

COMPARISON OF THE PRESENT AND PAST BRYOPHYTE FLORA OF CEDAR BOG.¹ Cedar Bog, a relict boreal fen located in Champaign County, four miles southwest of Urbana, Ohio, has been studied by biologists and geologists who are interested in preserving this unique natural area (Forsyth 1974; Frederick 1974; King 1973). This area has a rich moss flora which to my knowledge has never been studied. It is the purpose of this note to present the known moss flora of Cedar Bog and to compare it with the mosses collected prior to 1900 (table 1).

The moss collections from Cedar Bog that were examined and annotated were

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based on over 200 specimens from the Ohio State University Herbarium, and personal collections and observations by the authors (Giesy, 1957). Elizabeth Spence, Hannah Biddlecombe, Louis Lesquereux, and William Werner made extensive moss collections of Cedar Bog during the latter part of the 19th century. Excellent location and habitat information on their herbarium specimens at Ohio State made it possible to locate the areas in the bog where the specimens were collected. Of the 120 specimens collected by these botanists, 53 species were represented and the present flora also includes 53 known species. In the past 100 years approximately 75 species of mosses have been collected from Cedar Bog (Frederick 1964).

TABLE 1

Mosses collected in Cedar Bog from 1868-1975.

Genus and Species	Collection Period*	Moist Woods	Dry Woods
<i>Anomodon attenuatus</i> (Hedw.) Hueb.	2		X
<i>Anomodon rostratus</i> (Hedw.) Schimp.	2	X	
<i>Aulacomnium heterostichum</i> (Hedw.) B.S.G.	3	X	
<i>Aulacomnium palustre</i> (Hedw.) Schwaegr.	3	X	
<i>Barbula reflexa</i> Brid.	2	X	
<i>Brachythecium acutum</i> (Mitt.) Sull.	1	X	
<i>Brachythecium rutabulum</i> (Hedw.) B.S.G.	3	X	
<i>Brachythecium salebrosum</i> (Web. & Mohr.) B.S.G.	2	X	
<i>Brotherella tenuirostris</i> (Bruch & Schimp.) Fleisch.	1	X	
<i>Bryoandersonia illecebra</i> (Hedw.) Robins.	3	X	
<i>Bryoerthrophyllum recurvirostrum</i> (Hedw.) Chen	1	X	
<i>Bryum creberrium</i> Tayl.	2		X
<i>Bryum pseudotriquetrum</i> (Hedw.) Schwaegr.	1	X	
<i>Campylium chrysophyllum</i> (Brid.) Lange.	1	X	
<i>Campylium stellatum</i> (Hedw.) Jens.	3	X	
<i>Cirriphyllum piliferum</i> (Hedw.) Grout	3	X	
<i>Climacium americanum</i> Brid.	3	X	
<i>Cratoneuron filicinum</i> (Hedw.) Spruce	3	X	
<i>Ctenidium molluscum</i> (Hedw.) Mitt.	3	X	
<i>Dicranella heteromalla</i> (Hedw.) Schimp.	2	X	
<i>Dicranella varia</i> (Hedw.) Schimp.	2	X	
<i>Dicranum flagellare</i> Hedw.	1	X	
<i>Dicranum fuscescens</i> Turn.	2	X	
<i>Dicranum montanum</i> Hedw.	1		X
<i>Dicranum scoparium</i> Hedw.	3		X
<i>Dicranum viride</i> (Sull. & Lesq.) Lindb.	1	X	
<i>Drepanocladus revolvens</i> (Sw.) Warnst.	3	X	
<i>Entodon seductrix</i> (Hedw.) Muell.	2		X
<i>Eurhynchium hians</i> (Hedw.) Sande Lac.	3	X	
<i>Eurhynchium pullchellum</i> (Hedw.) Jenn.	1		X
<i>Fissidens adiantoides</i> Hedw.	3	X	
<i>Fissidens cristatus</i> Wils.	3	X	
<i>Fissidens osmundoides</i> Hedw.	3	X	
<i>Forsstroemia trichomitria</i> (Hedw.) Lindb.	3	X	
<i>Funaria hygrometrica</i> Hedw.	2		X
<i>Haplodymenium triste</i> Kindb.	3		X

TABLE 1. *Continued.*

Genus and Species	Collection Period*	Moist Woods	Dry Woods
<i>Herzogiella striatella</i> (Brid.) Iwats.	1	X	
<i>Hypnum curvifolium</i> Hedw.	3	X	
<i>Hypnum fertile</i> Sendtn.	3	X	
<i>Hypnum lindbergii</i> Mitt.	3	X	
<i>Homomallium adnatum</i> (Hedw.) Broth.	2		X
<i>Homalotheciella subcapitata</i> (Hedw.) Broth.	1	X	
<i>Hygroamblystegium tenax</i> (Hedw.) Jenn.	2	X	
<i>Leptodictyum trichopodium</i> (Schults) Warnst.	2	X	
<i>Leskea obscura</i> Hedw.	2		X
<i>Leucobryum glaucum</i> (Hedw.) Angstr.	3		X
<i>Leucodon julaceus</i> (Hedw.) Sull.	3		X
<i>Mnium ciliare</i> (Muell.) Schimp.	1	X	
<i>Mnium cuspidatum</i> Hedw.	2	X	
<i>Neckera pennata</i> Hedw.	1	X	
<i>Oncophorus wahlenbergii</i> Brid.	2	X	
<i>Orthotrichum pumilum</i> Sw.	2		X
<i>Philontis marchia</i> (Hedw.) Brid.	2	X	
<i>Physcomitrium pyriforme</i> (Hedw.) Hampe	2		X
<i>Plagiothecium cavifolium</i> (Brid.) Iwats.	3	X	
<i>Plagiothecium laetum</i> B.S.G.	3	X	
<i>Platygyrium repens</i> (Brid.) B.S.G.	3		X
<i>Pleurozium schreberi</i> (Brid.) Mitt.	1		X
<i>Pohlia wahlenbergii</i> (Web. & Mohr.) Andr.	3	X	
<i>Polytrichum juniperinum</i> Hedw.	2		X
<i>Rhodobryum roseum</i> (Hedw.) Limpr.	3	X	
<i>Rhynchostegiella compacta</i> (Muell.) Loeske	1	X	
<i>Rhyidiadelphus triquetrus</i> (Hedw.) Warnst.	1	X	
<i>Scorpidium scorpioides</i> (Hedw.) Limpr.	1	X	
<i>Sematophyllum adnatum</i> (Michx.) Britt	3	X	
<i>Sphagnum capillaceum</i> (Weiss) Schrank	2	X	
<i>Sphagnum palustre</i> L.	1	X	
<i>Sphagnum warnstorffii</i> Russ.	1	X	
<i>Tetraphis pellucida</i> Hedw.	3	X	
<i>Thelia hirtella</i> (Hedw.) Sull.	1	X	
<i>Thuidium delicatulum</i> (Hedw.) B.S.G.	3	X	
<i>Thuidium recognitum</i> (Hedw.) Lindb.	2	X	
<i>Timmia megapolitana</i> Hedw.	1	X	
<i>Tortella humilis</i> (Hedw.) Jenn.	3		X
<i>Tortula papillosa</i> Wils ex Spruce	2		X

*1 = collected before 1900.

2 = collected after 1900.

3 = persistent species common to both eras.

Since the latter part of the 19th century, 60% of the moss flora has changed while 40% has remained unchanged (table 2). This indicates that changes are going on in the bog environment, which may be related to the changing water table of the bog (Forsyth 1974; Frederick 1974). The 19th century moss flora consisted of 45 species that were characteristic of moist habitats and 8 species that were characteristic of dry habitats. Of the species that were present in the 19th century, but have now disappeared, 20 were characteristic of moist habitats and 2 were characteristic

of dry habitats. The present moss flora consists of 36 species commonly found in moist habitats and 17 species that are characteristic of dry habitats. Of the 22 species that have been collected only during the 20th century, 11 are characteristic of moist habitats and 11 are characteristic of dry habitats (table 2).

These data suggest that a higher percentage of the mosses now found in Cedar Bog are characteristic of dry habitats. This trend might be expected because other evidence indicates that drainage and other inroads on the bog have im-

TABLE 2
Summary of moss species collected in Cedar Bog in 19th and 20th centuries.

Species Collected	Moist Woods	Dry Woods	Total
19th century only	20 (27%)*	2 (3%)	22 (30%)
20th century only	11 (15%)	11 (15%)	22 (30%)
Both 19th and 20th centuries	25 (32%)	6 (8%)	31 (40%)
All species	56 (74%)	19 (26%)	75 (100%)

*Number of species and percentage of total moss flora collected.

posed a dryer environment on the area than was previously present (Forsyth 1974; Frederick 1974). It would be expected that under these conditions some wet habitat species would disappear. Generally, the mosses of Cedar Bog are those that are expected in a bog environment with calcareous water. These mosses are fairly cosmopolitan—a few with northern affinities, and a few which are typically found in the thuja bogs to the north of Ohio.—CYRUS B. McQUEEN AND ROBERT M. GIESY. *Department of Botany, The Ohio State University, Columbus, Ohio 43210.*

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