

## *Fredda Doris Reed (1894–1988): Educator and paleobotanist*

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### ABSTRACT

**Fredda D. Reed was one of the first students of Adolph Noé and was responsible for some of the early work on Carboniferous coal-ball plants in North America. As a faculty member for 35 years at Mount Holyoke College, she touched the lives of generations of students through her strong work ethic, tenacity for detail, and unending sense of humor.**

### INTRODUCTION

The development and continued growth of paleobotany are replete with women who have made significant contributions to the discipline. Through their research Agnes Arber, Eleanor M. Reid, Marie Stopes (see Chapter 9, this volume), Isabel C. Cookson, Marjorie E. J. Chandler, Rina Scott, and Winifred Goldring, to name several, have left an indelible imprint in the study of fossil plants. One who should be added to the list is Fredda Doris Reed from North America.

### PERSONAL DATA AND PROFESSIONAL CAREER

Fredda Doris Reed was born in Parker, Indiana, on August 15, 1894, and was one of four children (she had two brothers and a sister) born to Levi J. and Enola (Cox) Reed. Few details are available regarding her early years, except that she had a keen interest in the plants and animals around her and an infectious enthusiasm in sharing with others the wonders of nature. She enrolled at Earlham College with the singular force of becoming a teacher. She continued her education at the University of Chicago. There she received the M.A. degree in 1923 and her Ph.D. a year later, funded by a fellowship. It was at the University of Chicago that Fredda became associated with Adolph Noé, who had just established a strong paleobotanical research program and was now focusing his attention on Carboniferous plants preserved in calcitic coal balls that had recently been discovered in Illinois. She was one of Noé's first students who mastered the peel technique and initiated a series of papers describing this exceptionally well preserved coal-ball flora.

Fredda returned to Earlham College upon the completion of her degree at the University of Chicago and served as instructor in botany from 1924 to 1926. The following two years were spent back in Chicago as a botanical technician in the General Biological Supply House, then a major supplier of histologic preparations of plant and animal tissues used in laboratory instruction. In 1928, Dr. Reed joined the faculty at Mount Holyoke College, South Hadley, Massachusetts, as an assistant professor of botany. She was promoted to associate professor in 1933 and 10 years later to professor. For a number of years before retiring she chaired the Department of Botany.

### RESEARCH AND TEACHING EXPERIENCE

In 1937 Professor Reed traveled to London, where she spent the summer studying the research collection of fossil plants at the British Museum of Natural History. She was particularly interested in the microscope slides of Carboniferous plants from European coal balls, from the D. H. Scott and W. C. Williamson collections, and spent considerable effort comparing the various genera and species with those that were then being investigated from North American coal balls. There is no doubt that several of her subsequent papers were influenced by her examination of these Carboniferous plants.

Throughout Reed's career she was an active member of several professional societies, including the Botanical Society of America (Paleobotanical Section), International Organization of Paleobotany, Torrey Botanical Club, International Society of Plant Morphologists, Sigma Xi, International Society of Plant Taxonomists, and Sigma Delta Epsilon. She was elected a fellow of the American Association for the Advance-

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ment of Science. While at Mount Holyoke, Dr. Reed was the recipient of several grants to support her research activities, including ones from the American Philosophical Society and Sigma Xi.

Fredda Reed (Fig. 1) was truly an inspiring teacher who counseled generations of botany majors at Mount Holyoke College. A strong proponent of small, informal classes, she encouraged individual work founded on meticulous accuracy and independent thought. A former student, recounting one of Professor Reed's classes, remarked, "Only afterwards had I realized what a quantity of hard work we put in and how invaluable it is to have learned to make our own decisions on so many matters. I don't think it ever occurred to any of us that one even might ask, how many drawings should we make? or which books should we read?" Another former student, fondly remembering Professor Reed's influence on students at Mount Holyoke, noted at the time of her retirement in 1960, "The single facet for which her students remember her most concerns her meticulous accuracy—both the practice of it and the delight in it, whether in doing her own work or observing that of

others." Whether having tea with students, discussing floral hybrids in her garden on Jewett Lane, or telling stories about other botanists, Fredda Reed was a consummate teacher and was forever expanding the horizons of her students at Mount Holyoke College. For her students, "the latchstring was always out."

Reed's research interests ranged from sphenophytes to *Psaronius* and from seed fern seeds to cordaitane leaves. In reading her 1936 paper on *Lepidocarpon*, one is struck by her grasp of the reproductive biology of these plants, a research area in paleobotany that was "rediscovered" nearly 30 years later. Similarly, her paper titled "Coal Flora Studies: Lepidodendrales," which appeared in 1941, was one of the early attempts at what is often referred to today as "whole plant reconstruction." Her detailed line drawings stand as a testament to her love of detail and explicit accuracy and perhaps underscore the influence that paleobotanists like Scott and Williamson had in shaping her research methodology.

#### THE LATER YEARS

Fredda Reed retired from Mount Holyoke College after 35 years of service and with increasingly deteriorating eyesight. Throughout her retirement this remarkable woman maintained a positive outlook and disposition despite blindness. Friends and colleagues alike marveled at her at her courage and independence and at her ability to manage sightlessness without complaint. During her retirement she continued to pursue two consuming interests: her life-long love of gardening and a new passion—baseball! In spite of her failed sight Fredda Reed continued to plant bulbs and could tell by feel whether a plant was a weed or flower. Many fulfilling hours were spent sitting on the ground gardening, with baseball on the radio as accompaniment.

She became a true baseball enthusiast and knew each player on every team, despite her never having seen one game. When asked why she was such an ardent fan of the New York Yankees, she responded that she rooted for them because of their abilities. "My father told me to never use the word hate, but when I first started listening everyone I knew around here hated the Yankees. I thought I should dislike them too, but as I listened to their games I thought, they are really good—I should admire them."

One of my earliest papers in paleobotany was concerned with the structure and morphology of the Carboniferous seed *Mitrospermum*. Unfamiliar with the organization of platyspermic seeds, I spent a great deal of time going over Fredda Reed's paper on *Cardiocarpon*. Her careful line drawings and clear explanations of cell types and tissue systems were of great assistance to this paleobotanical neophyte as he attempted to describe the structures in *Mitrospermum*. I never had the opportunity to meet Fredda Reed, but I did talk with her on the telephone and corresponded with her on several occasions. She always had time to talk about fossils and was interested in the progress of my work and what was "going on" in Carboniferous paleobotany.



Figure 1. Fredda Dorris Reed. (Photograph courtesy of Mount Holyoke College Library/Archives).

Such was the character of this educator and paleobotanist who touched the lives of many generations of undergraduate students and who inspired in them a sense of the clarity and symmetry of structure that could be found in both living and fossil plants. Whether in science, gardening, or sport, Fredda Doris Reed always sought excellence.

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