

A Consideration of some Reports of Indiana Liverworts

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A few species of liverworts have been carried on the list of those supposed to occur in Indiana while, for one reason or another, the original report and, in some cases, subsequent identifications are questionable. If an accurate check list of Indiana liverworts is to be maintained, it is necessary not only to report new records for the state, but also to search out and delete the names of those species that have been incorrectly reported. It is the purpose of the writer to call attention to certain facts concerning five species of liverworts which would indicate that they have never actually been collected in Indiana. It is not his purpose to discredit the work of an other investigator.

The most accepted and safest criterion for the distribution of any plant is an available herbarium specimen for the region in question. Although there are a few reports where the nature of the work is such that the determination of the species involved is probably correct but no specimen is available for checking, for example, the report of *Riccia Frostii* Austin by Caroline Black, (3) it is the writer's opinion that field determination alone should not be accepted as evidence for extending the known range of any species of liverwort.

TABLE 1. A comparison of some vegetative characteristics of *Lophocolea bidentata* and *L. heterophylla*.

characteristic	atypical		typical
	<i>bidentata</i>	<i>heterophylla</i>	<i>heterophylla</i>
Length of average plant in mm.....	up to 50	up to 7	up to 15
Width of plant in mm.....	2.5-4.0	0.5-2.0	2.0-2.5
Width of leaf in number of cells.....	up to 71	15-47	30-47
Length of leaf lobe in number of cells..	16-26	5-11	0-11
Length of uniseriate portion of leaf			
lobe in number of cells.....	2-6	1-2	0-1
Length of biseriate portion of leaf			
lobe in number of cells.....	3-5	1-2	0-1

Lophocolea bidentata (L.) Dumortier has been reported for seven counties in Indiana. More than sixty specimens collected in this state and previously identified as *L. bidentata* have been examined and found to be examples of *L. heterophylla* (Schrader) Dumortier in which the heteromorphic leaf forms were not obvious. Fortunately, several of these had not been published. This confusion may be due to over emphasis in certain current liverwort keys of the value of the variable leaf characteristic in separating the two species. The preceding table is designed to show the most conspicuous differences in the vegetative characteristics of these species. The specimens used to obtain these data are: *L.*

bidentata: from number 258 of V. Schiffner, Hepaticae Europaeae Exsiccatae; atypical *L. heterophylla*: from a specimen recently cited by another investigator under the name *L. bidentata*; typical *L. heterophylla*: from K. Wagner 759 collected in Steuben county, Indiana.

Barbalophozia barbata (Schmidel) Loeske and *Lepidozia setacea* (Weber) Mitten were reported for Lawrence county in the same paper (1) and are considered together here for that reason. The language of the report, which states that these species, along with eleven others, were observed at Spring Mill State Park, indicates that it may have been based on field determinations. No mention is made of any specimens being collected and no herbarium material is available for study. The writer of the present paper collected several species of liverworts at Spring Mill State Park but failed to find these two. It is also noted that Frye and Clark (4) do not include Indiana in the distribution of either *Barbalophozia barbata* or *Lepidozia setacea*.

Ptilidium ciliare (L.) Hampe has been reported for Lake, (2) Putnam, (10) and Wayne counties. (7) There have been no reports of this species for Indiana since that of Dr. Underwood in 1894. The specimen upon which Dr. Underwood's report was based was studied and found to fit the present conception of *P. pulcherrimum*. The original determination of this specimen is not difficult to understand since the section on Hepaticae in the sixth edition of Gray's Manual lists only *P. ciliare*. This section of the sixth edition was edited by Dr. Underwood. It would seem that Dr. Underwood did not, at that time, recognize *P. pulcherrimum* as a valid species. It is evident, then, that the question here is one of nomenclature rather than specimen identification. If *P. pulcherrimum* is to be accepted as a species, as it is by most all present day workers in the Hepatics, then *P. ciliare* should not be included in the list of the Indiana species.

Plectocolea crenulata (Smith) Buch, Evans, and Verdoorn has been reported for Putnam county. (10) The report is based on specimens collected by Dr. Underwood and issued as number five in C. C. Haynes: American Hepaticae. Packets of this exsiccatae at the University of Michigan Herbarium and at the New York Botanical Garden were examined and found to contain only *P. crenuliformis* (Austin) Mitten.

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