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Source: *Mycologia*, Vol. 84, No. 4 (Jul. - Aug., 1992), pp. 485-487

Published by: Mycological Society of America

Stable URL: <http://www.jstor.org/stable/3760312>

Accessed: 15/10/2008 18:12

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Official Publication of the Mycological Society of America

## E. SILVER DOWDING (MRS. E. S. KEEPING)

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Dr. E. S. Dowding (Mrs. E. S. Keeping), mycologist, botanist and one of the first women to teach science in a Canadian University, died at the age of 89 on March 20, 1991, in Edmonton. Eleanor Silver Dowding, the youngest in a family of seven girls, was born in Lodship Lane, London, England in 1901. When Silver was 6 years old the family moved to Canada, settling in Calgary, Alberta. At the age of 12, a bout of scarlet fever left her with seriously impaired hearing, a handicap that only served to make her even more determined to follow her interests in science. She wrote later in life, "to attend University seemed an impossible dream. In my day there were few openings for women except in office work and nursing." Silver's determination and fighting spirit, characteristics that had surfaced elsewhere in the women of her family during the British suffragette movement, provided her the momentum she needed to obtain a series of scholarships to enter the University of Alberta.

True to form, she chose to study a branch of science in which data collection provided both a physical and intellectual challenge. Fascinated by an eloquent Botany lecturer during her undergraduate degree, she embarked upon a postgraduate study of the ecology of the muskeg and sandhills in the boreal forests around Edmonton. Her careful studies and observations of the local flora were the subject of a series of benchmark papers

on the flora of Alberta that have provided background for all subsequent work in plant ecology in the province. She completed her M.Sc. by 1924 and became an instructor and lecturer in the Botany Department at the University of Alberta.

A University of Alberta Women's Club Scholarship enabled her to spend a year at Cambridge where she studied cytology with Dame Helen Gwynne-Vaughan at Birkbeck College. While at Cambridge, she was strongly influenced by her teacher H. G. Wells and became an enthusiastic and revered member of the renowned "Heretic's Club."

With the receipt of a Hudson Bay Research Fellowship she began work on her doctoral thesis with A. H. R. Buller at the University of Manitoba in Winnipeg and obtained her Ph.D. degree there in 1931. She stayed on as a research assistant in the laboratory with Buller, studying sexuality of rust fungi, for several years before going to Ottawa. In 1933, she worked briefly with I. L. Connors of the Canadian Plant Disease Survey and the National Mycological Herbarium in Ottawa, describing a new genus of coprophilous fungi, *Gelasinospora*.

In 1933, she returned to Edmonton to marry. "I thought it was about time I looked around and there he was. I didn't realize what I'd got until some time later." What she got was Dr. Ernest Sydney ("Frank") Keeping, a professor of Mathematics at the University of Alberta, and for Silver, a kindred spirit and companion for the next 51 years. About this time Dr. Harold Orr, Clinical

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FIG. 1. Dr. E. Silver Dowding at the Provincial Laboratory of Public Health, Edmonton, Alberta, ca 1940.

Professor of Dermatology, urged the Provincial Laboratory of Public Health to begin examining skin and other cutaneous material for ringworm and other fungal infections. The Dean of Medicine provided laboratory facilities and Silver established one of the first diagnostic medical mycology laboratories in the British Commonwealth.

After the second world war, with exploding enrollments at the University of Alberta, Silver was asked to teach for the University as a sessional lecturer in Mycology. She taught for three years in the Department of Bacteriology and with her famous wry sense of humour was an effective instructor. One student in whom she kindled an interest in medical mycology was J. W. (Bill) Carmichael, who worked first in Silver's laboratory as a part-time research assistant and then as a graduate student.

Inspired by his research mentor who "would come into the lab each morning just buzzing with new ideas," Bill Carmichael went to Harvard to continue his studies for the Ph.D. degree. Upon his return in 1954, Silver wanted to pursue a more active research program unencumbered by the demands of the diagnostic service, and she turned over its supervision to him. In a tribute to her

then Dr. Carmichael commended her "tremendous job in interesting Alberta physicians and public health men in medical mycology." During her stay at the Provincial Laboratory, Silver had amassed a significant collection of fungi which formed the nucleus of what was to be further developed by Dr. Carmichael and coworkers as the University of Alberta Microfungus Collection and Herbarium (UAMH), now the second largest culture collection of filamentous fungi in Canada.

On invitation from Dr. Harold Brodie, chairman of the Department of Botany and a friend and fellow student from her days in Buller's laboratory, she accepted an honorary research position in 1958 and worked there until 1961. After a year in Dr. Glenn Bulmer's laboratory at the University of Oklahoma, where she studied the cytology and sexuality of puffballs, she returned to the University of Alberta to work in the Department of Genetics until her retirement in 1971.

Family life was always important to the Keepings. Silver, husband Frank and their son John happily shared many interests including camping and climbing trips in the Rockies, gardening, language, literature and art. Her marriage and successful scientific career were such an unusual com-

bination in the thirties that they were noted in the Calgary Herald: "Dr. Dowding is one of the young moderns who combines a career successfully with marriage." As the wife of a faculty member, she could not receive a salary for her work at the University. Nevertheless, Silver was doing what she loved and pursued a busy schedule of research in mycology, passionately communicating her results, ideas and enthusiasm to both the scientific community and the public through articles and lectures. She maintained an active interest in the University's Devonian Botanic Garden and in the Edmonton Mycological Club where she was appointed its first honorary member. At the age of 71, she attended the first International Mycological Congress.

During a time when women in science were uncommon, Silver Keeping had gained great respect for her dedication to her work, her broad knowledge of her subjects and her innovative ideas. A quote attributed to her in 1976 stated: "A life of such biological study is rich in the discovery of facts. It is also rich in lasting pleasure."

PUBLICATIONS BY E. S. DOWDING  
(MRS. E. S. KEEPING)

1924. **Lewis, F. G., and E. S. Dowding.** The anatomy of the buds of Coniferae. *Ann. Bot.* **39**: 127-228.
1925. **Dowding, E. S.** The regional and seasonal distribution of potassium in plant tissues. *Ann. Bot.* **39**: 459-474.
1926. **Lewis, F. G., and E. S. Dowding.** The vegetation of Alberta I. The vegetation and retrogressive changes of peat areas in central Alberta. *J. Ecol.* **14**: 317-341.
1928. ———, ———, and **E. H. Moss.** The vegetation of Alberta II. The swamp, moor, and bog forest vegetation of central Alberta. *J. Ecol.* **16**: 19-70.
1929. **Dowding, E. S.** The vegetation of Alberta III. The sandhill areas of central Alberta with particular reference to the ecology of *Arceuthobium americanum* Nutt. *J. Ecol.* **17**: 82-105.
1931. ———. The floral morphology of *Arceuthobium americanum*. *Bot. Gaz. (London)* **91**: 42-54.
1931. ———. *Wallrothiella arceuthobii*, a parasite of the jack pine mistletoe. *Canad. J. Res.* **5**: 219-230.
1931. ———. The sexuality of *Ascobolus stercorarius* and the transportation of the oidia by flies and mites. *Ann. Bot.* **45**: 621-637.
1931. ———. The sexuality of the normal, giant and dwarf spore of *Pleuraea anserina*. *Ann. Bot. (London)* **45**: 1-14.
1932. **Davidson, A. M., E. S. Dowding, and A. H. R. Buller.** Hyphal fusions in dermatophytes. *Canad. J. Res.* **6**: 1-20.
1932. ———, ———, and ———. *Tinea barbae* of the upper lip. *Arch. Dermato-syphiligr. Clin. Hôp. Saint Louis* **26**: 660-662.
1933. **Dowding, E. S.** *Gelasinospora* a new genus of Pyrenomycetes with pitted spores. *Canad. J. Res.* **9**: 294-305.
1935. ———. *Monosporium apiospermum*, a fungus causing Madura Foot in Canada. *J. Canad. Med. Assoc.* **33**: 28-32.
1936. ———, and **H. Orr.** Transformation of *Trichophyton gypseum* into Mosaic Fungus. *Arch. Dermato-syphiligr. Clin. Hôp. Saint Louis* **33**: 865-873.
1937. ———, and ———. Three clinical types of Ringworm due to *Trichophyton gypseum*. *Brit. J. Dermatol.* **49**: 298-307.
1939. ———, and ———. The dermatophyte *Microsporum lanosum*. *Mycologia* **31**: 76-92.
1939. ———, and **M. R. Levey.** A mould from the ear. *J. Canad. Med. Assoc.* **41**: 336-339.
1940. ———, and **A. H. R. Buller.** Nuclear migration of *Gelasinospora*. *Mycologia* **32**: 471-488.
1942. ———, and **E. H. Gowan.** The migration of fungal nuclei in an electric field. *Canad. J. Res., Sect. C, Bot. Sci.* **20**: 92-100.
1944. ———. The spores of dermatophytes. *Canad. J. Res., Sect. E, Med. Sci.* **22**: 67-77.
1947. ———. The pulmonary fungus *Haplosporangium parvum* and its relationship with some human pathogens. *Canad. J. Res., Sect. E, Med. Sci.* **25**: 195-206.
1947. ———. *Haplosporangium* in Canadian rodents. *Mycologia* **39**: 372.
1948. ———. The spores of *Histoplasma*. *Canad. J. Res., Sect. E, Med. Sci.* **26**: 265-273.
1950. ———. *Histoplasma* and Brazilian *Blastomyces*. *Mycologia* **42**: 668-678.
1952. ———. Further studies of the Mosaic Fungus. *Arch. Dermato-syphiligr. Clin. Hôp. Saint Louis* **66**: 470-477.
1953. ———. Dr. Harold Orr and medical mycology. *J. Canad. Med. Assoc.* **68**: 386-387.
1953. ———. Physician's guide to Alberta mycoses. Edmonton, Alberta. Published by author.
1954. ———, and **A. Bakerspiegel.** The migrating nucleus. *Canad. J. Microbiol.* **1**: 68-79.
1955. ———. *Endogone* in Canadian rodents. *Mycologia* **47**: 51-57.
1956. ———, and **A. Bakerspiegel.** Poor fruiters and barrage mutants in *Gelasinospora*. *Canad. J. Bot.* **34**: 321-340.
1958. ———. Nuclear streaming in *Gelasinospora*. *Canad. J. Microbiol.* **4**: 295-301.
1958. ———. The Buller Memorial Library. *Mycologia* **50**: 794-796.
1959. ———. Ecology of *Endogone*. *Trans. Brit. Mycol. Soc.* **42**: 449-457.
1960. ———, and **J. Weijer.** Mitosis in *Neurospora*. *Nature* **188**: 338-339.
1960. **Weijer, J., and E. S. Dowding.** Nuclear exchange in a heterokaryon of *Neurospora crassa*. *Canad. J. Genet. Cytol.* **2**: 336-344.
1962. **Dowding, E. S., and J. Weijer.** Mitosis in *Neurospora* and *Gelasinospora*. *Genetica* **32**: 339-351.
1964. ———, and **G. S. Bulmer.** Notes on the cytology and sexuality of puffballs. *Canad. J. Microbiol.* **10**: 783-789.
1966. ———. The chromosomes in *Neurospora* hyphae. *Canad. J. Bot.* **44**: 1121-1125.