Ohio Bryology *et* Lichenology: Identification Species Knowledge

OBELISK

Newsletter of the Ohio Moss and Lichen Association.
Volume 22 No. 1. 2025.

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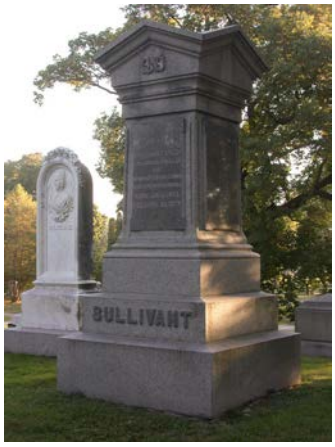
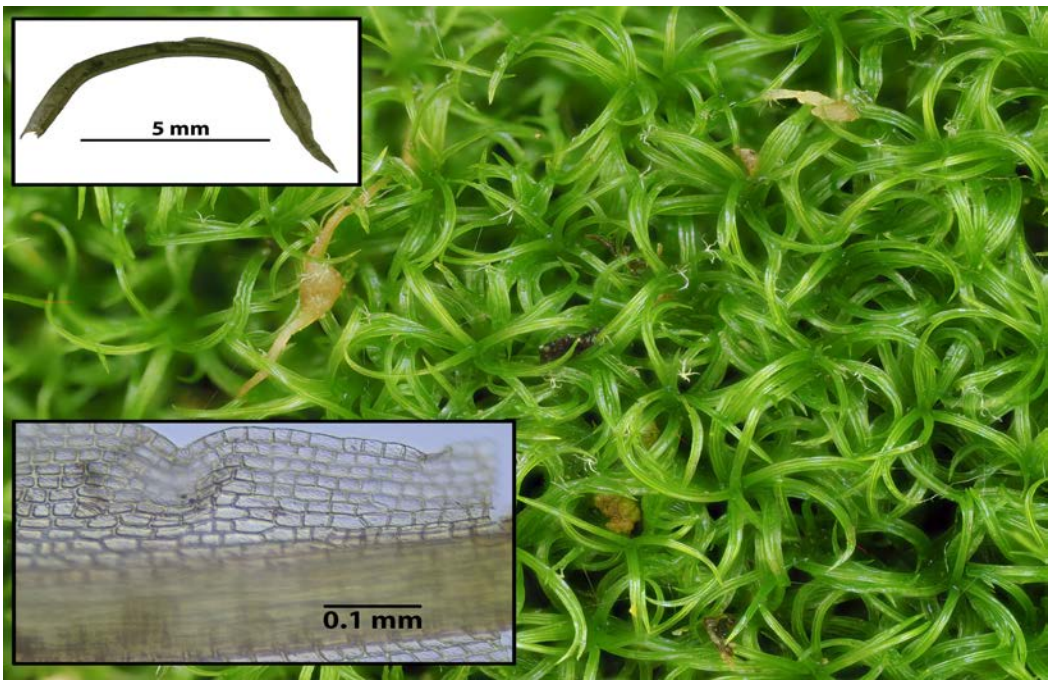
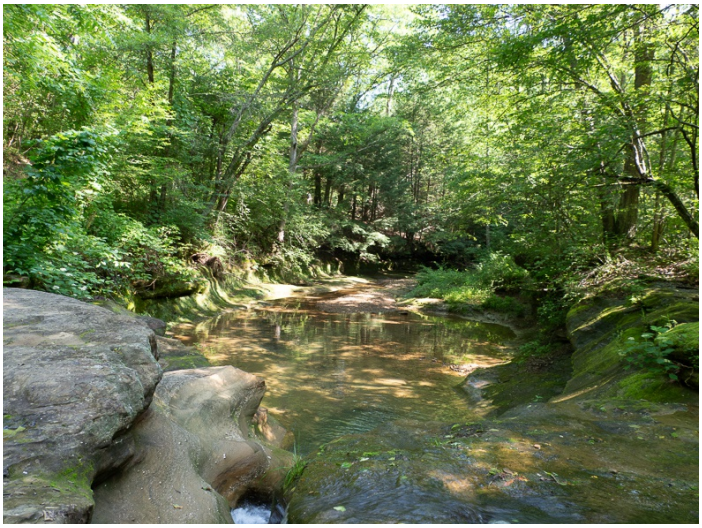




Mougeot's ice-moss, *Amphidium mougeoti*i, seen at Bison Hollow (photo B. Klips)

Spring Foray to Bison Hollow

On a very hot Sunday, June 22, we were fortunate to be in the relatively cool Bison Hollow Preserve, a complex of adjoining properties that includes a State Nature Preserve administered by Appalachia Ohio Alliance, and tracts owned by that land trust. The preserve has impressive cliffs, rock caves, streams, waterfalls and other very interesting, species-rich habitats. Below, see the upper ledge of a small waterfall near the access point to the preserve.



Top of waterfall (photo: Bob Klips)

One interesting find was Mougeot's ice-moss, *Amphidium mougeotii*, an endangered species in Ohio. This light-green acrocarp with lance-shaped leaves doesn't look much different than the common *Gymnostomum aeruginosum* that occurs with it on these sandstone cliffs; it's just bigger and somewhat twisted. A microscope view of the basal leaf cells, (see cover photo) shows striations that set *Amphidium* apart. This is a new record for Vinton County.

***Amphidium mougeotii* (photo: Bob Klips)**

The following bryophytes were noted during the foray and/or follow-up trips by individual observers.

Mosses

Amphidium mougeotii
Anomodon tristis
Atrichum angustatum
Aulacomnium heterostichum
Bartramia pomiformis
Brachythecium laetum
Bryoandersonia illecebra
Bryoxiphium norvegicum
Calliergonella curvifolia
Campyliadelphus chrysophyllus
Dicranella heteromalla
Dicranum fulvum
Dicranum montanum
Dicranum scoparium
Diphyscium foliosum
Fissidens bryoides
Fissidens osmundioides
Fissidens subbasilaris
Fissidens taxifolius
Fontinalis sp.
Forsstroemia trichomitria
Gymnostomum aeruginosum
Hygroamblystegium varium
Hygrohypnum eugyrium
Hyophila involuta
Hypnum imponens
Isopterygiopsis muelleriana
Leucobryum glaucum
Plagiothecium cavifolium
Pogonatum pensilvanicum
Polytrichum ohioense
Pseudanomodon attenuatus
Schwetschkeopsis fabronia
Sphagnum capillifolium
*Tetraphis pellucid*a
Thuidium delicatulum

Liverworts

Bazzania trilobata
Conocephalum salebrosum
Diplophyllum apiculatum
Jubula hutchinsiae
Lophocolea heterophylla

Nowellia curvifolia
Pellia epiphylla
Porella platyphylloidea
Ptilidium pulcherrimum
Radula obconica

Hornworts

Phaeoceros carolinianus

Phaeoceros carolinianus **(photo: Bob Klips)**

Lichens

As the south end of the preserve is a deep shaded gorge, it is poor habitat for lichens on soil or tree boles. Likewise, the rock cliffs on either side of the hollow did not have any foliose or fruticose lichens. However, lichens were observed on a number of fallen limbs. Sixteen species of macrolichens were found, including two new for Vinton County (N). .

Canoparmelia texana **N**
Dibaeis absoluta
Flavoparmelia caperata
Heterodermia speciosa
Hypotrachyna minarum
Myelochroa aurulenta
Myelochroa galbina
Myelochroa metarevoluta **N**
Parmelia sulcata
*Parmotrema hypotropu*m
Parmotrema reticulatum
Phaeophyscia rubropulchra
Physcia americana
Physcia stellaris
Punctelia rudecta
Pyxine sorediata

***Dibaeis absolut*a (photo: Bob Klips)**

HUMBLE PLANTS

Lichens, though humble plants, engage, like other humble of this world, in mighty tasks. Their part it is to cover the arctic and alpine wastes, to clothe desert rocks and bare cliffs everywhere, as pioneers carrying life and the means of existence where before no life could exist. Themselves needing no soil, but a foothold merely, they create soil for plants which do need it. With powerful acids they etch the rock, loosening its particles to let in the frost which will disintegrate it further. Though surviving for centuries, their minute creeping ceases at last, and in death, they give their decaying substance to the smaller and larger things, bacteria, moss, ferns and flowers. Thus they lay down the beginnings of what may one day be fertile ground.

G. G. NEARING
***The Lichen Book,* 1947**

[Editor's note: this panel and the other one like it are from the "Back Matter" of a 1994 issue of *The Bryologist*.]

Carolina hornwort, *Phaeoceros carolinianus*, occurs in wet crevices of the intermittent streambed, where it becomes obvious only later in the season, when the sporophytes pop up. Hornworts are a small phylum with only about 150 species worldwide, compared with 5,000 liverworts, and 20,000 mosses. Ohio is home to only 2 other hornworts--the also uncommon *Notothylas orbicularis* and the very infrequently collected *Anthoceros punctatus*. Hornworts are notable for harboring colonies of nitrogen-fixing cyanobacteria in pockets within their tissues, a symbiosis seen sparingly across the plant kingdom. Other plants that partner with cyanobacteria include the ancient gymnosperm cycads, a flowering plant called "Chilean rhubarb" (*Gunnera tinctoria*), and the simple thalloid liverwort "kettlewort" (*Blasia pusilla*).

One of the plants we saw—not a moss but one with a historical connection to mosses—was this "Sullivant's coolwort"(*Sullivantia sullivantii*). This rare member

of the saxifrage family was named for its discoverer, William Starling Sullivant, a prominent 18th and 19th-century Ohio botanist known as "the father of American bryology."

--Jim Toppin, Bob Klips and Ray Showman

Left to Right: Jim Toppin, Ken Mettler, Zach Betonte, Megan Gartland, Ray Showman, Janet Traub, Bob Klips.

Fall Foray to Summit County

On a mild, sunny weekend, September 20-21, we visited three preserves owned by Summit County Metroparks in the vicinity of Cuyahoga Valley National Park. Thanks to Tomás Curtis for selecting such great sites and securing permission to expore and collect.

Saturday morning we collected at O'Neil Woods Metro Park, which features mesic upland woods, with steep slopes down to Yellow Creek, not far upstream from where it flows into the Cuyahoga River.

In the afternoon, we collected at Deep Lock Quarry Metro Park. The park is named after Lock 28, which was 17 feet deep, the deepest lock along the canal. The park also includes a quarry that supplied Berea Sandstone for buildings and millstones. Natural water seepage has created a perched wetland on the old quarry floor. The old canal bed provides an additional variety of habitats in this second-growth forest.

OMLA at Deep Lock Quary Metro Park (photo: Bob Klips

As is typical for the 2-day fall foray, we got together after dinner in a "scope room," where we identified specimens and taught one another the fine points of identification.

Sunday morning we hiked the Daisy Trail at Furnace Run Metro Park near Richfield. The trail goes through mesic deciduous woods underlain by Berea Sandstone, with a steep slope down to a wetland along Furnace Run, where Ohio Shale is exposed along the banks.

At the scope room, Tomás previews the next day's agenda, while Zach records documentary footage. (photo B. Klips)

Janet and MK examine a specimen together. (Photo: Bob Klips)

Several of the participants in this foray are engaged with bryophye study in extraordinary ways. Dr. Mandy Slate, a faculty member in OSU's Department of Evolution, Ecology and Organismal Biology, is a co-founder of a new initiative, The Bryophyte Conservation Alliance (www.bryoconservation.com), the objectives of which are to increase general

knowledge and appreciation of bryophytes, create a clearinghouse for information on bryophyte conservation, and develop and implement bryophyte conservation-related research and strategies.

Also, parts of the foray were video recorded by Zach Betonte who, along with filmmaker Simone Barros, is continuing work on their film "The Dead Will Show You the Way: A Fugue for Moss and Memory." The film blends moss-filled imagery with the story of 96-year-old Joan Southgate, who walked the length of the Underground Railroad and helped preserve a historic pre-Civil War Cleveland residence, the Cozad-Bates House. Zach and Simone have attended several of our forays and they have filmed OMLA members Bob Klips and Megan Gartland at various locations, including the OSU Herbarium. It's been a pleasure to be part of such an interesting project.

The following species were noted during the foray.

O'Neil Woods--Mosses

Atrichum angustatum
Bryoandersonia illecebra
Bryum pseudotriquetrum
Callicladium haldaneanum
Callicladium imponens
Campylium stellatum
Dicranum montanum
Ditrichum pallidum
Entodon seductrix
Eurhynchiastrum pulchellum
Hygroamblystegium varium
Leskea polycarpa
Leucobryum glaucum
Platygyrium repens
Pogonatum pensilvanicum
Pylaisiadelpha tenuirostris
Thuidium delicatulum

O'Neil Woods Liverworts

Frullania eboracensis
Nowellia curvifolia

Deep Lock Quarry Mosses

Calliergonella lindbergii
Campylium stellatum
Claopodium rostratum
Climacium americanum

Campylium stellatum **(photo: Bob Klips)**

Fissidens bryoides
Gymnostomum aeruginosum
Oxyrrhynchium hians
Plagiomnium cuspidatum
Philonotis marchica
Pseudotaxiphyllum sp.
Thuidium delicatulum

Callicladium imponens **(photo B. Klips)**

Deep Lock Quarry Liverworts

Nowellia curvifolia

Furnace Run Mosses

Barbula unguiculata

L toR: Dean Porter, Bob Klips, M.K. Klenkar, Steve McKee, Zach Betonte, Cooper Johnson, Mandy Slate, Cecilia Sahnow, Ian Adams, Jeff Pengel, Kate Konik, Tomas Curtis, Jim Toppin, Janet Traub, Eric Shershen

Callicladium imponens
Entodon seductrix
Platygyrium repens
Syntrichia papillosa

Furnace Run Liverworts

Frullania asagrayana

O'Neil Woods Lichens

Anisomeridium distans
Arthonia apatetica
Arthonia helvola
Arthonia ruana
Bacidia egenula
Bacidia granosa
Biatora printzenii
Candelaria concolor
Candelariella aurella
Chrysothrix caeisia
Cladonia ochrochlora
Cladonia rei
Dyctaocatenulata alba
Flavoparmelia caperata
Graphis scripta
Hypotrachyna minarum
Julella fallaciosa
Lecania croatica
Lecanora hybocarpa
Lecanora strobilina
Lecanora thysanophora
Lepraria finkii
Multiclavula mucida
Myelochroa aurulenta
Parmelia sulcata
Parmotrema hypotropum
Phaeophyscia adiastola
Phaeophyscia pusilloides
Phaeophyscia rubropulchra
Physica millegrana
Physcia stellaris
Physconia leucoleiptes
Piccolia nannaria
Protoblastenia rupestris
Punctelia caseana
Punctelia rudecta
Pyrenula laevigata
Pyxine sorediata
Ropalospora viridis

Verrucaria nigrescens (?)
Verrucaria sp.

Deep Lock Quarry Lichens

Candelariella lutella
Cladonia grayi
Endocarpon pallidulum
Lecanora appalachensis
Lecanora layana
Lepraria caesiella
Flavoparmelia caperata
Melanelixia subaurifera
Parmelia sulcata
Parmotrema hypotropum
Phaeophyscia rubropulchra
Physcia aipolia
Physcia millegrana
Placynthium nigrum
Punctelia missouriensis
Pyxine subcinerea
Rinodina papillata
Trapelia coarctata
Xanthocarpia feracissima

Furnace Run Lichens

Agonimia sp.
Amandinea polyspora
Anisomeridium polypori
Bacidina delicata
Biatora vernalis
Candelariella efflorescens
Canoparmelia crozalsiana
Catillaria nigroclavata
Cladonia chlorophaea complex
Cladonia furcata
Enchylium bachmanianum
Fellhanera silicis
Heterodermia speciosa
Ionaspis alba
Lecidea varians
Porpidia albocaerulescens
Pseudosagedia cestrensis
Verrucaria cernaensis
Viridothelium virens
Xanthomendoza weberi

--Jim Toppin and Bob Klips

Moss and Mushroom Photos

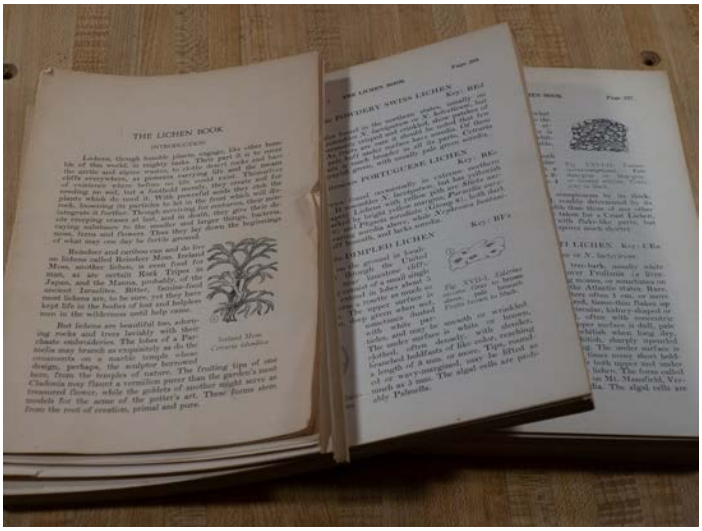
[Editor's note: Marita King's submission came in the form of an email, excerpted below, that included 32 excellent photos, with a suggestion to select a few. Hard to pick! Especially intriguing are the ones that capture fungi alongside bryophytes, so we pass them along, plus a few others. Thanks, Marita!]

"As a novice to the field of mosses, lichens and liverworts, every find is exciting to me, even the common species. This past year I've been using Seek to help me with the initial identification which seldom gets me to a firm species level but I'm happy just knowing what genus or family I am looking at. I enjoy sending photos of my finds to a select group of family and friends with brief descriptions and location...I'd like to give you a look at some of my pictures taken between May 2025 to January 2026. Maybe there are one or two that you'd be interested in using for your next issue."

Top: Deadly Galerina in brocade moss (photo: Marita King)

Above: *Mycena subcaerulea* in fern moss (photo: Marita King)

Guy Nearing's "The Lichen Book," an Underappreciated Masterpiece



A friend recently said to me "There is a fine line between stealing and rescuing." I found this reassuring as I recalled having "rescued" this unbound bundle of lichen book pages from the Buffalo Museum of Science where, as a docent, I led tours during the mid-1980's. If I indeed took them home without permission, I had a very good reason to do so—They were beautiful and I wanted them! Moreover, *The Lichen Book* by Guy Nearing (1890-1986) isn't an especially prized item on the used book market where a nicely bound first edition sells, sadly, for about half the price, corrected for inflation, than it cost new. (This is in marked contrast to the original Audubon "Birds of America" double elephant folio that the Museum sold to raise funds about the same time these lichen pages followed me home.)

The book arose from Guy Nearing's decades-long association with the Torrey Botanical Club (now the Torrey Botanical Society) of which he was an active member who led many field trips from the 1930's through the 1950's and published in the Club's journal *Torreya*, a series of 8 articles entitled "Guide to the Lichens of the New York Area." These articles formed the nucleus for his self-published book. Initiated in 1941, the book became available to subscribers, to be released in 80-page sets each composed of 5 unbound 16-page fascicles, at a cost of one dollar each. Below, see an advertisement for the book from *The Bryologist* that appeared in 1941. Nearing apparently anticipated that his book would be 400 pages long (as inferred by the projected $5 price tag) but the final book is 648 pages long, which must therefore have been distributed in 8 sets, with the final fascicle containing 24 pages instead of the usual 16. The work was limited to just 250 subscribers as it was hand-printed by Nearing himself. After having received the entire book bundle by bundle, individuals would receive, for one additional dollar, a fresh new bound copy and, if so inclined, could thus "throw away" the unbound sheets. My original copy that I stole—err, rescued—from the museum consists of the unbound sheets.

THE LICHEN BOOK

By G. G. Nearing

A handbook of lichens of the northeastern states about to be published by subscription. It is meant particularly for beginners and non-specializing botanists. Only two or three technical terms are used, the descriptions employing simple English words instead of the usual difficult terminology. Nearly every lichen is illustrated.

About one fifth of the material has been published in Torreya, under the title: Guide to the Lichens of the New York Area. This material is now greatly amplified, the drawings, instead of appearing as a plate on a special page, are separated, and accompany the descriptions. Keys are added.

About 500 species will be included eventually, described to enable the student to determine as many as possible without using the compound microscope, but a hand lens only.

Terms of Subscription

Subscribers will be asked to pay $1.00 in advance for the first 80 pages, and $1.00 for each 80 pages thereafter, the total amount not to exceed $5.00, publication to extend over perhaps three years.

Subscribers will receive the 16-page sections as printed, loose and unbound. These can be inserted in an ordinary folder for convenient use. When the book is complete, each subscriber will receive, without extra charge, and in addition to the loose sheets already sent, a cloth-bound copy of the finished book. The loose sheets can then be thrown away if not wanted, or bound as a second copy.

These terms are open to the first 250 subscribers only. All others will pay at the same rate, $1.00 for each five 16-page sections, but when the book is complete, must pay $1.00 additional for the bound copy.

No lower terms will be offered. The Lichen Book will be sold only by the author.

G. G. NEARING

P. O. Box 338 Ridgewood, New Jersey

Nearing's book was geared towards amateurs, strenuously avoiding technical terms in favor of

colloquial equivalent ones. For instance, fruticose lichens were “stalked lichens,” foliose, “paper lichens,” squamulose, “flake lichens” and crustose, “crusts.” Anatomical features too were given friendlier names than “cortex,” “medulla,” “rhizines,” “exciple,” and so on, as shown in the drawings below.

In addition to his skillful drawing, Nearing exhibited creativity and thoughtfulness by providing common names, nearly all of his own invention. Lichen common names are not standardized like those of, say, birds, trees, and fish. It wasn't until the 21st century that Irwin M. Brodo, Stephen Sharnoff, and Sylvia Duran Sharnoff, in their monumental *Lichens of North America* (2001) set forth a uniform common-naming system, wherein there are standard names for genera, i.e., "rosette lichen" for *Physcia*, to which are added additional modifiers to denote species such as "hooded rosette lichen" for *Physcia adscendens*," star rosette lichen" (*P. stellaris*), and so forth. Nearing employed a system like this for some, but not all of his entries. He called the genus *Physcia* the "blister lichens" but called the two species mentioned above "Hood Lichen" and Gray Star Lichen" respectively. Here is a random selection of some of Nearing's most endearing common names: Forked Shrublet Lichen (*Cladonia furcata*); Goat Lichen (*Physcia aipolia*); Bat's Wing Lichen (*Collema nigrescens*); Brown Chip Lichen (*Acarospora fuscata*); Little Knob Lichen (*Pertusaria pustulata*).

The non-use of technical terms notwithstanding, the book is remarkably sophisticated. First off, despite

SAMPLE ILLUSTRATIONS FROM THE LICHEN BOOK: STRUCTURE

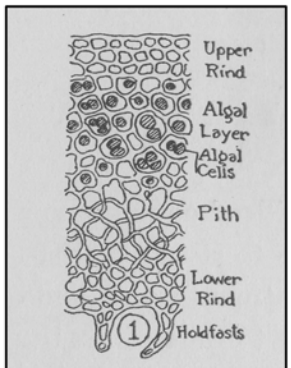
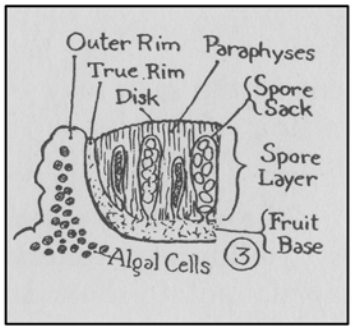


Fig. I-1. Diagrammatic vertical section of a Papery Lichen.



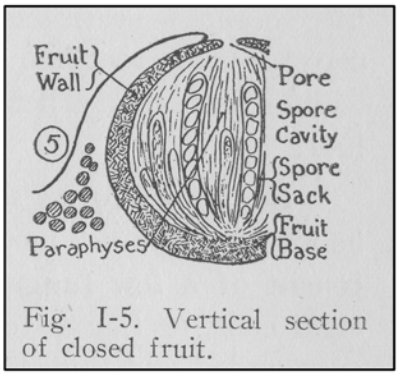


Fig. I-5. Vertical section of closed fruit.

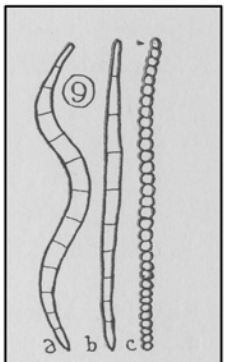


Fig. I-9. Spore types.
a. Needle-shaped, spiral. b. Pointed both ends. c. with globular cells.

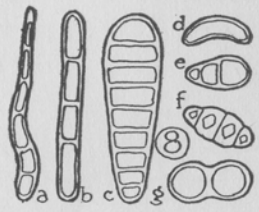


Fig. I-8. Spore types.
a. Needle-shaped, curved.
b. Cylindrical.
c. Caterpilar-shaped.
d. Sausage-shaped.
e. Ovoid.
f. Slightly constricted.
g. Constricted.

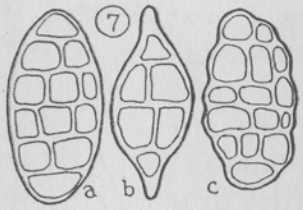


Fig. I-7. Muriform spores. a. With 6 primary cells, once or twice subdivided. b. Ellipsoid pointed, with 4 primary cells once subdivided. c. potato-shaped, with 6 primary cells subdivided.

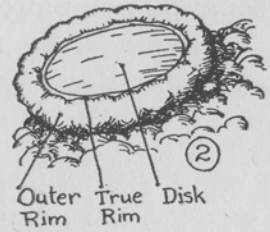


Fig. I-2. Lichen fruit open type.

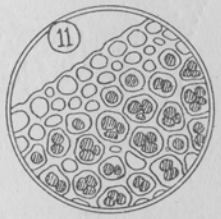
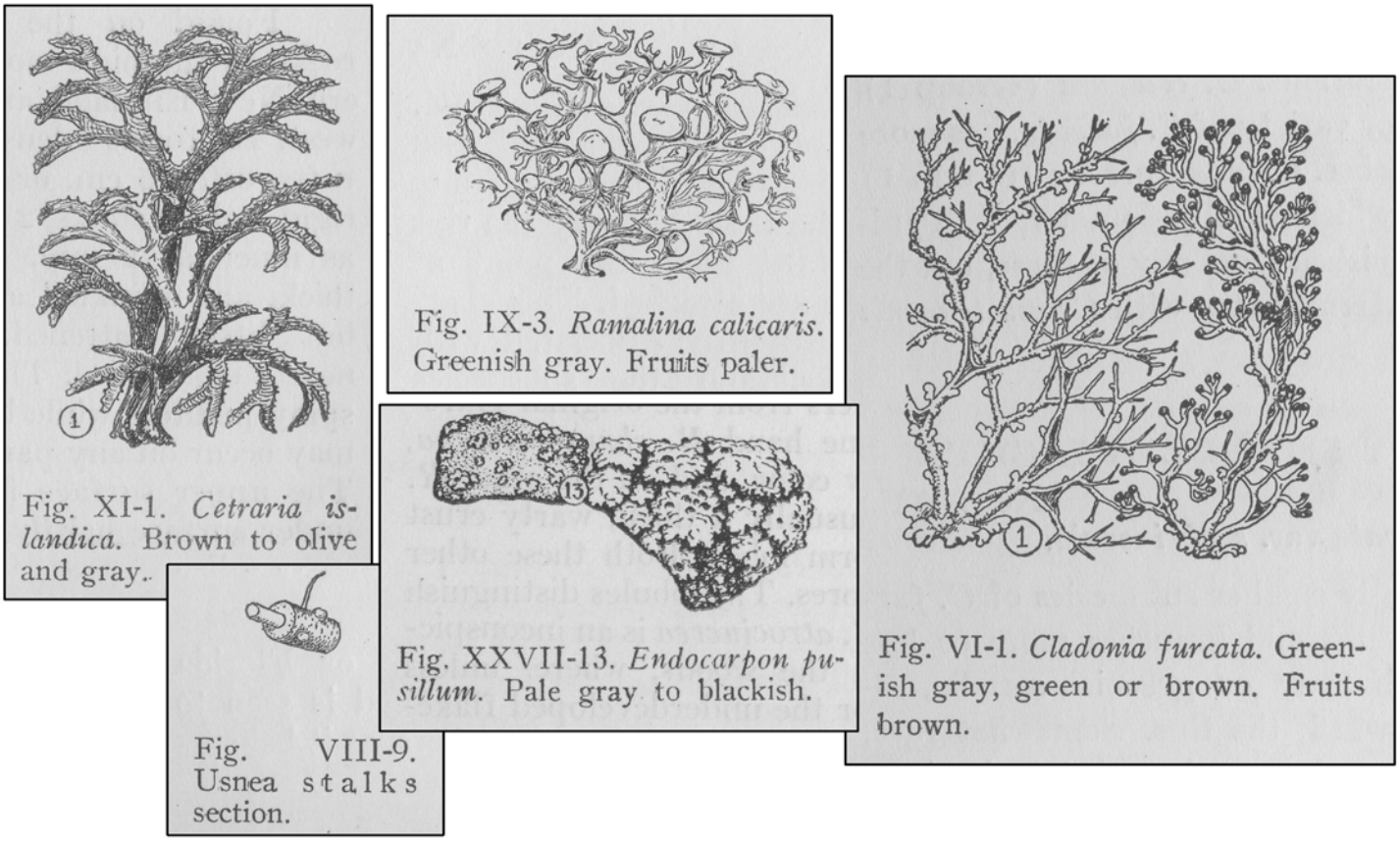


Fig. I-11. Algal cells (Protococcus) in a lichen.

SAMPLE ILLUSTRATIONS FROM THE LICHEN BOOK: NATURAL-SIZED VIEWS



eschewing abstruse words, there is extensive reference to technical features. In the introduction we are treated to well-illustrated explanations of lichen anatomy, spore types and algae, with attention paid to some things visible only through a compound microscope.

Another aspect of the book that sets it apart from other non-specialist guides is its breadth of coverage. Focusing on northeastern U.S. lichens, the book includes an impressive 650+ species, of which more than half are microlichens—crustose ones including not only "disk-fruited" types (220 species), but also ones with "fruits not button-shaped, but crater-shaped or buried in warts or pimples, or mere dots, hardly visible, or shaped like Arabic or Chinese writing" (114 spp., including such things as *Pertusaria*, *Verrucaria*, *Staurothele* and *Graphis*) and "miscellaneous, small lichens difficult to classify in this treatment" (31 spp., including *Calicium, Racodium*, *Lepraria* et al.). This contrasts with most popular works, which are limited to macrolichens.

In lieu of dichotomous keys, Nearing produced elegant (and if you look closely you will see that they are hand-drawn, not typeset!) chart keys that function much like the multi-access keys that have gained popularity in the digital age. Rather than just describe the ID tools, let's try them out, with this lichen I saw recently at the base of a tree in Hocking County (spoiler alert: it's *Anaptychia palmulata*).

KEY TO DIVISIONS

Division A. Groups 1 to 4. Stalked Lichens, having some sort of stalk, or being lifted largely well clear of the foothold. (Certain species with minute, hair-like stalks will be found in Division F.)

Division B. Groups 5 to 12. Papery Lichens, flattened like paper, with an upper and an under surface. (Some which lift themselves high will be found in Division A.)

Division C. Group 13. Flake Lichens, similar to Papery Lichens, but divided into small fragments.. Group 14. Lobed Crust Lichens. Clinging incrustations more or less branched or lobed, but with no visible under surface. (Intermediate between Papery Lichens and Crust Lichens.)

Division D. Groups 15 to 24. Disk-fruited Crust Lichens, consisting of an incrustation, a film, a succession of granules or scurfy particles, a stained area, or a growth entirely hidden, the fruits visible, more or less button-shaped, at least while young.

Division E. Groups 25 to 29. Crust Lichens as above, the fruits not button-shaped, but crater-shaped, or buried in warts or pimples, or mere dots, hardly visible, or shaped like Arabic or Chinese writing.

Division F. Group 30. A few miscellaneous, small lichens, difficult to classify in this treatment.

SAMPLE ILLUSTRATIONS FROM THE LICHEN BOOK: HAND-LENS VIEWS

Fig. VIII-6. *Alectoria sarmentosa.* Stalks pale gray. Fruits brown.

Fig.XIV-2. *Parmelia saxatilis.* Tips.

Fig. XVI-6. *Sticta pulmonaria.* Under surface.

Fig. XXIV-12. *Umbilicaria pustulata.* Fruits, black, sometimes reddish.

Fig. XIX-2. *Physcia stellaris.* Fruits.

Fig. VII-7. *Stereocaulon coralloides* stalk.

Fig. XIX-2. *Physcia stellaris.* Fruits.

SAMPLE ILLUSTRATIONS FROM THE LICHEN BOOK: MICROSCOPE VIEWS

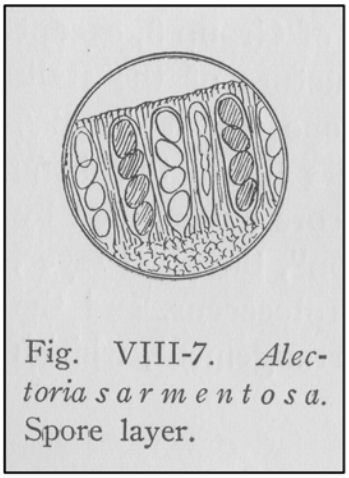


Fig. VIII-7. *Alectoria sarmentosa.* Spore layer.

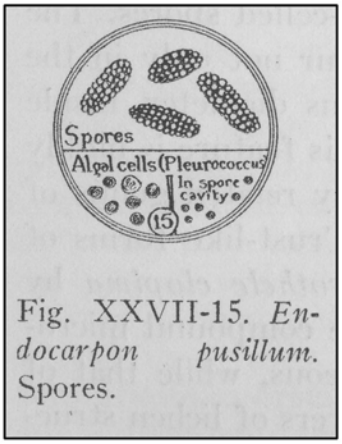


Fig. XXVII-15. *Endocarpon pusillum.* Spores.

Fig. XXVII-11. *Rinodina oreina.* Spores.

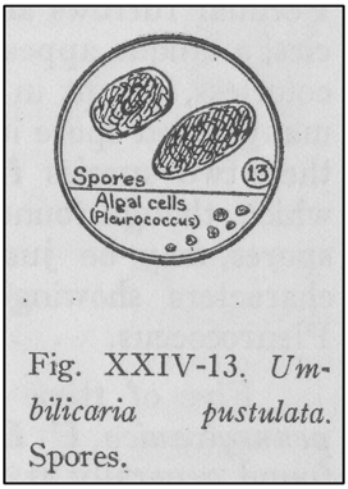


Fig. XXIV-13. *Umbilicaria pustulata.* Spores.

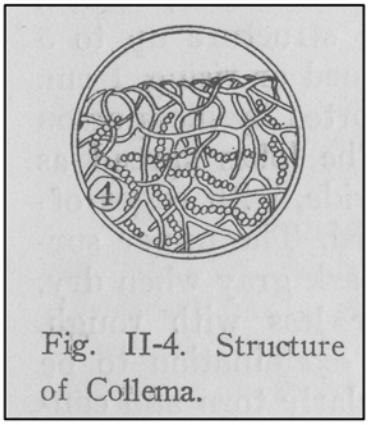


Fig. II-4. Structure of Collema.

Fig. XXVII-11. *Rinodina oreina.* Spores.

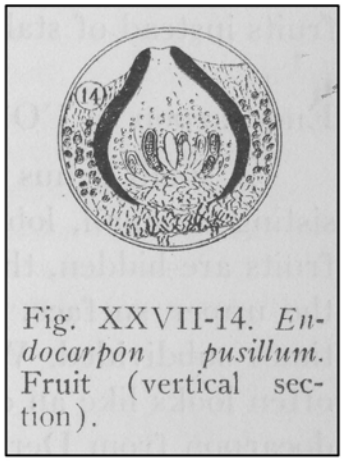


Fig. XXVII-14. *Endocarpon pusillum.* Fruit (vertical section).

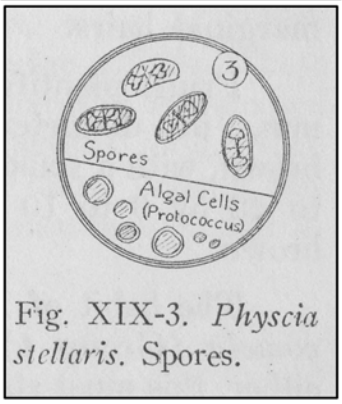
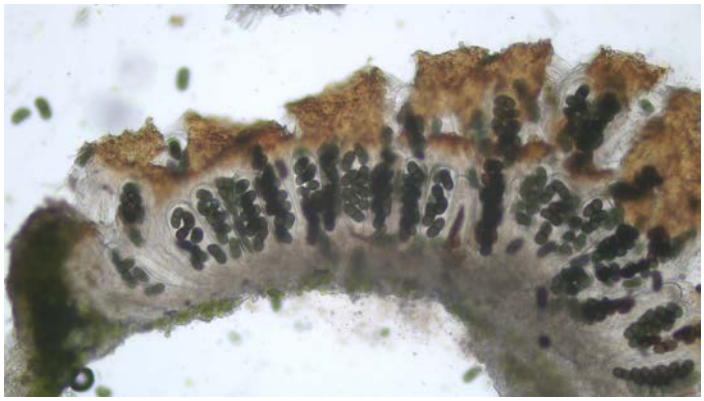
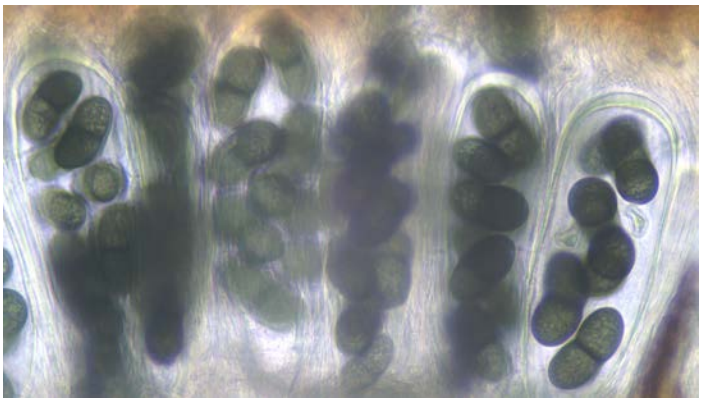


Fig. XIX-3. *Physcia stellaris.* Spores.



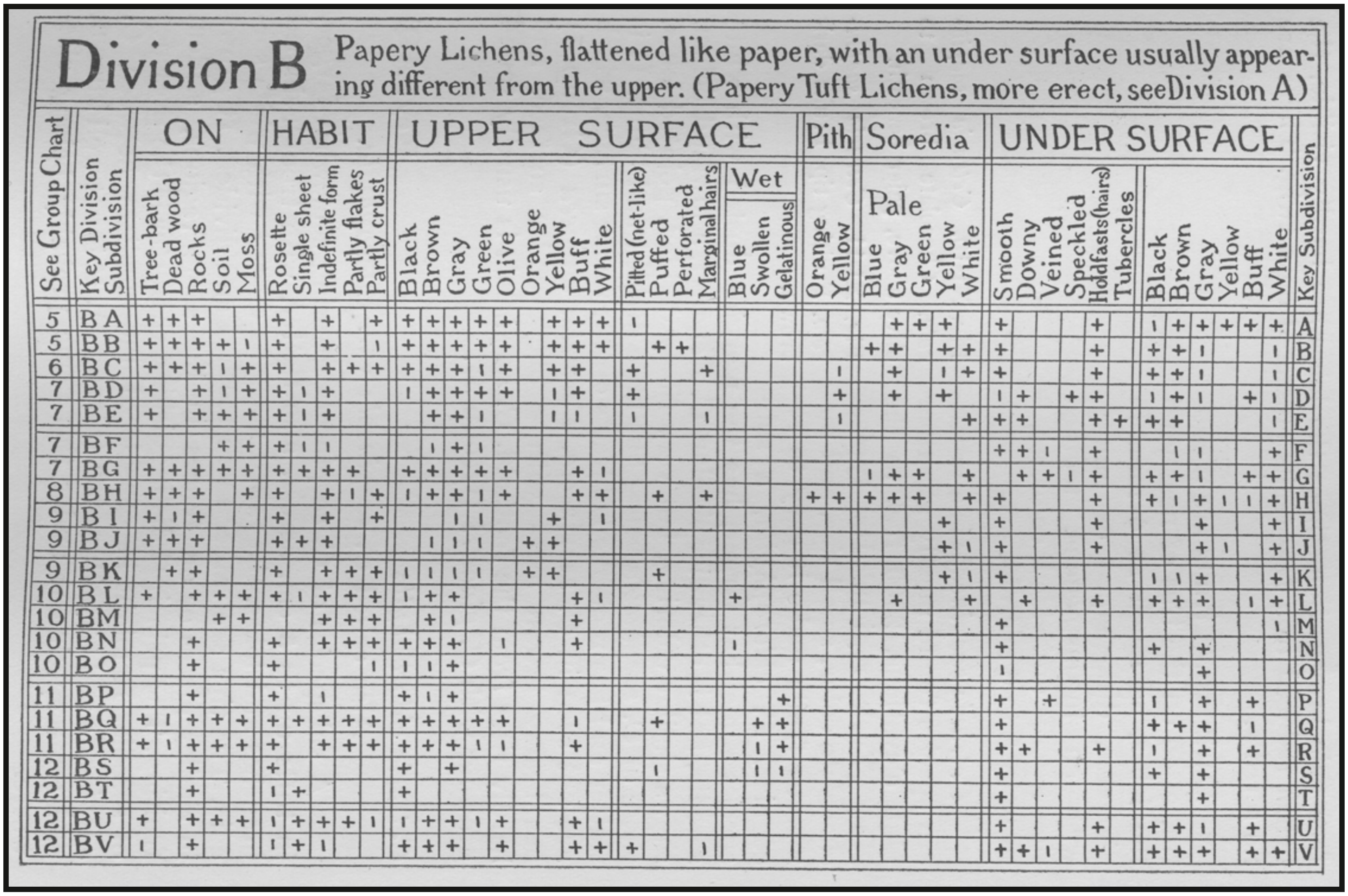
A rough cross-section of an apothecium



Asci showing black 2-celled spores, 8 per ascus

At left are a few microscope views of my lichen. First I consult the key to divisions (Nearing's page 26, shown above), which I find impressive, as it shows Guy's ability to plan ahead, since portions of this key point the user to sections of the book that wouldn't be written for several years. Given that my lichen is papery (foliose) with an upper and under surface, we go to Division B (page 148), where we see an initial chart, directing me to any of 6 groups (genera, parts of genera, or sets of genera) of foliose lichens. Note how each double capital letter pair signifies a genus.

Given that it occurs ON tree bark and its HABIT is rosette and its UPPER SURFACE is brown with no soredia and its PITH is white and its UNDER SURFACE is smooth white and its ALGAL CELLS seem to match *Protococcus* and its FRUITS are on upper surface, disk shaped, black with a RIM that is lichen color (same as the thallus, i.e., a "lecanorine" apothecia) and lobed and that the SPORES are 8 per sac, tinted, 17 µ wide, 34 µ long and 2-celled we are directed to Group 8 (page 218), consisting only of the genus *Physcia* (BH).



Division B

Papery Lichens, flattened like paper, with an under surface usually appearing different from the upper. (Papery Tuft Lichens, more erect, see Division A)

See Group Chart	Key Division Subdivision	ON					HABIT					UPPER SURFACE													Wet			Pith		Soredia (Pale)					UNDER SURFACE												Key Subdivision
		Tree-bark	Dead wood	Rocks	Soil	Moss	Rosette	Single sheet	Indefinite form	Partly flakes	Partly crust	Black	Brown	Gray	Green	Olive	Orange	Yellow	Buff	White	Pitted (net-like)	Puffed	Perforated	Marginal hairs	Blue	Swollen	Gelatinous	Orange	Yellow	Blue	Gray	Green	Yellow	White	Smooth	Downy	Veined	Speckled	Holdfasts (hairs)	Tubercles	Black	Brown	Gray	Yellow	Buff	White	
5	BA	+	+	+			+		+		+	+	+	+	+	+		+	+	+	ı										+	+	+		+				+		ı	+	+	+	+	+	A
5	BB	+	+	+	+	ı	+		+		ı	+	+	+	+	+		+	+	+		+	+							+	+		+	+	+				+		+	+	ı			ı	B
6	BC	+	+	+	ı	+	+		+	+	+	+	+	+	ı	+		+	+		+			+					ı		+		ı	+	+				+		+	+	ı			ı	C
7	BD	+		+	ı	+	+	ı	+			ı	+	+	+	+		ı	+		+								+		+		+		ı	+		+	+		ı	+	ı		+	ı	D
7	BE	+		+	+	+	+	ı	+				+	+	ı			ı	ı		ı			ı					ı					+	+	+			+	+	+	+				ı	E
7	BF				+	+	+	ı	ı				ı	+	ı																				+	+	ı		+			ı	ı			+	F
7	BG	+	+	+	+	+	+	+	+	+		+	+	+	+	+			+	ı										ı	+	+		+		+	+	ı	+		+	+	ı		+	+	G
8	BH	+	+	+		+	+		+	ı	+	ı	+	+	ı	+			+	+		+		+				+	+	+	+	+		+	+				+		+	ı	+	ı	ı	+	H
9	BI	+	ı	+			+		+		+			ı	ı			+		ı													+		+				+				+			+	I
9	BJ	+	+	+			+	+	+				ı	ı	ı		+	+															+	ı	+				+				+	ı		+	J
9	BK		+	+			+		+	+	+	ı	ı	ı	ı		+	+				+											+	ı	+						ı	ı	+			+	K
10	BL	+		+	+	+	+	ı	+	+	+	ı	+	+					+	ı					+						+			+		+			+		+	+	+		ı	+	L
10	BM				+	+			+	+	+		+	ı					+																+											ı	M
10	BN			+			+		+	+	+	+	+	+		ı			+						ı										+						+		+				N
10	BO			+			+				ı	ı	ı	+																					ı								+				O
11	BP			+			+		ı			+	ı	+													+								+		+				ı		+		+		P
11	BQ	+	ı	+	+	+	+	+	+	+	+	+	+	+	+	+			ı			+				+	+								+						+	+	+		ı		Q
11	BR	+	ı	+	+	+	+		+	+	+	+	+	+	ı	ı			+							ı	+								+	+			+		ı		+		+		R
12	BS			+			+					+		+								ı				ı	ı								+						+		+				S
12	BT			+			ı	+				+																							+								+				T
12	BU	+		+	+	+	ı	+	+	+	ı	ı	+	+	ı	+			+	ı															+				+		+	+	ı		+		U
12	BV	ı		+			ı	+	ı			+	+	+		+			+	+	+			ı											+	+	ı		+		+	+	+		+	+	V

Examining the Group 8 chart (next page), we see 5 species with lobed fruits—BHd (*Physcia hypoleuca*), BHe (*Physcia aquila*), BHi (*Physcia pulverulenta*), BHj (*Physcia leucoleiptes*) and BHv (*Physcia endococcinea*) For all but one of them—*Physcia aquila*—the fruits are rare, not plentiful like this specimen. Moreover, all but one have soredia (this doesn't) and the other one lacking soredia—*Physcia pulverulenta*—has particles (pruina) on the upper surface, which my specimen lacks. Methinks this be what he calls *Physcia aquila*/*Anaptychia aquila*, a variety of which would now be called *Anaptychia palmulata*.

Given the breadth, depth, quality and usefulness of this unique work, one wonders why it isn't more well known, and evidently was not widely adopted even when it was current. It seems to bridge the long gap in comprehensive works between Bruce Finks's *The Lichen Flora of North America* (1935) and Irwin Brodo, Stephen Sharnoff, and Sylvia Sharnoff's *Lichens of North America* (2001).

Guy Nearing wasn't your typical lichenologist. A committed amateur, he pursued his interest in lichens independently from academic or research institutions. Described as a polymath, he was best known as a New Jersey nursery owner who developed many outstanding rhododendron hybrids. Just after his death in 1986 at age 96, an admiring fellow rhododendron breeder, David Leach (an Ohioan, by the way) penned an admiring tribute in *The American Rhododendron Breeder*, wherein *The Lichen Book* was mentioned as just one of many accomplishments in a life led to the fullest despite some obstacles. Leach wrote "In angry defiance of repeated disasters so appalling that they call to mind a classic tragedy, Nearing achieved the kind of life he always admired; he had the distinction of being an outstanding figure in a half dozen fields so varied that his talent was awesome to contemplate." Nearing displayed both athletic excellence (as a runner) and academic excellence (Phi Beta Kappa) at the University of Pennsylvania that was impeded by sudden blindness that befell him during his senior year there. He eventually recovered sight in one eye only. The

GROUP 8 Key

Papery Lichens, flat rosettes with narrow parts, some partly crust-like. Fruits on central portions. Spores 2-celled, tinted.

Key Designation	ON: Tree-bark	ON: Rocks	ON: Moss	UPPER SURFACE: Brown	Gray	Green	White	Smooth	Wrinkled	Warts	Granules	Particles	Prongs	Marginal hairs	Lobules	Partly crust	Soredia: On margins	Scattered	Lumps	Dust	Blue	Gray	Green	White
BHa	+	+		ǀ	+	ǀ		+	ǀ								+		+	ǀ	ǀ	+		ǀ
BHb		+			+		ǀ	+								ǀ		+	+					+
BHc	+	+	+		+	ǀ	ǀ	+									+			+	+	+		ǀ
BHd	+	+	+		+		+	+	+	+	+		+		+		+			+	ǀ	ǀ		+
BHe	+	+	+	+	+	+		ǀ		+	+		+		+									
BHf	+				+	ǀ	+	+				+	+					+	+	+				+
BHg	+			+	+	ǀ		+							+	+								
BHh	+			+	ǀ		ǀ				+	+	+			+		+	+			ǀ		ǀ
BHi	+	+	+	+	ǀ		ǀ	+		ǀ		+			+									
BHj	+	+	+	+	ǀ		ǀ	+		ǀ		+			ǀ		+		ǀ	+		+		+
BHk			+		+	ǀ	ǀ	+						+										
BHl	+	+	+		+		ǀ	+		+	+					+								
BHm	ǀ	+	+		+		ǀ	+		+	+					+								
BHn	ǀ	+			+		ǀ	+	ǀ	ǀ									+		ǀ	+		ǀ
BHo	+	ǀ			ǀ		+	+			+							+	ǀ	+				+
BHp	+	+			+		+	+					ǀ			ǀ	+	+		+				+
BHq		+			+		ǀ				+		+			ǀ	+	+	ǀ	+		+		
BHr	+	+			+		ǀ	+	ǀ	+				+			+			+				+
BHs	+	+	+	+	+	ǀ		+			ǀ					+	+		+	+		+	+	
BHt	+	+	+	+	+	ǀ		+			ǀ					+	+		+	+		+	+	
BHu	+	+	+		+	ǀ	ǀ	+						ǀ	+									
BHv		+			+	ǀ	ǀ	+	+	+					+									

Key Designation	UNDER SURFACE: Black	Brown	Gray	Buff	White	Holdfasts: Prominent	Black	Brown	Gray	White	PITH: Orange	Yellow	White	FRUITS: Plentiful	Rare	Black	Brown	Red	Gray	White (frosted)	Rim: Smooth	Toothed	Lobed	Incurled	Sorediate	Bristly	SPORES: Microns long	Microns wide	Key unit
BHa	+		ǀ		ǀ		+		ǀ			+			+	+			ǀ	+	+						17-28	6-10	a
BHb	+						+	ǀ					+		+	+						+					14-20	5-7	b
BHc					+	+				+			+		+		+				+	+					22-34	12-15	c
BHd				+	+	ǀ	+		+	ǀ			+		ǀ	ǀ	+					+	+	+			25-38	14-20	d
BHe	ǀ	ǀ			ǀ	ǀ		ǀ		ǀ			+	+		ǀ	+				ǀ	+	+	ǀ			28-43	16-25	e
BHf			ǀ		+		+						+		ǀ	+				+		+		ǀ			14-23	7-14	f
BHg		ǀ		ǀ	ǀ						ǀ		ǀ	ǀ		ǀ	+				+	+					13-22	7-10	g
BHh	+		ǀ	ǀ			ǀ						+		ǀ	+			ǀ		+				+		32-38	14-20	h
BHi	+	ǀ		+		ǀ	+	ǀ					+		+		+		+	+	+	+	+				23-40	12-21	i
BHj	+	ǀ		+		ǀ	+	ǀ					+		+		+		+	+	+	+	+				23-40	12-21	j
BHk			ǀ	ǀ	+	ǀ			ǀ	+			+	ǀ		+					+						18-23	9-10	k
BHl			ǀ		+				ǀ	+			+	+		+	+		+		+	+		ǀ			14-24	7-11	l
BHm	+		ǀ				+		ǀ				+	+		+	+		+		+	+		ǀ			14-21	7-11	m
BHn	ǀ				+		ǀ		+				+		ǀ	+	+		ǀ		+	+		+			15-22	8-12	n
BHo	+				+					+			+		ǀ	+				ǀ	+			+			17-25	7-11	o
BHp					+	+				+			+	ǀ		+	+		+	+	+	+					16-23	7-10	p
BHq			ǀ		+					+			+	ǀ		ǀ			+		+	+			+		11-17	5-9	q
BHr					+	+	ǀ			+			+	ǀ		ǀ	+			+	+	+					12-22	6-10	r
BHs	+					+	+						+	ǀ	ǀ	+	+				+					+	15-27	8-12	s
BHt	+					+	+				+	ǀ		ǀ	ǀ	+	+	ǀ			+					+	14-32	7-12	t
BHu	+					+	+			ǀ			+	ǀ	ǀ		+	ǀ			+					+	15-30	8-17	u
BHv	+			ǀ		ǀ	+				+	ǀ		+		ǀ	+	ǀ				+	+	ǀ		+	15-26	6-10	v

In the chart key to Group 8, designations refer to these species:

BHa *Physcia sorediata*
BHb *Physcia Frostii*
BHc *Physcia speciosa*
BHd *Physcia hypoleuca*
BHe *Physcia aquila*
BHf *Physcia granulifera*
BHg *Physcia adglutinata*
BHh *Physcia isidiigera*
BHi *Physcia pulverulenta*
BHj *Physcia leucoleiptes*
BHk *Physcia Leana*
BHl *Physcia stellaris*
BHm *Physcia aipolia*
BHn *Physcia caesia*
BHo *Physcia astroidea*
BHp *Physcia tribacia*
BHq *Physcia teretiuscula*
BHr *Physcia hispida*
BHs *Physcia obscura*
BHt *Physcia endochrysea*
BHu *Physcia setosa*
BHv *Physcia endococcinea*

Physcia aquila SHAGGY BLISTER LICHEN Key: BHe

Also called *Anaptychia aquila.*

Frequent on mossy rocks and tree-bases in deep woods of northeastern United States, especially in limestone districts. The irregular rosette masses grow as much as 10 cm. across, and often 5 mm. thick, with densely overlapping parts. The radiating branches, 1 mm. or so wide, may be hidden under lobules and prongs often only 0.1 mm. wide, which spring from any part of the lichen, and grow in various directions, but mostly downward, giving a singular, shaggy, feathery appearance. In this condition it may be called var. *detonsa.* The color is grayish to tawny brown when dry, moss-green when fresh and moist; the under surface pale brownish, rarely blackening, with usually pale holdfasts.

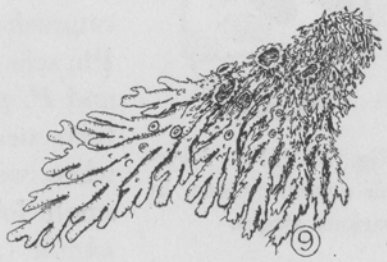


Fig. XVIII-9. *Physcia aquila.* Tawny brown to moss-green above; beneath pale brownish.

Fig. XVIII-10. *Physcia aquila.* Fruits.

Fruits commonly plentiful, up to 5 mm. in diameter, brown or blackening, with a thickish rim from which often spring lobules like those on other parts of the lichen. Spores 2-celled, brown or blackish, 28 to 43 by 16 to 25 microns.

Fig XVIII-7. *Physcia aquila.* (Spore layer.

Physcia aquila is easily recognized by the small lobes with which it is overgrown, and the brownish shade. There is little need to distinguish the more densely clothed var. *detonsa,* as any degree of this development may be found on different parts of the same specimen. The presence of these small lobes on the fruit-rim distinguishes it from other species of Physcia except *P. hypoleuca,* pale gray, and *P. pulverulenta,* neither of which turn nearly as deep a shade of green when wet. A somewhat similar mass of small lobes is seen in *Pannaria microphylla* (Group 10), but in this the parts are smaller and much shorter, growing usually close against a blue-black under-crust. ***Parmelia frondifera*** (Group 6) is paler and shining, with a black under surface.

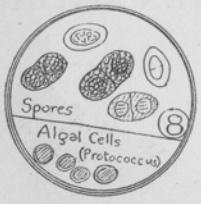
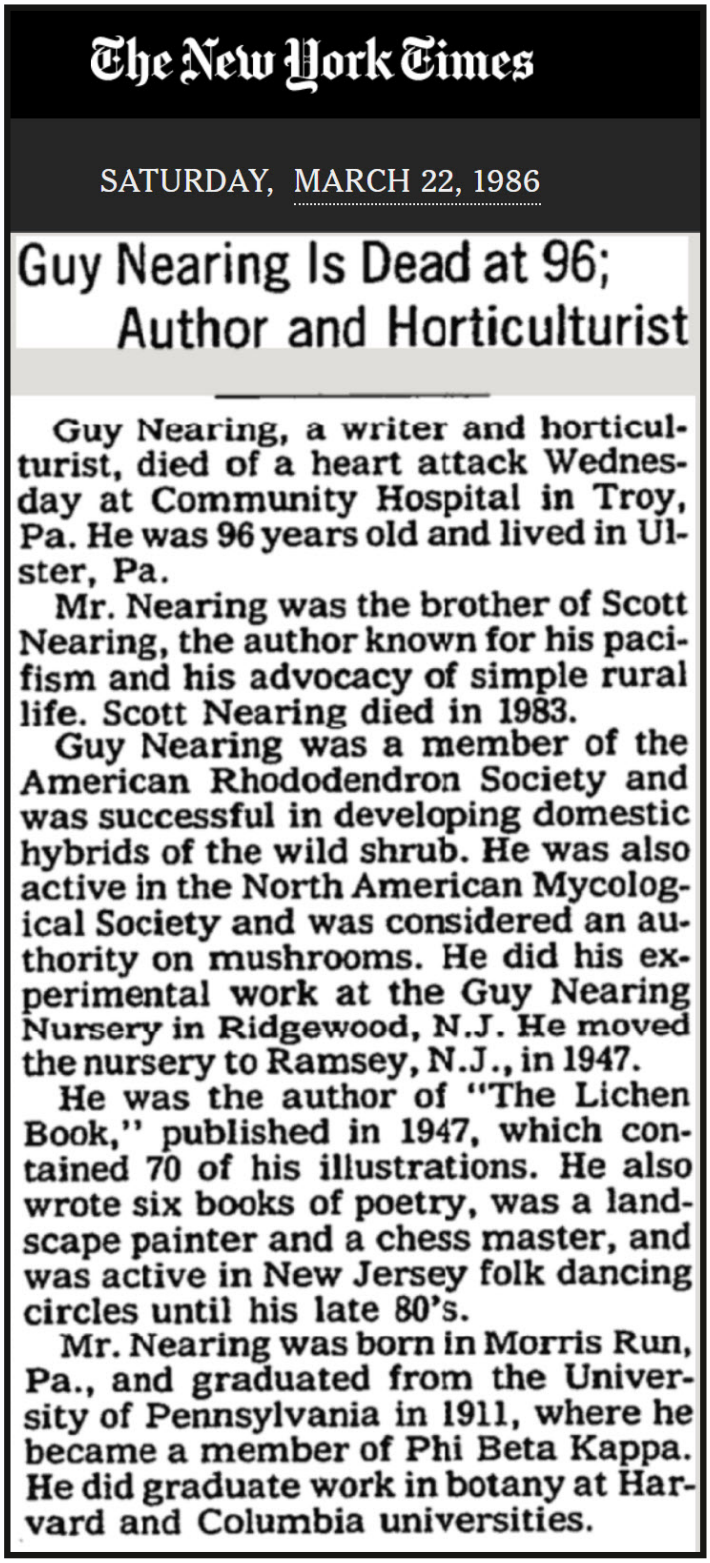


Fig. XVIII-8. *Physcia aquila.* Spores, in various stages.

additional fields that Leach refers to are mentioned in his obituary in the New York Times (see below) and included publishing poetry and a fiction novel, doing landscape painting, playing masters-level chess, and enjoying folk dancing well into his eighties. (Note a mistake in the obituary—seven-hundred, not seventy, of Nearing's illustrations appear in *The Lichen Book*.)



The New York Times

SATURDAY, MARCH 22, 1986

Guy Nearing Is Dead at 96; Author and Horticulturist

Guy Nearing, a writer and horticulturist, died of a heart attack Wednesday at Community Hospital in Troy, Pa. He was 96 years old and lived in Ulster, Pa.

Mr. Nearing was the brother of Scott Nearing, the author known for his pacifism and his advocacy of simple rural life. Scott Nearing died in 1983.

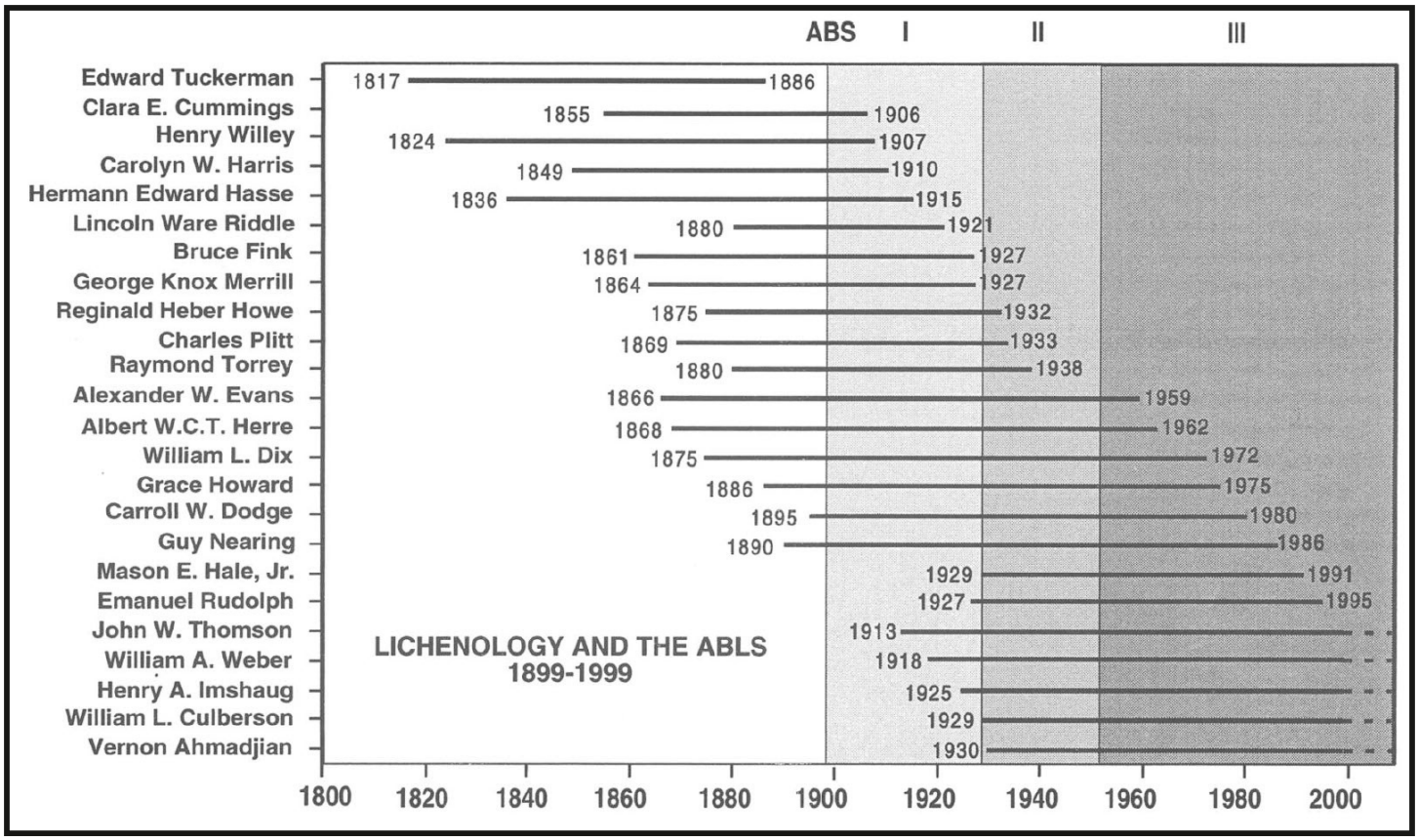
Guy Nearing was a member of the American Rhododendron Society and was successful in developing domestic hybrids of the wild shrub. He was also active in the North American Mycological Society and was considered an authority on mushrooms. He did his experimental work at the Guy Nearing Nursery in Ridgewood, N.J. He moved the nursery to Ramsey, N.J., in 1947.

He was the author of "The Lichen Book," published in 1947, which contained 70 of his illustrations. He also wrote six books of poetry, was a landscape painter and a chess master, and was active in New Jersey folk dancing circles until his late 80's.

Mr. Nearing was born in Morris Run, Pa., and graduated from the University of Pennsylvania in 1911, where he became a member of Phi Beta Kappa. He did graduate work in botany at Harvard and Columbia universities.

Why didn't Guy Nearing achieve much celebrity for his outstanding contributions to the lichen world? I believe two factors may have conspired to diminish interest in his work: low production numbers of the book, and insufficient awareness by professional scientists that a non-professional's work can be of such high caliber. The number of copies of his 1947 subscription-only version was a quite modest 250 (or twice that if you add together the bound and unbound versions), and while there are no data on the size of the print run that constituted the 1962 reprint by Eric Lundberg of Ashton Maryland, we can assume it didn't make it anywhere near the New York Times best-sellers list. He was an amateur speaking primarily to fellow amateurs, with a deliberate omission of professional-seeming terminology and techniques, and so might not have garnered the same respectful attention from "the establishment" that a more technical-seeming work might have.

A refreshingly appreciative appraisal of Guy Nearing's role in mid-20th century lichenology can be seen in an engaging article by Irwin Brodo published in *The Bryologist* in 2000 (vol. 103, pp. 15-27). Entitled "Lichenology in the American Bryological and Lichenological Society: 1899-1999," (constituting the text of a speech given at a gala banquet on the occasion of the organization's 100th anniversary) it points out that the ABLS, which originated as "The Sullivant Moss Chapter" served from its very beginning as a publishing venue for persons with an interest in lichens. This was perhaps a "marriage of convenience" considering how similar the two types of organisms are ecologically, and that many people had an interest in both bryophytes and lichens. Brodo gives biographical sketches of lichenologists who were active during several phases of the establishment of lichenology within the group, including during what he termed "The Quiet Years 1928-1952." (The name of the Sullivant Moss Society was officially changed to the American Bryological Society in 1949, and it wasn't until 1969 that lichens finally got officially recognized in the organization's current name.) With respect to Nearing, Brodo mentions that in 1930's and 40's, two amateur lichen enthusiasts were interesting many young people in lichens: a journalist named Raymond



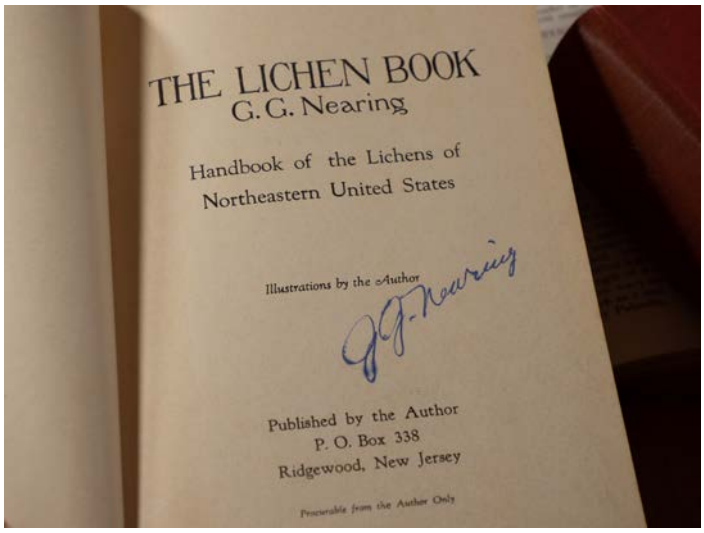
Torrey, and Nearing, the latter described by Brodo as “a Rhododendron breeder of considerable note." He said both men were “extremely knowledgeable and competent and are important for an appreciation of the lichenological scene in North America at that time.” Brodo praises Nearing's book, calling attention to its multiple access, data matrix keys, and saying he was “well ahead of his time, and knew the northeastern lichens better than almost anyone of his day." He further notes that Nearing had “nothing but disdain” for lichen chemistry, something that he learned this first hand when he (Brodo) brought up the subject once at a dinner-meeting.

Brodo’s presentation included the chart shown above of the life spans of significant figures in North American Lichenology, which includes Nearing. (Incidentally, Brodo also mentions OSU’s Emanuel Rudolph who he said was "very active in the Society, maintained an interest in lichens, and produced some good lichen students of his own, but did most of his own publishing on the history of science.") Note: in the chart “ABS” denotes the date of the formation of the Sullivant Moss Chapter, the precursor to the ABLS.

In a 1988 article in *Brittonia* entitled "The Lichen Collection of Depauw University Assembled by Winona Welch, Complete Cryptogamist," Richard Harris mentioned some people who corresponded with Welch, including Nearing, who Harris said "...was one of the most colorful figures in North American lichenology," saying "he was self-taught and in his book on lichens introduced a kind of multiple entry identification key antedating the recent computer-related popularity of this form by some 30 years." Harris also mentions a 1940 letter to Welch wherein "discussing the notoriously variable genus *Peltigera*," Nearing sets forth this "highly individualistic" view of the state of taxonomy: "Soon some super-ass will give a separate name to every known specimen of some genus, giving perfect expression to the folly of 'modern' botany and abolishing the species as a unit of classification. Then every genus monotypic, abolishing the genus also, and botanists can start with an unblemished sheet, just where they were a thousand years ago. But perhaps I should not call the monographers asses, for they get degrees cashable in the educational market, for helping to destroy the science, while if I tried to get a

degree by attempting to conserve and popularize botany (I have only a BS), I would be laughed out of the learned halls in a moment."

Let us celebrate Guy Nearing for his deep knowledge of lichens, and his generous use of artistic and literary skills in popularizing them. I've become a devotee, and out of admiration for his work, have purchaed five (and counting) copies of his book through used booksellers. One of them is a signed first edition--a prized possession!



--Bob Klips

Epibryon plagiochilae

While attending the October 2025 combined Tuckerman Foray and Crum Workshop in the central Adirondacks I focused on species unfamiliar to me. As I reside in an area of Maine with low pH and low nutrient bedrock, the foray was a great opportunity to see some new things and rub elbows with lots of friendly specialists. Despite 15 years of sometimes intensive foraying in Maine, I encountered nearly a dozen new to me species and at least that many more species that I rarely encounter in Maine and New Hampshire.

One boulder we checked had some *Thuidium recognitum*. This species is considered a calciphile in Maine but I view it as a species that needs some nutrient enrichment or a nearer to neutral pH. As the *Thuidium* indicated that enrichment, I made several collections from the well-covered boulder in hopes of new finds. One of those collections was a *Plagiochila*. The specimen appeared to be speckled with black dirt. Under higher microscope powers, the little specks of black 'dirt' turned out to have structure and each resembled an upside down black mite. Most leaves had a single speck and I guessed it might be a bryocolous fungus. Fortunately, Sophia BenJeddi, a doctoral student from University of Quebec focusing on bryophilous fungi was in attendance. Not only did she quickly confirm my guess, she had the technical references on hand to ID it as *Epibryon plagiochilae* which uses *Plagiochila* as its exclusive host. We asked Bob Klips to photograph it. The following link is her iNaturalist post with (the usual exceptional) Bob Klips photography. https://www.inaturalist.org/observations/321892762

Microscope views of *Epibryon* (photo: B. Klips)

Unfortunately there isn't much more to report. The Symbiota portals list a single occurrence in the US & Canada. iNaturalist has only two occurrences in North America including this one. Research on this type of fungus is still very much in its infancy with genetic analysis just starting and most papers focusing on broader taxonomy.

On the bright side, Eagle Hill Institute is offering a week long Bryophilous Fungi workshop starting September 17, 2026. The workshop is being taught by Dr. George Greiff Senior Curator of Bryology, Mycology and Lichenology in the Department of Natural Sciences at Amgueddfa Cymru – Museum Wales. He has written a nice primer on bryophilous fungi ("A brief introduction to bryophilous fungi in Britain and Ireland") that is open access and available as a PDF at the following link: https://www.researchgate.net/publication/354948398.

I reached out to Dr. Greiff and he graciously responded with the following:

"I see *E. plagiochilae* quite a lot over here. It commonly infects *P. porelloides* and *P. asplenioides* but does not seem to cause obvious harm to the hosts. It usually forms a web of mycelium on the surfaces of the leaves, perforating individual cells, which then get filled with assimilatory hyphae and ultimately die. Some examples of the hyphae are here: https://bryophilous.co.uk/epibryon-plagiochilae/. I think of these things as "single cell necrotrophs" – the reticulum of superficial hyphae seems to probe the defences of the cells, invading those possibly weakened. But really, we have no idea how these things work. The intracellular hyphae also have the ability to invade adjacent cells, so can spread laterally. The number of cells infected per leaf seems to increase with leaf age, up to a point, but I doubt anyone has ever dissected every leaf and quantified the progression of the infection (a good project!).

Other fungi actively kill the host plants, but most bryophilous ascos are "good parasites" in that they cause minimal damage."

His website: https://bryophilous.co.uk/ has some more info and was a pleasant rabbit hole to go down.

--Jeff Pengel

[Editor's Note: Jeff has a terrific bryophyte and lichen website where he presents botanical indentification keys and checklists for use primarily in the field. Look for it at www.digitalnaturalist.info.]

Lobaria pulmonaria reintroduction?

The lung lichen, *Lobaria pulmonaria*, has been a subject of discussion since OMLA was founded. Its range is the Appalachian and Great lakes regions of eastern North America, and the temperate rain forests of the Pacific northwest. It favors a moist habitat and is thought to be an indicator of old growth forests. There are early Ohio records of the lung lichen from 14 counties, but despite intensive searching it has not been seen for more than 60 years.

The first WANTED (ALIVE) article in OBELISK (Vol. 4, 2007) featured this lichen. In 2024 the Ohio Rare Plant Committee listed it as extirpated. It seems doubtful that this lichen is still extant anywhere in Ohio.

I have often wondered if this and other rare lichen species could be reintroduced in Ohio. Several years ago, Barb Andreas brought me a specimen of *Lobaria pulmonaria* which she collected at Eagle Hill, Maine. The lichen was still attached to a piece of bark, so I tacked it to a tree in my yard as an experiment, just to see if it would survive. It not only survived but started actively growing! The photo below shows the specimen on a red maple tree (~3 feet high, NE aspect).

The original specimen (photo: Ray Showman)

In addition to this growth, natural colonization has also occurred at the base of the tree below the parent lichen (see photo below).

This lichen produces numerous isidia and soredia on the margins of older lobes. These propagules can be

spread by stem flow, wind, insects, birds and other animals. I have also occasionally removed lobes and rubbed them on trees at other locations. Some of these transfers have also proven successful. Below are photos of small *L. pulmonaria* thalli on trees that were inoculated with propagules from the transplanted thallus.

Natural colinization at tree base (photo: Ray Showman)

Thalli from propagule innoculation (photos: Ray Showman

I have no plans to move beyond my own property with these "plantings," but they do demonstrate that reintroduction of *L. pulmonaria* at selected sites in Ohio is certainly feasible.

Some biologists may balk at the idea of reintroducing rare plants and say, "we are not gardeners, just let nature take its own course." However, propagation and reintroduction have been used for a number of rare animal species (e.g. black-footed ferret, California condor, hellbender and Karner blue butterfly to name a few).

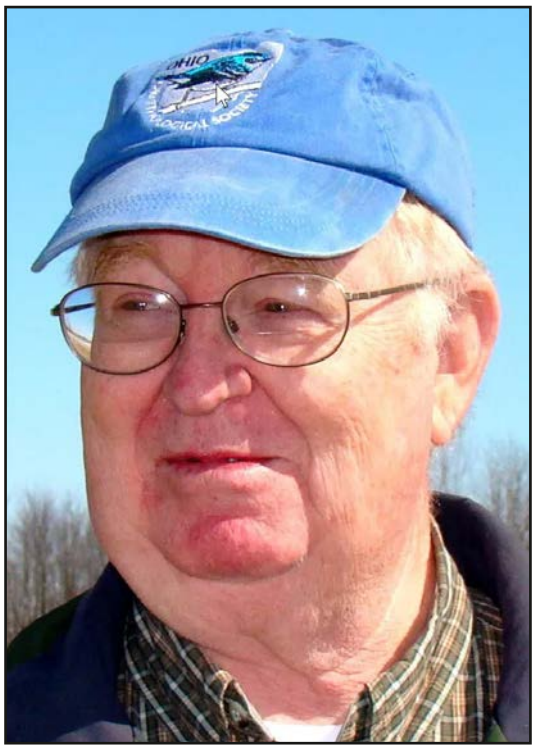
I will let others consider the ramifications of reintroduction. Most of my experiments seem to fail, so I was just happy that one finally succeeded!
--Ray Showman

[Editor's Note: In a 2018 Iowa State University Master's Thesis project entitled "Lichen diversity and conservation of northeast Iowa: White Pine Hollow State Preserve and the lichen *Lobaria pulmonaria*," Kathleen Thompson attempted to propagate *L. pulmonaria* in a 12-month greenhouse trial. Soredia, isidia, and young thalline lobes were applied to sugar maple bark taken from an Iowa forest where the lichen once occurred, and regularly watered. At the conclusion of the project no growth had occurred in any of the treatments. She concluded that the unsuccessful result of the study was likely due to procedural aspects or greenhouse conditions. The difficulty in propagating this lichen under controlled conditions contrasts with Ray's success in the field.]

Shaggy fringe lichen and Asian beauty fungus (photo: Marita King)

Roger Troutman Remenbered

Kenneth Roger Troutman died on October 19, 2025. Roger was one of the founding members of the Ohio Moss and Lichen Association, and he attended the organizational meeting of the Ohio Moss and Lichen Association, held on June 3, 2004 at Gorman Nature Center in Lexington, Ohio. Although he was not active in the summer and fall forays, he supported OMLA until his death, giving substantial honoraria to the organization.



Roger and his friend and neighbor, Donn Horschler, visited numerous Ohio cemeteries to collect bryophytes. These collections are housed at Kent State University and the University of Cincinnati herbaria. Common mosses found in these cemeteries were *Schistidium apocarpum* and *Ceratodon purpureus*. From those field trips, in 2004, Roger compiled a list of 14,600 Ohio cemeteries, established between 1803 – 2003.

In addition to bryophytes, Roger was interested in Ohio prairies. In 1978, Roger and Allison Cusick published The Ohio Prairie Survey Project: A summary of Data to Date. Roger visited hundreds of prairies throughout the Midwest and in 1978 hosted the 6th North American Prairie Conference. He worked on the systematics of two herbaceous plant genera, *Asclepias* and *Liatris*, common in Ohio prairies.

Roger was an avid birder. He participated in 120 annual Christmas bird counts. At the time of his death, he had compiled more annual bird counts than any other Ohioan. Once he participated in 12 Christmas bird counts in 11 days in three states.

Roger was a good friend of mine. We both were interested in milkweeds (*Asclepias*) and birds. For six years we served together on the board of the Ohio Chapter of The Nature Conservancy, leading field trips. One memorable trip was to Crystal Lake, Portage County, Ohio. It was early November and we took a group on a canoe trip around the lake. The trip was designed to observe the freshwater jellyfish, *Craspedacusta sowerbii*. Unfortunately, we both peered from the same side of the canoe and flipped. Roger lost his camera, and I lost my self-esteem.

In addition to Roger, founding members of the Ohio Moss and Lichen Association that are now deceased include Don Flenniken, Donn Horchler, Alvin Jose, Diane Lucas, Barbara Lund, and Jim McClenahen.

--Barb Andreas

Many-forked cladonia (photo: Marita King)

***Andreaea rupestris* rediscovered!**

Ohio has had two species of *Andreaea*: *A. rupestris* (1 collection) and *A. rothii* (only a handful of collections), both only being collected from the southeast region of Ohio. Both also like a similar habitat: rock faces with periodic water seepage and typically sandstone with a chemistry that is a bit more calcareous. It is a very unique genus in its own family and even its own order. The capsules are unlike any other we get in the state as they split along the sides of the capsules. They create 4 slits when they split open when mature and in dry conditions. They are cushion-forming mosses and almost resemble an *Orthotricum* from a distance. The two species can be quite easy to tell apart with quick microcopy. *A. rothii* is costate whereas *A. rupesteris* is ecostate. Also not mentioned anywhere I've seen but from my personal observation in the field and online *A. rothii* seems to form a small clump like *Orthotricum* whereas *A. rupesteris* seems to form a mat.

***Andreaea rupesteris* is abundant on wall just right of center., appearing almost black from a distance.**

Andreaea rupestris is a widespread species which occurs more commonly in the north and more mountainous regions. The Consortium of Bryophyte Herbaria (bryophyte portal) shows records from Northern Alaska all the way down to Chile and to eastern North America. There had only been one collection in Ohio dating back to 1940 collected from the vicinity of Clear Creek Metro Park on the border of Hocking and Fairfield Counties. Most geo-referenced collections in the bryophyte portal are quite a ways from the Ohio border so I was almost skeptical of the 1940 collection as it just seemed so disjunct from the range. The range closest to us follows the Appalachian Mountain range. It was quite a surprise to relocate it again in Ohio in Geauga County! I think it is quite possible this could still persist in Clear Creek.

The locality of this moss is a special place with lots of other rare vascular plants, bryophytes, and lichens. This is not the first time this locality has been mentioned in the OBELISK with the discovery of *Schistostega pennata* and *Cetraria arenaria* there. The ledge with the *Schistostega* can in fact be seen from where the *Andreaea* grows. Just a few hundred feet north, *Andreaea* resides on a vertical rock face which appears to have a periodic water seepage from higher up, making for good *Andreaea* habitat.

The area with the *Andreaea* can be seen to be growing in a portion of the dripping wet cliffside.

When I found it I did not initially suspect *Andreaea* as we have not had *Andreaea* records in northern Ohio--just the initial record of *A. rupestris* from

Fairfield and a handful of *A. rothii* from SE Ohio. I presumed maybe a *Schistidium* and grabbed some to take home and look at under the scope. When I got a leaf under the scope that's when I realized no costa! Along with that the leaves were a dark olive-brown

color and papillose. I knew then it was not a *Schistidium* and quickly suspected *Andreaea rupestris*. As I got multiple sources online showing pictures of leaves and keys I was pretty quickly convinced. There was nothing else this could be! I sent the specimen off to Barb Andreas (no relation to the moss!) who confirmed the ID. Specimens were deposited into both the Kent State and Ohio State University herbaria. Its status will be moved from extirpated to endangered in Ohio. The reason I was at the site was in search of a rare liverwort. *Barbilophozia barbata*, which has been recorded there but has not been seen in over 100 years. It is a species I would like to get back to look for. Associated species in the area include *Rhabdoweisia crispata*, *Kurzia sylvatica*, and *Lepidozia reptans*.

--Shaun Pogacnik

New Moss For Ohio: *Rhytidiadelphus subpinnatus*!

Sparse Turf Moss, *Rhytidiadelphus subpinnatus*, is a circumboreal species which belongs to the family Hylocomiaceae. Ohio has several species in this family, most of which are rare or conservative species. First is *Hylocomium splendens*, a now extirpated species with only a few collections. The state endangered mosses *Loeskeobryum brevirostre* and *Hylocomiadelphus triquetrus* are the closest resemblance to this in growth form but are easy to tell apart. Lastly *Pleurozium schreberi* and *Rhytidium rugosum* are the more common of the family in Ohio but still quite conservative species. This moss is medium sized and is quite unique with its squarrose leaves and semi erect growth form. It, like a few other species in the family, also has red stems.

The range for this species in North America is along the Appalachian Mountains north to Newfoundland

and west to Ontario where it appears to become more uncommon. It is also present in the Pacific Northwest north into Alaska. It seems to be most frequent in New England. In 2021 Erik Danielson who was then a botanist for Allegheny State Park pointed out this species to Tomás Curtis and me where we both became familiar with this entity. This was while exploring State Game Lands No. 197 in Warren County, Pennsylvania which is not too far from Ohio. After getting the image and the habitat for this species recognized I kept an eye for it in Ohio but did not have high hopes of finding any.

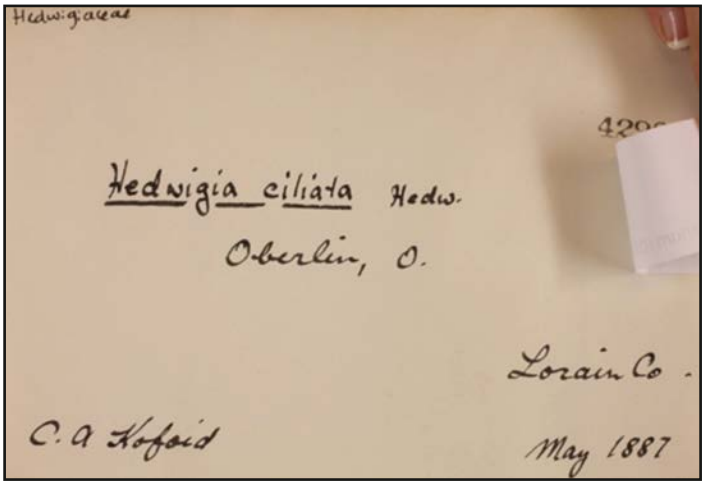
In June of 2025 while working for the Ohio Division of Natural Areas and Preserves I went to survey a bog that Mike Toth of Akron Water pointed me to. He mentioned there were tamaracks and a few other notable things in the area. While I hiked to it, I hit a typical skunk cabbage seepage which usually borders fens. I found a rare plant, water avens (*Geum rivale*), then got down to look at some hummocks around the area. That's when I saw the unique squarrose-leaved and semi-erect moss. With appearance and spot on habitat I knew this had to be sparse turf moss (*R. subpinnatus*)! It was quite abundant on hummocks around skunk cabbage (*Symplocarpus foetidus*) and cinnamon fern (*Osmundastrum cinnamomeum*) in a ground water seepage. Another rare species of moss (*Rhizomnium magnifolium*) also occurred in another part of the fen but was infrequent. I sent some samples off to Barb Andreas who confirmed its identity and sent specimens to Kent State University and New York Botanical Garden. I also submitted a specimen to The Ohio State University herbarium.

--Shaun Pogacnik

Charles Atwood Kofoid and the Beginnings of Bryophyte Collecting at Oberlin College

Oberlin College, among its many illustrious traditions, has a long tradition of bryophyte and lichen collecting by students and faculty.

Oberlin's first known moss collector was Charles Atwood Kofoid. He collected his first recorded specimen as a sophomore in 1887. The specimen is now in Columbus at the OSU Herbarium in the Museum of Biological Diversity. In April and May, 1890, he collected *Atrichum undulatum*,



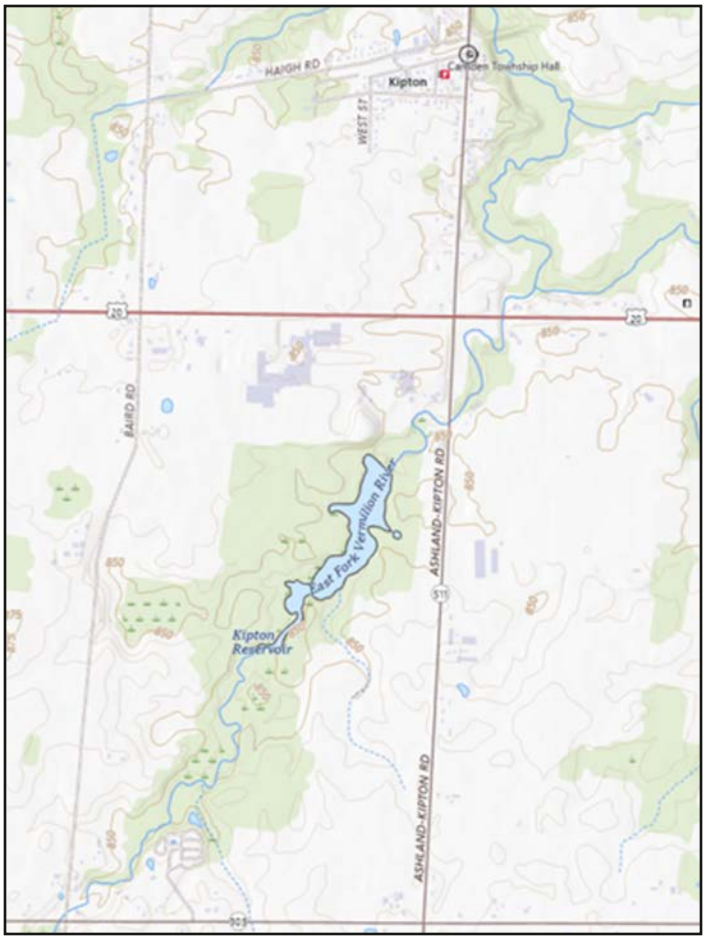
Aulacomnium heterostichum, *Aulacomnium palustre*, *Bartramia pomiformis*, *Bryum caespiticium*, *Campylium stellatum*, *Ceratodon purpureus*, *Dicranella heteromalla*, *Dicranella varia*, *Dicranum scoparium*, *Drummondia prorepens*, *Funaria hygrometrica*, *Hygroamblystegium varium*, *Orthodicranum fulvum, Philonotis fontana*, *Physcomitrium pyriforme*, *Plagiomnium cuspidatum*, *Polytrichastrum ohioense* and *Thuidium delicatulum* in the vicinity of Oberlin and at "Kipton Bog."

LICHENS ARE BEAUTIFUL

But lichens are beautiful too, adorning rocks and trees lavishly with their chaste embroideries. The lobes of a Parmelia may branch as exquisitely as do the ornaments on a marble temple whose design, perhaps, the sculptor borrowed here, from the temples of nature. The fruiting tips of one Cladonia may flaunt a vermilion purer than the garden's most treasured flower, while the goblets of another might serve as models of the acme of the potter's art. These forms stem from the root of creation, primal and pure.

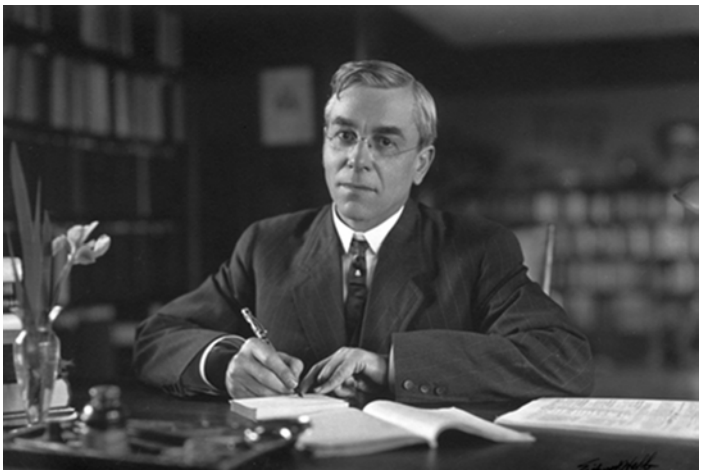
G. G. NEARING
***The Lichen Book,* 1947**

Kipton is a town near Oberlin in Lorain County. The exact location of the bog is not stated. The Board of Geographic Names does not list "Kipton Bog" as an official place name, but it may be near Kipton Reservoir, south of the town (see map below)



I haven't found any information about what prompted Kofoid's interest in mosses. He graduated from Oberlin in 1880, so perhaps his collections in April and May, 1890, were to fulfill course requirements. In July 1890, he collected lichens in Cheboygan County, Michigan: *Cladonia chlorophaea, Peltigera canina* var. *albescens*, *Peltigera leucophlebia*, *Usnea cavernosa*, *Usnea hirta* and *Usnea plicata*.

He enrolled at Harvard in 1891, where he received his Ph.D. in 1894. He eventually settled at the University of California, where he became Chairman of the Department of Zoology at Berkley in 1910 until his retirement in 1936. He helped establish what is now the Scripps Institution of Oceanography at UC San Diego.



Charles A. Kofoid. By Unknown author - Illustrated World vol. 37, p. 77 (1922), Public Domain, https://commons.wikimedia.org/

Other Oberlin students and professors continued the tradition of collecting bryophytes and lichens, most notably F. D. Kelsey, F. O. Grover, and George T. Jones, who taught botany at Oberlin for 75 years and was an active collector in Ohio until 1985.

References

Charles Atwood Kofoid (1865-1947) Biography (UCSD Libraries; author anonymous)

—Jim Toppin

First Report of the Liverwort *Cephalozia macounii* in Ohio (Steve McKee)

The OMLA 2025 Fall Foray group went to several interesting sites in Summit County, Ohio, including Deep Lock Quarry Metro Park in Peninsula, Ohio. The park includes the deepest lock along the Ohio & Erie Canal and a nearby quarry which supplied Berea Sandstone blocks for canal locks as well as for buildings in the region and beyond. The quarry was abandoned in the 1930s. Much of the quarry floor is a seeping perched wetland. Ohio buckeye trees are common in the surrounding forest.

Steve McKee collected the specimen of *Cephalozia macounii* in a forested area east of the quarry "at the very base of a sandstone cliff where damp mud, organic humus and sandstone all meet."

He relates that "I found a bunch of *Calypogeia*, but among them were some very tiny threads. They were so small that I assumed that they were *Kurzia* (and I even wrote *Kurzia* on the collecting bag). Once it was

under the scope, it was not *Kurzia*, but a very tiny *Cephalozia*-like leafy. It keyed out to *C. macounii* in the Ont key, which I later confirmed with BFNA and the Nordic Flora."

In North America, the species is reported mostly from British Columbia, Ontario and Wisconsin, with a few specimens from California, Maine, Michigan, Minnesota, New Hampshire, New York, Oregon and Washington, plus several specimens from Finland, Sweden and Russia (bryophyteportal.org).

Steve's photos and discussion of the specimen can be found at https://www.inaturalist.org/observations/331733631

--Jim Toppin

The Unsolved Mystery of *Scorpidium scorpioides* in the Oak Openings

Howard Crum and Lewis E. Anderson describe *Scorpidium scorpioides* (turgid brown worm moss or hooked scorpium moss) as "robust and turgid, up to 25 cm long, crowded and erect or looser and prostrate, sparsely to shortly and unequally pinnate, shiny, green, yellow, brown, or reddish to blackish-red, often encrusted with a slimy deposit… A calciphile, growing in open, often marly fens, usually in shallow water and submerged or floating in puddles among sedges or at the margins of pools." (*Mosses of Eastern North America*, Columbia University Press, 1981, v. 2, p. 994).

photo courtesy of Blanka Aguero

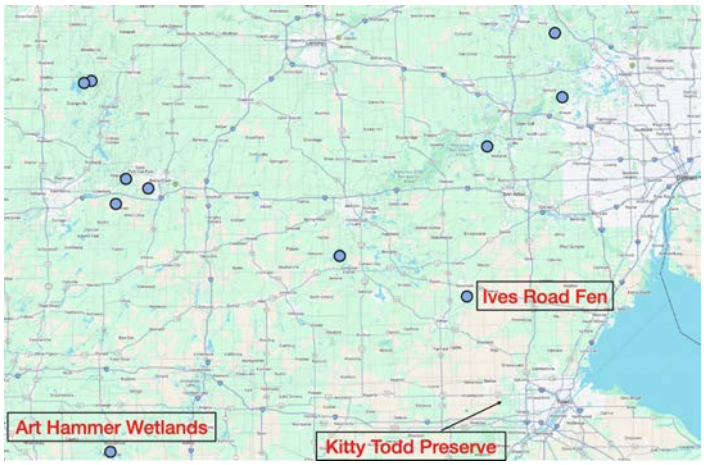
Biodiversity occurrence data published by: Bryophyte Portal (accessed through the BryophytePortal, https://bryophyteportal.org/portal, 2025-12-10).

The only known location of the species in Ohio was in Champaign County at the 450-acre Cedar Bog Nature Preserve, which "is the largest and best example of a boreal and prairie fen complex in Ohio. It has many rare plants and animals, as well as excellent orchid, prairie and woodland wildflower displays. In fact, Cedar Bog is home to 40% of Ohio's rare species, in one location." (https://www.ohiohistory.org/visit/browse-historical-sites/cedar-bog-nature-preserve/, accessed 12/9/25).

William Starling Sullivant collected *S. scorpioides* there beginning in 1842. Asa Gray collected it in 1843. Other collectors include Coe F. Austin, C. L. Lesquereux, William C. Werner, and E. M. Wilcox. The last known collection was made by Floyd Bartley in 1939. The species is now considered extirpated from Ohio.

In the early 2000s, Barbara Madsen, an accomplished bryologist, noted *S. scorpioides* during a bryophyte survey in Lucas County, Ohio, at Kitty Todd Preserve, owned by The Nature Conservancy. Unfortunately, Dr. Madsen died in 2005 and no voucher specimen or field notes have been found.

In 1989 Dr. Madsen had collected *S. scorpioides* in Lenawee County, Michigan, at Ives Road Fen Preserve, about 30 miles north of Kitty Todd.



That specimen is the southernmost documented location of *S. scorpioides* in Michigan.

In 1990 Malcolm Sargent collected *S. scorpioides* at Hammer Wetlands Nature Preserve in Kosciusko County, Indiana, about 100 miles due west of Kitty

Todd. According to bryophyteportal.com, his is the only documented specimen of it in Indiana.

In addition to Kitty Todd Preserve, the Ohio portion of the Oak Openings Region includes protected areas that may have suitable habitat for *S. scorpioides*, including Oak Openings Preserve Metropark, Lou Campell State Nature Preserve, Secor Metropark, and Maumee State Forest. Perhaps it is waiting to be found “somewhere in Ohio”.

--Jim Toppin

[Editor's Note: Accompanying the photo that Blanka Aguero graciously allowed us to use, she noted it depicts B. Shaw 6802, Canada, Newfoundland, On Hwy. 360, 3 km NE of junction with Hwy. 364; ca. 30 km NE of Harbour Breton, E side of road. 18 Aug 2005. Gravel field between lake and highway, on wet ground, abundant," adding "I've seen it in Maine in Crystal Fen, in Marble Fen. Once in Northern Vermont. Multiple times in Newfoundland, where it's more calcareous. And it's not uncommon in Alaska and British Columbia. It was in Ontario on Bruce Peninsula. And in Europe... I think we're all far too south for the nice brown mosses:(And I'm nowhere near calcareous, this thing needs it limey. Good luck with looking for it. Even a seep or spring site in woods would work if it's rich enough, it doesn't have to be a fen. I've seen it in Czech Republic unexpectedly in wet forested places."]

Upcoming Forays and Workshops

The 2026 Crum-Tuckerman Combined Workshops will be held Thursday, September 10 through Tuesday, Sept. 15, with field days: Friday (11th)-Monday (14th) in Bethel Maine. Bethel is in the western part of Maine on the Maine-New Hampshire border. For further info contact local representative Jeff Pengel (jeff.pengel@gmail.com), or James Lendemer (jlendemer@gmail.com).

OSU's Stone Laboratory is holding a 3-day Moss Identification and Ecology Workshop in August. For further info contact Bob Klips (klips.1@osu.edu).