

**Maryland Bryophytes**  
**Collected by**  
**Elmer G. Worthley**

Edward C. Uebel

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Edward C. Uebel, editor

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The late Dr. Elmer George Worthley resided in Baltimore County, Maryland on Bonita Avenue at Lone Hickory Farm, a farm owned by his mother-in-law, Mrs. Waiva D. Reese. Many of Elmer Worthley's collections of bryophytes were made at Lone Hickory Farm and on the neighboring farm of Upper Melinda, as well as from wooded areas bordering Bonita Avenue such as on the Foster property, and the woods behind the Hunter-Wilson Distillery. Other favorite collecting sites in Baltimore County were on the serpentine barrens of the Soldiers' Delight Natural Environment Area, and near Pretty Boy and Loch Raven Reservoirs. Elmer Worthley worked at the U.S. Army Chemical Center at Edgewood in Harford County and collected extensively at that location. Numerous bryophyte collections came from Maryland State Parks: Cunningham Falls State Park in Frederick Co.; Swallow Falls State Park and Casselman Bridge State Park in Garrett County; Shad Landing State Park and Milburn Landing State Park in Worcester Co. Some of his mosses and hepatics were collected from unique substrates such as the roofs of houses, cement interstices of stone and brick walls, flower pots of greenhouses, and mud flats along the water's edge of reservoirs.

Elmer kept his bryophyte collection in the basement of his house at Lone Hickory Farm until he moved to Two-Below Farm in Carroll County in June 1986, and then he stored it in a disorganized fashion in his garage. In April 1999, all of the bryophytes in his herbarium were sent to the Missouri Botanical Garden and are presently under the supervision of Dr. Bruce Allen.

While Elmer Worthley made many of the determinations on the identity of the specimens, he frequently acquired the assistance from well known Bryologists. The initials of the person making the identification are given for each of the species listed in this manuscript. The initials used are as follows: [FB = Floyd Bartley, HLB = H. L. Blomquist, HSC = Henry S. Conard, HC = Howard Crum, EGF = Elizabeth G. Fisher, MF = Margaret Fulford, HR = Harold Robinson, WDR = William Dean Reese, EGW = Elmer G. Worthley, and WHW = Winona H. Welch].

Since very few of the packets had a collection or identification number, numbers were assigned to each packet; and are shown in parentheses for each collection. In cases where a collection had deteriorated and was discarded, the collection number contains a "strikethrough". (A number of the collections of *Atrichum* species were in bad shape and were discarded.) In many cases, one collection was split into 2 or more packets, and these are indicated by multiple packet numbers.

The classification of the bryophytes used here is similar to the provisional classification scheme posted on the Internet by the Bryophyte Flora of North America Editorial Center. The nonvascular plants are placed in 3 divisions: Anthocerotophyta

(hornworts), Bryophyta (mosses) and Marchantiophyta (hepatics or liverworts). The numbers preceding the families were obtained by numbering every family listed by the BFNA Editorial Committee

For the most part, the data presented here were obtained by copying the notes from the collection packets just as it was written. Each collection is listed under the appropriate species, with the Maryland county where it was collected, the location of the collection, the substrate on which it was growing, the plants (both Bryophytes and other families of plants) growing nearby and associated with the collection, the date of collection, the collection number, and the initial of the person making the identification.

Dr. Worthley's herbarium contained 15 collections of hornworts, with 4 species; 1138 collections of mosses with 191 species; and 291 collections of hepatics with 56 species.

## MARYLAND HORNWORTS COLLECTED BY ELMER WORTHLEY

**ANTHOCEROTACEAE** *Anthoceros crispulus* (Mont.) Douin [**Baltimore Co.:** \*\*\*\*Carl F. Francis & Son Greenhouses, 8732 Old Harford Road and Satyr Hill Road, growing on soil in pots of azalea cuttings, associated with *Trematodon longicollis*, 22 Mar 1963 (A1) (A2) EGW; \*\*\*\*Lone Hickory Farm, in a moist clay ditch along Bonita Ave., growing with *Anthoceros laevis*, *Notothylas orbicularis* and *Fossombronia wondraczekii*, 2 Oct 1966 (A3) EGW; \*\*on soil of a roadside ditch with *Fossombronia* sp., 21 Jul 1968 (A4) EGW] [**Carroll Co.:** \*\*\*\*Liberty Reservoir, on the northwest slope of Little Morgan Mill Run, 10 Nov 1969 (A5) EGW].

*Anthoceros laevis* Linnaeus [**Baltimore Co.:** \*\*\*\*Lone Hickory Farm, growing in a ditch beside the road near the horse pond, with *Notothylas orbicularis*, 17 Oct 1965 (A8) EGW; \*\*on bare soil of a ditch among grasses and sedges, 9 Oct 1966 (A9) EGW] [**Carroll Co.:** \*\*\*\*Liberty Reservoir near Mineral Hill Road, on soil in a seepage from a spring about 60 feet from the water level of the reservoir, 24 Oct 1964 (A7) EGW] [**Garrett Co.:** \*\*\*\*Carey Run Sanctuary, on soil on the side of a small stream in a meadow, growing with *Odontoschisma prostratum* and *Philonotis fontana*, 5 Oct 1963 (A6) HR] [**Harford Co.:** \*\*\*\*Route #40, about 100 yards northeast of the overpass at Edgewood, growing near the edge of a tributary of Lauderick Creek off Bush River, on soil in a woods of Sycamore, Box Elder, White Ash and Black Willow, 11 Oct 1967 (A10) EGW].

*Anthoceros punctatus* Linnaeus [**Baltimore Co.:** \*\*\*\*Greenhouse of C. Francis & Son at 8732 Old Harford Road and Satyr Hill Road, on soil in the greenhouse, growing with *Trematodon lonicollis*, 13 Feb 1963 (A11) HR; \*\*on soil in pots of Azalea cuttings, 22 Mar 1963 (A12) EGW; \*\*growing on potting soil of rose flats, 17 Apr 1966 (A14) EGW; \*\*\*\*Lone Hickory Farm, on clay soil on a bank of a road drainage ditch, associated with *Physcomitrium pyriforme*, 11 Dec 1965 (A13) EGW; \*\*on bare soil at the lower end of an apple orchard, growing with *Fossombronia* sp., *Notothylas* sp. and *Ditrichum pusillum*, 21 Oct 1973 (A15) EGW].

*Notothylas orbicularis* (Schwein) Sullivant [**Baltimore Co.:** \*\*\*\*Bonita Ave., across from Kendig's Mill Road, growing on bare clay soil amongst a thin scattering of grasses, mosses and *Anthoceros crispulus*, 2 Oct 1966 (A18) EGW].

<i>Acaulon muticum</i> var. <i>rufescens</i> .....	12	<i>Buxbaumia aphylla</i> .....	9
ADELANTHACEAE .....	72	BUXBAUMIACEAE .....	9
AMBLYSTEGIACEAE .....	46-50	Buxbaumiales .....	9
<i>Amblystegium fluviatile</i> .....	46	<i>Callicladium haldanianum</i> .....	56
<i>Amblystegium riparium</i> .....	46	<i>Calliergonella cuspidata</i> .....	49
<i>Amblystegium serpens</i> .....	47	CALYMPERACEAE .....	16
<i>Amblystegium tenax</i> .....	47	<i>Calypogeia fissa</i> .....	70
<i>Amblystegium trichopodium</i> .....	48	<i>Calypogeia trichomanis</i> .....	70
<i>Amblystegium varium</i> .....	48	CALYPOGEIACEAE .....	70
<i>Anacamptodon splachnoides</i> .....	45	<i>Campylium chrysophyllum</i> .....	49
<i>Andreaea rothii</i> .....	5	<i>C. chrysophyllum</i> var. <i>brevifolium</i> .....	50
ANDREAEACEAE .....	5	<i>Campylium hispidulum</i> .....	50
Andreaeales .....	5	<i>Cephalozia catenulata</i> .....	71
ANEURACEAE .....	68	<i>Cephalozia lunulifolia</i> .....	71
<i>Anomodon attenuatus</i> .....	37	CEPHALOZIACEAE .....	71
<i>Anomodon minor</i> .....	38	<i>Cephalozella hampeana</i> .....	73
<i>Anomodon rostratus</i> .....	39	CEPHALOZIELLACEAE .....	73
<i>Anthoceros crispulus</i> .....	3	<i>Ceratodon purpureus</i> .....	21
<i>Anthoceros laevis</i> .....	3	<i>Chiloscyphus polyanthos</i> .....	73
<i>Anthoceros punctatus</i> .....	3	CLIMACIACEAE .....	37
ANTHOCEROTACEAE .....	3	<i>Climacium americanum</i> .....	37
<i>Antitrichia curtipendula</i> .....	37	<i>Climacium dendroides</i> .....	37
<i>Aphanorrhagma serratum</i> .....	9	<i>Cololejeunea biddlecomiae</i> .....	80
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<i>Archidium donnellii</i> .....	23	<i>Conocephalum conicum</i> .....	81
<i>Asterella tenella</i> .....	81	<i>Ctenidium molluscium</i> .....	56
<i>Astomum muhlenbergianum</i> .....	12	<i>Dichelym capillaceum</i> .....	42
<i>Atrichum angustatum</i> .....	6	DICRANACEAE .....	16-19
<i>Atrichum crispum</i> .....	6	Dicranales .....	16-25
<i>Atrichum undulatum</i> .....	7	<i>Dicranella heteromalla</i> .....	16
AULACOMNIACEAE .....	35-36	<i>Dicranella rufescens</i> .....	17
<i>Aulacomnium heterostichum</i> .....	35	<i>Dicranella varia</i> .....	17
<i>Aulacomnium palustre</i> .....	36	<i>Dicranodontium denudatum</i> .....	17
AYTONIACEAE .....	81	<i>Dicranum condensatum</i> .....	17
<i>Barbula fallax</i> .....	12	<i>Dicranum flagellare</i> .....	17
<i>Barbula unguiculata</i> .....	13	<i>Dicranum fulvum</i> .....	18
<i>Bartramia pomiformis</i> .....	34	<i>Dicranum fuscescens</i> .....	18
BARTRAMIACEAE .....	34-35	<i>Dicranum montanum</i> .....	18
<i>Bazzania trilobata</i> .....	69	<i>Dicranum scoparium</i> .....	19
<i>Blepharostoma trichophyllum</i> .....	68	<i>Dicranum viride</i> .....	19
BRACHIYTHECIACEAE .....	50-54	DIPHYSCIACEAE .....	11
<i>Brachythecium oxycladon</i> .....	50	Diphysciales .....	11
<i>Brachythecium plumosum</i> .....	51	<i>Diphyscium foliosum</i> .....	11
<i>Brachythecium rivulare</i> .....	51	<i>Diplophyllum apiculatum</i> .....	76
<i>Brachythecium rutabulum</i> .....	51	DITRICHACEAE .....	21-22
<i>Brachythecium salebrosum</i> .....	51	<i>Ditrichum lineare</i> .....	22
<i>Brotherella recurvans</i> .....	65	<i>Ditrichum pallidum</i> .....	22
<i>Brotherella tenuirostris</i> .....	65	<i>Ditrichum pusillum</i> .....	22
BRUCHIACEAE .....	23	<i>Entodon cladorrhizans</i> .....	63
BRYACEAE .....	30-31	<i>Entodon seductrix</i> .....	63
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<i>Bryhnia graminicolor</i> .....	52	EPHEMERACEAE .....	11
<i>Bryhnia novae-angliae</i> .....	52	<i>Ephemerum cohaerens</i> .....	11
<i>Bryoandersonia illecebra</i> .....	53	<i>Ephemerum crassinervium</i> .....	11
<i>Bryohaplocladium microphyllum</i> .....	39	<i>Ephemerum serratum</i> .....	11
<i>Bryohaplocladium virginianum</i> .....	40	<i>Ephemerum sinulosum</i> .....	11
<i>Bryum argenteum</i> .....	30	<i>Eurhynchium hians</i> .....	53
<i>Bryum caespiticium</i> .....	30	<i>Eurhynchium pulchellum</i> .....	53
<i>Bryum lisae</i> var. <i>cuspidatum</i> .....	31	<i>Eurhynchium riparioides</i> .....	54

FABRONIACEAE .....	45-46	<i>Kurzia sylvatica</i> .....	70
<i>Fissidens bryoides</i> .....	23	<i>Lejeunea cavifolia</i> .....	80
<i>Fissidens bushii</i> .....	24	LEJEUNEACEAE .....	-81
<i>Fissidens cristatus</i> .....	24	<i>Lepidozia reptans</i> .....	70
<i>Fissidens exilis</i> .....	24	LEPIDOZIACEAE .....	69-70
<i>Fissidens osmundioides</i> .....	25	<i>Leptobryum pyriforme</i> .....	31
<i>Fissidens subbasilaris</i> .....	25	<i>Leskea gracilescens</i> .....	41
<i>Fissidens taxifolius</i> .....	25	<i>Leskea obscura</i> .....	42
FISSIDENTACEAE .....	23-25	<i>Leskea polycarpa</i> .....	42
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<i>Fontinalis hypnoides</i> .....	43	<i>Leucobryum glaucum</i> .....	20
<i>Fontinalis novae-angliae</i> .....	43	<i>Leucodon julaceus</i> .....	37
<i>Fossombronina foveolata</i> .....	67	LEUCODONTACEAE .....	37
<i>Fossombronina wondraczekii</i> .....	67	Leucodontales .....	37
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<i>Funaria hygrometrica</i> .....	9	<i>Lophocolea cuspidata</i> .....	73
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<i>Grimmia laevigata</i> .....	26	<i>Lunularia cruciata</i> .....	82
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<i>Helodium paludosum</i> .....	41	<i>Micromitrium megalosporum</i> .....	11
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<i>Homomallium adnatum</i> .....	57	<i>Mnium cuspidatum</i> .....	33
Hookeriales .....	65-66	<i>Mnium hornum</i> .....	33
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<i>Hygrohypnum eugyrium</i> .....	50	<i>Mnium punctatum</i> .....	34
HYLOCOMIACEAE .....	62	<i>Mnium punctatum</i> var. <i>elatum</i> .....	34
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<i>Hypnum fertile</i> Sendtner .....	57	<i>Nowellia curvifolia</i> .....	71
<i>Hypnum imponens</i> .....	58	<i>Odontoschisma denudatum</i> .....	72
<i>Hypnum lindbergii</i> .....	58	<i>Odontoschisma prostratum</i> .....	72
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<i>Isopterygium tenerum</i> .....	59	<i>Orthotrichum obtusifolium</i> .....	27
<i>Jubula pennsylvanica</i> .....	80	<i>Orthotrichum ohioense</i> .....	27
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<i>Pellia neesiana</i> .....	67	<i>Riccia membranacea</i> .....	83
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<i>Philonotis uncinata</i> .....	35	<i>Scapania undulata</i> .....	78
<i>Physcomitrium immersum</i> .....	10	SCAPANIACEAE.....	76-78
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<i>Plagiothecium cavifolium</i> .....	64	<i>Sematophyllum demissum</i> .....	66
<i>Plagiothecium denticulatum</i> .....	64	<i>Sematophyllum marylandicum</i> .....	66
<i>Plagiothecium laetum</i> .....	65	SPIAGNACEAE.....	4-5
<i>Platygyrium repens</i> .....	60	Sphagnales.....	4-5
<i>Platylomella lescurii</i> .....	50	<i>Sphagnum capillifolium</i> .....	4
<i>Pleurozium subulatum</i> .....	22	<i>S. capillifolium</i> var. <i>tenellum</i> .....	4
<i>Pleurozium schreberi</i> .....	62	<i>Sphagnum compactum</i> .....	4
<i>Pogonatum pensilvanicum</i> .....	7	<i>Sphagnum fimbriatum</i> .....	4
<i>Pohlia annotina</i> var. <i>decepiens</i> .....	31	<i>Sphagnum girgensohnii</i> .....	4
<i>Pohlia cruda</i> .....	31	<i>Sphagnum imbricatum</i> .....	4
<i>Pohlia nutans</i> .....	31	<i>Sphagnum palustre</i> .....	5
<i>Pohlia wahlenbergii</i> .....	31	<i>Sphagnum quinquefarium</i> .....	5
POLYTRICHACEAE.....	6	<i>Sphagnum recurvum</i> .....	5
Polytrichales.....	6-8	<i>Sphagnum subsecundum</i> .....	5
<i>Polytrichum commune</i> .....	7	<i>Streptocleus serrulatum</i> .....	54
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<i>Ptychomitrium incurvum</i> .....	26	<i>Thuidium scitum</i> .....	44
<i>Racomitrium aciculare</i> .....	27	<i>Tortella humilis</i> .....	13
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<i>Rhytidium rugosum</i> .....	62	<i>Ulota hutchinsiae</i> .....	29
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<i>Riccia beyricheana</i> .....	82		
<i>Riccia bifurca</i> .....	82		