



DR. BRUCE FINK

Prominent Men I Have Met

Dr. Bruce Fink

BY

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DR. BRUCE FINK

For more than a third of a century it was my privilege to have been a correspondent of Dr. Bruce Fink, Professor of Botany at Miami University, Oxford, Ohio, who died in the botanical laboratory of the University on July 10, 1927. The little city of Oxford was plunged into sorrow when it became known that Dr. Bruce Fink was dead. A local news dispatch from Oxford stated that "The death, perhaps, of no other Miami faculty man would be a matter of more general regret throughout the community. A man of great retiring nature, he was yet interested in all about him. His deep interest in his subject and his kindly nature made of him a favorite among Miami students." What was said about him at Miami can truthfully also be said of him at Upper Iowa University and Grinnell College and those who had the pleasure of his company on botanical trips or at our Academy meetings will gladly add their word of praise for his unassuming and modest ways, always helpful. He had a personal charm that will always be remembered by those who knew him. He was our guest for a week in what is now the Ledges State Park in the nineties and not only did he overflow with enthusiasm when it came to collecting lichens but he was a delightful companion as well. He always joined in the merry making of the camp. Truly science has lost a great man and Miami one of its greatest assets. Men and women after all make an institution great because of their research or because of their work as teachers. Dr. Fink had the combined qualities of a great teacher and a great research man. The botanists looked to him as their leader in a study of lichens. A student publication of Miami University says "He was an excellent teacher and sent more students to the graduate schools than any other member of our faculty. As a teacher he was a man of most generous spirit, of the highest ideals, and held great human interest in his students."

Dr. Bruce Fink was born December 22, 1861, at Blackberry, Illinois, partly of German descent, son of Reuben and Mary Elizabeth (Day) Fink. It was at Blackberry that he received his preliminary education. He graduated from the University of Illinois in 1887, receiving the degree of B. S., and the Master of Science degree from the same institution in 1894. At the University of Illinois he came in contact with two great teachers in scientific thought, Dr. Thomas J. Burrill and Dr. S. A. Forbes, who directed him along the lines of natural history. In order to continue his education he pursued graduate work at Harvard University where he was the Townsend Scholar in 1895 and received the degree of Master of Arts in 1896. It was here that he came in contact with another great teacher and an investigator of the highest order, Dr. W. G. Farlow. Doctor Farlow

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knew more about lichens than anyone else in the country and for many years was our leading authority on the lower forms of plant life, especially lichens. At Harvard Fink also met such great men as Dr. George Lincoln Goodale, a superb lecturer, Dr. N. S. Shaler and Dr. Edward L. Mark. It was this contact that made it possible for Professor Fink to become a fine teacher in zoology at Upper Iowa University and a teacher of geology and botany at Grinnell College.

During the years 1887 to 1892 he was principal of high schools, one in Mount Vernon, South Dakota, where in addition to teaching he made a collection of plants. A collection was made at Shabbonah also. These along with a considerable collection of flowering plants later became a part of the herbarium of Iowa State College. He served as professor of botany at Upper Iowa University from 1892 to 1903. In 1903 he was asked to become professor of botany at Grinnell College and before accepting he asked me whether I thought it advisable to go. I told him by all means to accept the place. He remained in this position until 1906 when he received a call to become professor of botany at Miami University, Oxford, Ohio. In the meantime he pursued graduate work at the University of Chicago during the summer of 1903. Previous to this—1899—he received the Ph. D. degree from the University of Minnesota. His thesis was on *A contribution to the Life History of Rumex*, published in the Minnesota Botanical Studies (2:137) in 1899. The work was done during the summers of 1896 and 1897.

At the time Fink completed his work at Harvard Professor Conway MacMillan, then professor of botany at the University of Minnesota, was planning an extensive survey of Minnesota plant life and was getting the best men he could to assist in this work. Among others he secured Professor Fink who thus became connected with the Natural History Survey of Minnesota in 1896 and remained with it until 1903, using his summer vacations to carry on botanical work. He thoroughly enjoyed the outside contact as I know because he often spoke to me about the great *Cladonia* lichens in the Lake Superior region and the lichenology of Minnesota.

One of the first papers he published was issued in 1896 on the Reproduction and Pollination of the Tomato (Minnesota Botanical Studies, Pt.9). His interest in lichens began to increase and in the same volume (Pt. 9, pp. 10,11) he published a paper on lichens, the beginning of a long series of papers on that subject. I shall discuss these papers a little later. During the summer of 1906 he had charge of the work in botany of the University of Washington Marine Station. The lichen collecting here was particularly interesting, unlike anything in the east. It gave him an opportunity to study this flora, which was referred to in some of his later papers.

He became a member of the Iowa Academy of Science in 1891 at the meeting held in Des Moines. He was one of sixty-two fellows, the total membership of fellows and associates then consisting of seventy-nine. He at once became one of the most active and inspiring leaders of the Academy and contributed many notable papers to the Proceedings. He was a member of numerous other scientific societies, including Sigma Xi, American Association for the Advancement of Science (fellow), American Society of Naturalists, Botanical Society of America, Botanists of Central States, Iowa Academy of Science, of which he was president from 1902

to 1904, Sullivant Moss Society, of which he was president in 1910, International Society of Botanists, Ohio Academy of Science, of which he was president in 1912, Ohio Forestry Association, Iowa State Horticultural Society, Iowa Park and Forestry Association and Sigma Alpha Epsilon. He was also a member of the Ohio Board of Biological Survey and he was associate editor of *Mycologia*. He was chairman of the Young Men's Christian Association of Miami University and also chairman of the University Senate Committee on Religious Service and Work. At the University he conducted a Bible Study class of young men through each college year. He was a member of the Methodist Episcopal Church.

He married Ida May Hammond of Champaign, Illinois, January 9, 1888. Three children were born of this union.

In an early paper he lists several new plants found near Fayette, also squirrel corn (*Dicentra*) (*Proc. Iowa Acad. Science*, 1: Pt. 4, p. 103). The earliest of his general papers was one on the Spermatophyta (seed plants) of the Flora of Fayette, Iowa, a work started in 1891. He thoroughly explored the region about Fayette for five years (*Proc. Iowa Acad. Sci.*, 4:81, 1896) and nearly two hundred of the seven hundred species of plants he collected were compared with specimens in the Gray Herbarium and the University of Minnesota. The habits are carefully noted and due credit is given to the herbarium made by Dr. C. C. Parker, who collected in Fayette previous to 1876. Professor R. B. Wylie, now the splendid head of botany department, State University of Iowa, was a student of his and also contributed to the collection. This is the only extensive paper he published on general taxonomic botany of flowering plants. In 1908 he became an associate editor of *Mycologia* and this gave him an opportunity to publish some of the mycological papers of his students. He also was editor of the *Ohio Journal of Science*. Ecology also engaged his attention, as in the paper *Floristic Notes from an Illinois Esker* (*Iowa Acad. Sci.*, 13: 59) and in many of his papers on lichens the Ecology is considered. Occasionally critical reviews were made, such as a review of the book by James M. Crombie on *British Lichens*, in the *Botanical Gazette* (67: 268) in which he calls attention to the author's wrong concept of lichens. There were some general botanical papers like *Certain Iowa Algæ* (*Iowa Acad. Sci.*, 12: 21) in which he discusses the algæ found at Fayette and Grinnell.

With Sylvia C. Fuson he published a paper on *An Arrangement of Ascomycetes of Indiana* (*Indiana Acad.*, 1919; 113-133) and another joint paper with Miss Fuson, *Ascomycetes New to the Flora of Indiana* (*Indiana Acad.*, 1918: 264-275). He also published a long list of fungi of Indiana. Professor Fink had a deep interest in fungi. He spent the time from November, 1915, to January, 1916, inclusive, in Porto Rico visiting at San Juan, Yanco, Rio Grande and Vega Baja, collecting from sea level to 4,985 feet altitude. He collected during rain and sunshine. A paper on *The Distribution of Fungi in Porto Rico* was published in *Mycologia* (10:58). He published an interesting note on *Tylostoma verrucosum* in *Mycologia*. Some of his summers after he became connected with Miami were spent in the Smoky Mountains of Tennessee, where he did much fine collecting.

He had an early interest in fungi. In 1893 he reported on some powdery mildews that he collected at Fayette (*Iowa Acad.*, 1. Pt. 4, 103). Lichens

always interested him, even quite early during his college career. When the State College came into possession of the Parry collection there came some unnamed lichens, twenty-three in number, and Dr. Fink identified these for us (Proc. Iowa Acad. Sci., 2:137). Other and later papers on lichens were published in the Proceedings of the Iowa Academy, including a paper on Mississippi Valley Lichens. Some 43 species of lichens are listed in a paper "Additions to Lichen Distribution in the Mississippi Valley" (Iowa Acad. Sci., 7:173), of which 21 are from La Crosse, collected by the writer. Another paper "Notes Concerning Iowa Lichens" (Proc. Iowa Acad. Sci., 5:174) gives an account of the lichens of northeastern Iowa and Minnesota. In this paper he makes a comparison of the lichens from Fayette to Minnesota. Two months' collecting in Minnesota yielded nearly as many lichens as three years in Fayette. An extensive paper on Iowa lichens was published by him in Bulletin Laboratories of Natural History (3:70-88). Fayette county contributed 180 species out of a total of 200 species reported for the state. One of his very fine papers on phytogeography is entitled Addition to Lichen Flora in North America (Mycologia 11:296) in which he gives the geographic distribution of some 200 species of North American lichens. These lichens were collected by E. L. Harper, C. Rausch and L. H. Pammel. In one paper he calls attention to the pictured rocks caused by lichen growth along Mississippi river. In a subsequent paper he has a bibliography of North American Lichens (Proc. Iowa Acad., 6:165) and another is Addition to the Bibliography of North American Lichens. He added 94 titles to those given by W. W. Calkins in Chicago Academy of Science (Acad. Sci., 1: 44-50). This is an indication of how familiar he was with the extensive literature of lichens.

There were also such papers as: A New Lichen from an Unusual Substratum (Mycologia 14:95); A New Species, *Thelocarpon fimicola*, found on cow dung in Kentucky; New Genera and Species of the Family Collemaceae *Collemodes Bachmanianum* (Mycologia 10: 235) (The alga was a species of nostoc); Notes on North American Cladonias (Iowa Acad. Sci., 12:15) mentioning those found in Minnesota in particular. Articles on the same genus also appeared in the Bryologist and of interest to us in Iowa is the fact that 21 species are recorded for this state. The basis of his many fine studies on lichens was laid in Iowa and Minnesota. There were six contributions on lichens from Minnesota: I. Lichens of the Lake of the Woods, founded on a collection of 62 species made by Conway Mac-Millan (Minnesota Bot. Stud., 1:693). II. Lichens of Minneapolis (Minnesota Bot. Stud., 1: 703), 113 species collected by himself in 1896. III. Lichens of Taylor's Falls in the Interstate Park, 79 species collected by him (Minnesota Bot. Stud., 2:1). IV. Lichens of the Lake Superior Region, a collection of 258 species made in 1897 and found at twenty-one stations. This was practically a virgin field as but few lichens had previously been reported from this region. V. Lichens of Southwestern Minnesota (Minnesota Bot. Studies, 2:207), 201 species collected in Ottertail, Beltrami and Red Lake counties, Minnesota. VI. Lichens of Northwestern Minnesota (Minnesota Bot. Studies, 2:657). He points out in this discussion the difference in the lichen flora of the wooded and prairie sections of Minnesota, as in the morainic hills at Vining with an elevation of 1805 feet, where the rocks were literally covered with lichens. One hundred fifty-four

species were found in the wooded area at Bemidji while at Thief River Falls, some 80 miles northwest in the prairie section, only a few lichen species occurred. A total of 215 species is recorded for this territory. The ecologic distribution is taken up in an interesting way.

Doctor Fink had given so much attention to the lichens of Minnesota that his Minnesota material was brought together under the title "The Lichens of Minnesota" published in Contributions of United States National Herbarium in 1910 (14; Pts, I-VII, 1-269, *Pl. 1-51, f. 1-18*). This monograph was based on extensive field work carried on for the Minnesota Botanical Survey. It necessitated a study of the lichen material in Washington and in Harvard University, where the Tuckerman collection is deposited. In addition to the fine bibliography prepared by P. L. Ricker there is a splendid discourse of thirty-one pages on such topics as the nature of lichens, beginning with the classification of Tournefort, who regarded them as a distinct group of plants, then considering the theory first proposed by DeBary concerning the dual nature of lichens and the later work of Schwendener, who in 1868 finally demonstrated their dual and symbiotic nature. Doctor Fink makes this significant statement: "However, it may well be doubted whether either the fungal or algal symbiont ever becomes free in nature and lives during the whole life period outside the symbiotic association. Thus we seem to have in lichens the highest expression, so far as is known, of mutualism." The systematic relationships of the associate fungi are discussed, including gross morphology, the fungus and algal layer soredia, breathing pores, and reproduction, asexual and by fertilization. He further speaks of their economic uses, as purifiers of the air, as assistants in rock disintegration and as food for lower animals and man. The monograph has splendid keys for the families, genera and species. Up to the present time it is the best work we have on North American lichens. At the time of his death he had prepared a manual of the lichens of the United States which I understand is to be published. He was also the author of Laboratory Exercises in Plant Physiology and Ecology.

Doctor Fink in his splendid presidential address as retiring president of the Iowa Academy of Science, "Two Centuries of North American Lichenology," says: "Surely no apology is in order for offering here an address in which attention is directed for the short time to a limited field in one of the biological sciences. All men of science are interested to some extent in the history of the rise and progress of every phase of scientific inquiry, and even for the layman who may favor us with his presence this evening, it is hoped that the record of devotion, sacrifice and completion of valuable work will afford something of interest." The story of North American lichenology begins with the year 1703, when the first list was published, followed in 1810 with Acharius. Then there were such men as Edward Tuckerman, 1847-1888, W. G. Farlow and later the great work of Dr. Bruce Fink, who must be considered as one of the great lichenologists of the world along with such men as Dr. E. Wainio of Helsingfors, Dr. A. Zahlbruckner of Vienna, Dr. L. Scriba of Höchst on the Main and Dr. J. T. Hedlund, Upsala, Sweden.

Doctor Fink was the author of a book of 77 pages, *The Tobacco Habit*, published by the Miami University in 1914, with a bibliography of ten pages.

The tobacco problem was investigated for the purpose of ascertaining

the facts regarding its merits. "It would have been a pleasant duty to defend it, and has been a most unpleasant one to condemn a habit followed by so many men." This study had the encouragement of President R. M. Hughes, now president of Iowa State College. A thorough study of the problem was made, from the standpoint of business houses, railroad corporations, tobacco and degeneracy, the prevalence of heart disease due to the tobacco habit.

Doctor Diehl, who came to me as a fellow from Miami, on many occasions spoke to me of the great work Dr. Fink did for science and for Miami University. His merit was recognized by his co-workers and Dr. Cattell in his *American Men of Science* placed a star before his name as an indication that he stood in the front rank of the botanists of this country.

In the Annual Report of the Director of the Field Museum of Natural History Dr. Millspaugh says (7: 243): "Notable among the visitors to this herbarium who remained to study was Dr. Bruce Fink of Miami University, Oxford, Ohio, the distinguished lichenist, who worked over the entire collection of lichens, making any necessary changes in determination."

A great man has gone from us, a genial and fine companion to those who were privileged to know him. He has left his fine impress on the botany of North America, especially lichenology. His name will live as long as lichens of this country shall be studied.