

MUSHROOMS OF GRAND TETON NATIONAL PARK

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Fungi are highly significant in the ecology of the Park biota not only as parasites and mycorrhizal symbionts but also for energy recycling as primary organisms of decay. Records of higher fungi occurring in Yellowstone and Grand Teton National Parks appear constantly in taxonomic monographs (e.g. Hesler & Smith, 1979), special reports (McKnight, 1975, 1979), and by implication, at least, in regional reports or checklists including fungi of Wyoming which may or may not give specific localities (e.g. Larsen & Denisen, 1978, Lowe & Gilbertson, 1961). The 1700 collections of fungi from the central Rocky Mountains distributed by Solheim contain many from Wyoming (Gilbertson, Cummins, & Darnall, 1979), including a large number from the two National Parks. Although they represent a major contribution to our knowledge of the park fungi, most of Solheim's specimens are parasites or other small fungi not included in the groups covered in this study.

Objectives

This study attempts to inventory the mushrooms and related fungi of the Park and to assemble correlative data useful in park resource management and utilization. Fungi included are mostly Ascomycetes and Basidiomycetes with large or otherwise conspicuous fruiting bodies. Collecting is not confined to Grand Teton National Park but includes sites with similar ecology in the areas surrounding the Park.

Methods and Results

This project was proposed in 1979 to include three field seasons, not

necessarily in successive years, beginning in 1980. Due to previous commitments elsewhere, no field work was attempted in 1981. During this year records of all previous collections have been added to the computerized file begun in 1979. Analysis of this file and taxonomic study of previously unidentified herbarium specimens yielded an additional 250 species for the list of our collections in the study area.

A manuscript for a preliminary checklist of these fungi has been prepared and is in final stages of review prior to submitting it for publication. The list contains 470 species in 161 genera and 55 families.

Preliminary statistical analysis of selected ecological data and morphological characteristics were carried out at the genus level. Chi-square tests were applied to 4 hypotheses concerning possible correlations of canopy cover, habitat moisture, capophore size, and spore color. A significant departure from random expectations indicates a positive correlation between drier habitats and larger fungus fruiting bodies.

#### Literature Cited

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