everything possible to help this good cause."

PULLMAN

All the while continuing to botanize and making collecting expeditions throughout the Pacific Northwest when time allowed, Piper moved to Pullman in 1892 and took on broad responsibilities at the state agricultural college there (now Washington State University). Piper was hired as professor of botany and zoology at the college, and he served as botanist and entomologist at the experiment station, where he was also responsible for plant pathology. He taught on subjects ranging from plant physiology to comparative embryology, answered on average two letters a day from interested farmers, and performed spraying experiments for insect and fungal pests of fruit, grain, and vegetable crops.

We have no record of Piper playing golf or being involved with turfgrasses during the 1890s. Golf was still in its infancy in the United States. The USGA was formed in late 1894, the same year that Tacoma Country and Golf Club was founded near Seattle. Piper was working at that time in all areas of horticulture and agronomy, gathering a store of knowledge about plant pathology, entomology, and agricultural practices. His time at Pullman would serve him well in his later years of turfgrass work.



John Muir (sitting) climbed the summit of Mt. Rainier in 1888. Although not shown in the photo, Piper also climbed the mountain with this group. On the descent, Piper almost lost his life after nearly falling into a crevasse. After losing his alpenstock, he descended the mountain with the assistance of a rope. (Courtesy of University of Washington Libraries, Special Collections PH Coll. 273)

For example, brown patch was a common problem on golf course putting greens in the 1920s, and Piper showed his broad understanding of plant pathology at the 1924 Annual Meeting of the Green Section in New York City. He was asked about the belief that wheat rust was due to a lack of potash in the soil, and if brown patch could be caused by a similar phenomenon. Piper, with his typical directness, responded, "Well, that statement is not true, to begin with." He then began an extemporaneous discussion of the misconception about potash and rust before bringing the story back to turfgrass and brown patch, explaining that healthy plants were usually more resistant to disease.

Piper spent the 1899-1900 school year in the East, studying at Harvard and conducting research at the Gray Herbarium there. For five weeks in the summer of 1902, Piper followed the path of the Lewis and Clark expedition, taking pack horses along the Lolo Trail into the Bitterroot Mountains of Idaho. Whether it was further explorations of Mt. Rainier, pack horse trips through the Blue and Wallowa Mountains, or botanical collections on Vancouver

Island or in Alaska, Piper spent his holidays in the wild. His work in later years would take him around the world, from Batavia to Bombay to Berlin, yet Piper was at heart a citizen of the Pacific Northwest. R. Kent Beattie, a noted botanist in his own right, wrote of Piper, "Those who knew him in his later years only remember him chiefly for his brilliant leadership in the agronomic field. But Professor Piper's older friends think of him as a naturalist, especially as a botanical explorer and pioneer. Aply was he named Vancouver. What George Vancouver did for the geography of Puget Sound and the Pacific Northwest and more, Piper did for the botany."

DEPARTMENT OF AGRICULTURE

In 1903, Piper was hired by the United States Department of Agriculture (USDA) in Washington, D.C., to take charge of the grass herbarium. Over the succeeding years, Piper would serve first as Agrostologist, and from 1907 as Agrostologist-in-Charge, of the office of Forage Crop Investigations. His peers described him as "working with unusual rapidity," having "an astonishing

capacity for productive effort," and as "a prodigious worker who knew no relaxation."

During Piper's 23 years at the USDA, he made notable investigations into and was instrumental in the development of the soybean, personally directed the experimental work on grasses and other forage plants, and was renowned in agronomic circles for his discovery and subsequent introduction of Sudan grass into the United States. He was the sole author of *Forage Plants and Their Culture* (1914), a classic that remained in print until at least 1942. Piper was a founding member of the American Society of Agronomy in 1907 and was its president in 1914.

As a scientist, he wrote papers on a wide range of subjects, expressing his broad interests in botany and agriculture. In the *Proceedings of the American Society of Agronomy*, Piper wrote about experimental methods, botanical and agricultural history, and agronomic terminology. An especially interesting article by Piper and Carleton Ball begins, "The purpose of language is to convey ideas." The paper goes on to call for more precision in agricultural terminology, asks for comments and criticism from read-

ers, and then offers a glossary of terms with proposed definitions. There was a hearty response to this paper, and a bulging folder at the National Archives in Washington holds the letters of criticism that Piper requested.

Piper also contributed papers to *Science* on subjects as varied as grass spikelet terminology, the role of botanists at agricultural colleges, and the basalt mounds of the Palouse. In 1922, with William Jennings Bryan in the midst of his campaign to legislate a ban on the teaching of evolution in public schools (which would lead, incidentally, to the Scopes Trial of 1925), Piper responded with a humorous but pointed letter to *Science* about Darwin, the Bible, Bryan, and evolution. All the while, Piper continued to describe new species in the botanical journals, and over the course of his lifetime Piper described more than 100 species. In fact, a genus of orchids, *Piperia*, is named in his honor.

In 1911, Piper made a round-the-world voyage, spending the first part of the year in the Philippine Islands, where he made a comprehensive investigation of forage crops for the U.S. Army. There were over 200,000 horses in the Philippines in 1910, and they were primarily used by the Army. All of their feed, which amounted to 46,000 tons in 1910, was imported from America or Australia. In his report, Piper identified grasses and grains that could be grown in the Philippines to eliminate the unnecessary importation of feed.

He would make another trip on Army business in 1923, this time to investigate forage conditions in the Panama Canal Zone. But in 1912, after his return from Asia via Egypt and Europe, Piper began his turfgrass investigations. Those led to the publication of *Turf for Golf Courses* (with Russell A. Oakley) in 1917, to a series of articles about golf turf in *Golf Illustrated* and *Golf*, and to recognition of Piper and his colleagues at the USDA as a resource for golf courses with questions about their grass.

GREEN SECTION

It is not surprising that the developers of new golf courses soon turned to Piper and the USDA for assistance, for he was the country's leading authority on grasses. This expertise was not lost on the USGA and would lead to the formation of the Green Section in November of 1920. When Piper took up the game himself is not clear, but he was an avid player and a regular participant in tournaments held near the nation's capital. Piper did not always

withstanding his contributions to the botanical and agronomic fields. As editor of the Green Section's monthly *Bulletin*, Piper produced a publication of great practical use to readers across the country.

His work included a tremendous amount of correspondence and travel. Piper managed to combine his directorship of the Forage Crops Division with a Green Section chairmanship and ongoing botanical endeavors. These multifarious interests are evident in



A group portrait of Piper's (back row, first person on the left) zoology class in 1883 at the Territorial University of Washington. (Courtesy of University of Washington Libraries, Special Collections PH Coll. 282)

break 100, although he played, according to Oakley, "a very creditable game." And, like so many who love the game and work in the golf industry, Piper said of himself that "when a man becomes interested in golf turf, golf architecture, or golf course construction and maintenance, his game at once declines and soon is abandoned altogether."

Piper's work as chairman of the Green Section would last only five years, from the establishment of the Green Section on November 30, 1920, until Piper's death in 1926, yet his contributions to golf were so valuable that he is remembered in many circles first and foremost as a turfgrass expert, not-

Piper's activities of August 30, 1923, when he was at Portland, Oregon, in the midst of an extensive trip to visit experiment stations in the Western states. Taking a break from his USDA obligations, Piper visited Waverley Country Club and Portland Golf Club, examining the turf and also collecting two species of willow, *Salix fluviatilis* Nutt. and *Salix piperi* Bebb.

The Green Section of the 1920s was organized to conduct research and distribute information. In Piper's report of the Green Section's activities in 1925, he wrote that "quite a few calls were received from golf clubs requesting a visit from one of the officials of



Piper collected *Poa multnomae* (now *P. secunda* Presl.) in 1904 at Multnomah Falls in the Columbia River Gorge. It is housed at the National Herbarium, along with numerous other plant specimens collected by Piper. (Courtesy Smithsonian Institution, Plant Image Collection)

the Green Section to survey local conditions at golf courses. Unfortunately, it was impossible to comply with all of these requests, but where opportunity permitted, the courses were visited and consultation freely granted."

A much larger Green Section was required, and Piper laid out his plan at the 1925 Annual Meeting of the Green Section: "We need more assistants, Mr. Oakley and I are growing old, and we will have to have some youngsters trained to carry out the work. We need these men to travel over the country . . . to get information to give to the clubs. Incidentally, these men traveling around the country will be able to help the clubs on a lot of the problems which they will point out to them."

Ill health forced Piper to rest for much of that summer, and he returned to work only to suffer a stroke at his office on February 8, 1926, dying at home three days later. "At the last," Oakley remembered, Piper "had but one desire, which was that the Green Section be put on a permanent basis so that its functions of investigation and education might enlarge and endure." That desire has come to fruition, and with Piper's initial endeavors, the turf-grass industry and Green Section were set on a most solid foundation.

REFERENCES

Research for this article was conducted at Cornell University's Mann Library, at the National Archives in College Park, Maryland, and at the Manuscripts, Archives, and Special Collections division of Washington State University Libraries at Pullman. Additional information about Piper's work with the Green Section was obtained from USGA Green Section archival papers. The author thanks Jim Snow and Frank Rossi for their assistance in the pursuit of information about Piper.

MICAH WOODS recently completed a Ph.D. in Turfgrass Science at Cornell University. He has been a golf course superintendent, a writer, and an agronomic consultant.