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Bryophyte-lichen Communities Within Hot Springs National Park, Arkansas I.

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Arkansas Academy of Science

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BRYOPHYTE-LICHEN COMMUNITIES WITHIN HOT SPRINGS NATIONAL PARK, ARKANSAS I.

The vegetation within Hot Springs National Park consists of varied forest communities (Dale, E. E., Jr., and M. R. Watts 1980. Vegetation of Hot Springs National Park, Arkansas. Prep. for S.W. Region National Park Service, U.S. Dept. Interior). These communities include mesic stands of upland hardwood, xeric pine-oak-hickory stands, oak-hickory-pine stands which are subtypes on the xeric side, and short-leaf pine-white oak stands which are subtypes on the mesic side. The most mesic types within the park, however, are the mixed forest types in the upland ravines. In this study, field work included variable-point sampling of these forest stands along the forest trails within the park so that the stands could be compared with the work done by Dale and Watts.

Sampling techniques for the microcommunities of lichens and bryophytes varied among sites, but always included collections from rocks, soil, fallen logs, and standing trees. A total of almost 1800 collections was made during the summer and fall of 1981. Identification of these samples is nearing completion.

The present study has identified 49 mosses and 66 lichens from within the boundaries of Hot Springs National Park. Previous studies within the park had included only species of mosses (Lowe, R. L. 1919. Collecting in Arkansas. The Bryologist 22[1]:14-15; Scully, F. J. 1941. The Mosses of Hot Springs National Park and Vicinity. The Bryologist 44[5]:125-128). New state records from this study include two liverworts: *Jamesoniella autumnalis* in the Jungermanniaceae and *Calypogeja muelleriana* in the Calypogejaceae; one moss: *Anacamptodon splachnoides* in the Fabroniaceae; and one lichen: *Coccocarpia palmicola* in Coccocarpiaceae.

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CURATORIAL NOTES FROM THE CRYPTOGRAMIC HERBARIUM AT THE UNIVERSITY OF CENTRAL ARKANSAS

The Cryptogamic Herbarium at the University of Central Arkansas, Conway, is used for teaching and research and has been selected by officers of the Arkansas Mycological Society to house voucher specimens for Arkansas mushrooms collected by A M S members. These fungi are thoroughly dried and placed in clear plastic, zip-lock bags which can easily be sealed and reopened; complete labels for each are placed in/on the bags. These have been filed in the herbarium according to the checklist of mushrooms being published in Arkansas Biota, 1983 (No.37). It has been helpful to eliminate larvae and adult beetles found in some of the persistent fungi and fleshy mushrooms by a short treatment in the microwave oven before the drying is completed in the conventional laboratory oven. The microwave oven treatment usually kills the larvae and the adults will leave the specimen.

Lichens and bryophytes are often packaged in clear, plastic packets and are fastened to herbarium sheets, with the label immediately under the plastic packet. Others are packaged in the traditional manner, with complete label on the outside of the paper packet. Packets are then glued to standard herbarium sheets and placed in folders for protection. Still other specimens are housed in the conventional small boxes. The Flora A. Haas liverwort-hornwort collection remains in the box in which she kept it. Her collection does not contain any Arkansas specimens but is still a valuable addition to the herbarium. Collections she had of Arkansas bryophytes were discarded (due to no identification label being placed on the large box in which it had been stored) in a clean-up of the department about 1955. The Haas collection includes specimens collected by L. W. Underwood, W. A. Evans, C. C. Hayes, and Nellie Fosdick dating from 1888 to 1919. However, the earliest collection was a leafy liverwort collected in Cuba in 1879. Places of collection include Puerto Rico, Hawaii, Cuba, Jamaica, California, Florida, New Hampshire, and several other states.

An important addition to the vascular cryptogam section of the herbarium is the collection of Pteridophyta made by the late Aileen McWilliam of Mena, Arkansas. Some of her specimen sheets of Arkansas ferns indicate sites where the ferns can no longer be found, because the habitats have been so thoroughly changed (Moore, J. E. 1982).

In addition to the storage of specimens for study, it is part of the function of the herbarium curator to publish checklists of plants for the region served. In this respect, checklists of Arkansas lichens (1981), hornworts and liverworts (1983), and mushrooms (1983) have been published in the Arkansas Biota under the auspices of the UCA Cryptogamic Herbarium (Nos. 30, 36, and 37). The checklist of Arkansas mosses will be published in 1984. The checklist of Arkansas Pteridophytes by Dwight M. Moore was published in the Arkansas Biota in 1977 (No. 1).

Distribution maps for specimens in the herbarium are placed within each folder. Reprints of articles dealing with the Arkansas plants are available in the herbarium library.

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