

Mosses from the State of Missouri***Micromitrium megalosporum* and *Bryum pallescens* New to the State and Other New County Records**Carl Darigo¹

This paper reports *Micromitrium megalosporum* Aust. and *Bryum pallescens* Schleich. ex Schwaegr. new to the state of Missouri, plus 152 other new moss county records from eastern and western Missouri (Fig. 1).

The Missouri river cuts, in a more or less east-west direction, through the state of Missouri. To the north of the river is found the Glaciated Prairie, an area that occupies roughly the northern one-third of the state. To the south of the Missouri river lies the northern edge of the Interior Highlands of North America. The northernmost section of the Interior Highlands consists of the Salem Plateau and the most common habitat in this region is oak-hickory forests. Within the Salem Plateau in southeastern Missouri lies the St. Francois Mountains. The Mississippi Lowlands is a region in the far southeastern "bootheel" of the state, near the Mississippi River.

The Border counties are the one to two tiers of counties north of the Missouri River, immediately adjacent to the Interior Highlands. New county records were distributed as follow:

Glaciated Prairie -- (40): Clark (4), Holt (1), Lewis (1), Macon (1), Monroe (1), Pike (2), Platte (1), Putnam (3), Schuyler (12), Scotland (8), Shelby (6).

Border -- (61): Audrain (1), Lincoln (32), Montgomery (16), St. Charles (10), Randolph (1), Warren (1).

Salem Plateau -- (28): Butler (5), Carter (3), Crawford (3), Franklin (1), Oregon (4), Ripley (2), St. Francois (4), St. Louis (2), Shannon (1), Washington (3).

St. Francois Mountains-- (14): Iron (10), Reynolds (1), Wayne (3).

Mississippi Lowlands-- (9): Mississippi (9).

Collections were made either during Botany Group outings of the Webster Groves Nature Study Society, or on private trips. Several previously unpublished collections by Bruce Allen, William Buck, Dolly Darigo, Greg Pedano and Paul Redfearn are included. Bruce Schuette, Park Naturalist for Cuivre River and

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Graham Cave State Parks, furnished specimens for analyses that he and Margaret Feigley (since deceased) collected during the 1980's; all Feigley collections are unnumbered.



Figure 1. County map of Missouri highlighting those counties from which mosses are report.

All specimens were verified by Bruce Allen and are deposited at MO. Distribution comments were taken from Redfearn (1983) and the Rare and Endangered Species of Missouri Checklist (Anonymous, 1995).

AMBLYSTEGIACEAE

Amblystegium serpens (Hedw.) Schimp. in B.S.G.- **Lincoln**: B. K. Leach Conservation Area, Darigo & Darigo 2456.

A. varium (Hedw.) Lindb.-**Shelby**: near Cherry Box, Darigo & Vanderbilt 2293.

Campylium chrysophyllum (Brid.) J. Lange - **Montgomery**: Graham Cave State Park, Feigley.

C. hispidulum (Brid.) Mitt.- **Scotland**: Hwy 15 rest stop, Darigo & Vanderbilt 2261.

- Drepanocladus aduncus* (Hedw.) Warnst. var. *aduncus* - **St. Francois**: St. Francois State Park, Darigo 2391. Uncommon, reported in only nine other counties; this collection represents the easternmost station in the state for this taxon.
- Hygroamblystegium noterophilum* (Sull. & Lesq. in Sull.) Warnst.- **St. Francois**: St. Francois State Park, Darigo 2394. Uncommon.
- H. tenax* (Hedw.) Jenn. var. *tenax* - **Clark**: Battle of Athens State Park, Darigo & Vanderbilt 2269. **Montgomery**: Graham Cave State Park, Feigley. **Crawford**: Reis Biological Field Station, Pedano 700.
- Leptodictyum humile* (P. Beauv.) Ochyra - **St. Charles**: Katy Trail State Park, Darigo & Vanderbilt 2196.
- L. riparium* (Hedw.) Warnst.- **Putnam**: Rebel's Cove Conservation Area, Darigo & Sullivan 2371. **Schuyler**: Rebel's Cove Conservation Area, Darigo & Vanderbilt 2334. **Lincoln**: Cuivre River State Park, Allen 4828. **St. Charles**: Dresser Island Access, Darigo & Darigo 2458. **Mississippi**: Big Oak Tree State Park, Allen 17121.
- Platylomella lescurii* (Sull. in Gray) Andrews - **Iron**: Taum Sauk Mountain State Park, Darigo 2563. Previously reported in only three other Missouri counties and listed as Rare in Rare and Endangered Species Checklist of Missouri, Anonymus (1995).

ANOMODONTACEAE

- Anomodon minor* (Hedw.) Furnr.- **Schuyler**: Rebel's Cove Conservation Area, Darigo & Vanderbilt 2324. **Montgomery**: Graham Cave State Park, Feigley. **Mississippi**: Big Oak Tree State Park, Allen 17123.
- Haplohymenium triste* (Ces. in De Not.) Kindb.- **Montgomery**: Graham Cave State Park, Feigley.

BARTRAMIACEAE

- Philonotis fontana* (Hedw.) Brid. var. *fontana* - **Lincoln**: Cuivre River State Park, Feigley. **Montgomery**: Graham Cave State Park, Feigley. **Wayne**: Sam A. Baker State Park, Allen 17068.

BRACHYTHECIACEAE

- Brachythecium acuminatum* (Hedw.) Aust. var. *acuminatum* - **Clark**: Battle of Athens State Park, Darigo & Vanderbilt 2272. **Scotland**: Hwy 15 rest stop, Darigo & Vanderbilt 2264.
- B. acuminatum* (Hedw.) Aust. var. *cyrtophyllum* (Kindb.) Redf. & Crum - **Scotland**: Hwy 15 rest stop, Darigo & Vanderbilt 2263. **Franklin**:

Meramec State Park, Darigo 2433. Common, but has been infrequently collected, being recorded in only five other Missouri counties; differs from var. *acuminatum* in having shorter, broader, more concave leaves, shorter and less acuminate tips, and shorter leaf cells.

B. oxycladon (Brid.) Jaeg.- **Putnam**: Rebel's Cove Conservation Area, Darigo & Sullivan 2379. **Montgomery**: Graham Cave State Park, Feigley.

B. plumosum (Hedw.) Schimp. in B.S.G.- **Iron**: Taum Sauk Mountain State Park, Allen 17057. Uncommon.

B. salebrosum (Web. & Mohr) Schimp. in B.S.G. var. *salebrosum* - **Schuyler**: Rebel's Cove Conservation Area, Darigo & Vanderbilt 2347.

Bryhnia graminicolor (Brid.) Grout - **Lincoln**: Cuivre River State Park, Schuette 2668.

Bryoandersonia illecebra (Hedw.) Robins.- **Lincoln**: Cuivre River State Park, Feigley.

Eurhynchium hians (Hedw.) Sande-Lac.- **Schuyler**: Rebel's Cove Conservation Area, Darigo & Vanderbilt 2328. **Scotland**: Hwy 15 rest stop, Darigo & Vanderbilt 2260. **Lincoln**: Cuivre River State Park, Feigley. **St. Francois**: St. Francois State Park, Darigo 2390.

E. pulchellum (Hedw.) Jenn. var. *pulchellum* - **Lincoln**: Koenig Property near Argentville, Darigo & Vanderbilt 2481.

BRYACEAE

Bryum argenteum Hedw.- **Pike**: County Rd 902, Darigo & Darigo 2479. **St. Charles**: A. A. Busch Conservation Area, Darigo & Darigo 2459.

B. caespitium Hedw.- **Iron**: Taum Sauk Mountain State Park, Allen 17045. Uncommon, first report in St. Francois Mountains.

B. dichotomum Hedw.- **Lincoln**: Cuivre River State Park, Darigo & Darigo 2501. **St. Charles**: A. A. Busch Conservation Area, Darigo & Darigo 2461. **Crawford**: Meramec State Park, Darigo 2493. **Iron**: Elephant Rocks State Park, Darigo 2549. Uncommon, not previously reported in Border counties or St. Francois Mountains.

B. lisae De Not. var. *cuspidatum* (Bruch & Schimp. in B.S.G.) Marg.- **St. Charles**: Hwy 79 near Cuivre River, Darigo & Darigo 2415. **Washington**: Washington State Park, Darigo 2510.

B. miniatum Lesq.- **Iron**: Taum Sauk Mountain State Park, Allen 17046. Previously reported only once in Missouri and listed as Endangered in Missouri.

B. pallescens Schleich. ex Schwaegr.- **Washington**: Washington State Park, Darigo 2509. Collected (sterile specimen) on partially shaded rocky soil near a trail at 710 feet elevation, in an upland oak-hickory forest; T39N, R3E, section 22, SW ¼. This is a cosmopolitan species of world-wide

distribution. It occurs throughout the USA except for the south central and southeastern sections of the country. The closest station to Missouri of this species is in Ohio.

B. pseudotriquetrum (Hedw.) Gaertn. et al.- **St. Charles**: Hwy 79 near Cuivre River, Darigo & Darigo 2416. **Wayne**: Sam A. Baker State Park, Allen 17066.

Pohlia annotina (Hedw.) Lindb.- **Montgomery**: Graham Cave State Park, Feigley. Rare, reported from only two other Missouri counties; this collection is the farthest north and east location for this species in the state.

P. wahlenbergii (Web. & Mohr) Andrews - **Schuyler**: Rebel's Cove Conservation Area, Darigo & Vanderbilt 2342.

BUXBAUMIACEAE

Diphyscium foliosum (Hedw.) Mohr - **Lincoln**: near Cuivre River State Park, Feigley. This collection was originally determined as *Barbula convoluta* Hedw.

CLIMACIACEAE

Climacium americanum Brid.- **Mississippi**: Big Oak Tree State Park, Allen 17124.

DICRANACEAE

Dicranum condensatum Hedw.- **Lincoln**: Cuivre River State Park, Schuette 2646.

DITRICHACEAE

Ceratodon purpureus (Hedw.) Brid.-**Lincoln**: Cuivre River State Park, Feigley.

Ditrichum pallidum (Hedw.) Hampe - **Iron**: Taum Sauk Mountain State Park, Darigo 2554.

ENTODONTACEAE

Entodon seductrix (Hedw.) C. Mull.- **Clark**: Battle of Athens State Park, Darigo & Vanderbilt 2277. **Lewis**: Wakonda State Park, Darigo & Vanderbilt 2283. **Schuyler**: Rebel's Cove Conservation Area, Darigo & Vanderbilt 2320. **Scotland**: Hwy 15 rest stop, Darigo & Vanderbilt 2259. **Montgomery**: near Mineola, Redfearn & Key 27769. **Mississippi**: Big Oak Tree State Park, Allen 17128.

E. cladorrhizans (Hedw.) C. Mull.- **Schuyler**: Rebel's Cove Conservation Area, Darigo & Vanderbilt 2337.

EPHEMERACEAE

Micromitrium megalosporum Aust.- **Reynolds**: Johnson's Shut-Ins State Park, Buck 24203. Collected on a rhyolitic and granitic talus slope at 815 to 975 feet elevation, near the East Fork of Black River opposite the Shut-Ins, in a hardwood-juniper forest; 37° 32' N, 90° 50' W. This collection was determined by Virginia Bryan. According to Virginia Bryan (pers. comm. 1996), current USA distribution of *M. megalosporum* is Michigan, Maine, Connecticut, Massachusetts, Pennsylvania, Maryland, North Carolina, Florida, Georgia, Mississippi and Louisiana. The Missouri finding is approximately 250 miles north of its closest previous station in northwest Mississippi.

FABRONIACEAE

Clasmatodon parvulus (Hampe) Hook. & Wils. ex Sull. in Gray - **Lincoln**: Koenig Property near Argentville, Darigo & Vanderbilt 2482.

Fabronia ciliaris (Brid.) Brid. var. *ciliaris* - **Carter**: Ozark National Scenic Riverways, Hwy Z, Darigo 2172.

FISSIDENTACEAE

Fissidens adianthoides Hedw.- **Shannon**: The Nature Conservancy, Shut-In Mountain fen, Darigo 2174. Uncommon, reported in only four other Missouri counties.

F. bushii (Card. & Ther.) Card. & Ther.- **Ripley**: Cupola Gum Pond Natural Area, Allen 17083. **Iron**: Taum Sauk Mountain State Park, Allen 17050. Uncommon, first report in St. Francois Mountains.

F. fontanus (B. Pyl.) Steud.- **Lincoln**: Cuivre River State Park, Allen 4810. **Butler**: Allred Lake Natural Area, Allen 17113.

F. grandifrons Brid.- **Oregon**: Greer Springs, Redfearn 6008. Uncommon.

F. osmundioides Hedw.- **Lincoln**: Cuivre River State Park, Feigley. Uncommon.

F. taxifolius Hedw.- **Lincoln**: Cuivre River State Park, Darigo & Darigo 2426. **Crawford**: Meramec State Park, D. Darigo 6.

FONTINALACEAE

Dichelyma capillaceum (With.) Myr.- **Butler**: Allred Lake Natural Area, Allen 17116. Known in Missouri from only two other counties and listed as Endangered in Missouri.

Fontinalis sullivantii Lindb.- **Ripley**: Mark Twain National Forest, Cupola Gum Pond Natural Area, Allen 17076. Known in Missouri from only three other counties and listed as Endangered in Missouri.

FUNARIACEAE

Funaria hygrometrica Hedw.- **Pike:** County Rd 902, Darigo & Darigo 2480.

Iron: Taum Sauk Mountain State Park, Darigo 2555.

F. flavicans Michx.-**Oregon:** Turner Spring Recreation Area, Allen 17094.

Physcomitrium pyriforme (Hedw.) Hampe - **Scotland:** Hwy 15 rest stop, Darigo & Vanderbilt 2253a. **Wayne:** Sam A. Baker State Park, Allen 17064.

HYLOCOMIACEAE

Rhytidiadelphus triquetrus (Hedw.) Warnst.- **Lincoln:** Cuivre River State Park, Allen 4826. Previously reported in only five other Missouri counties and listed as Rare in Missouri. .

HYPNACEAE

Homomallium adnatum (Hedw.) Broth.- **Lincoln:** Cuivre River State Park, Schuette 2659.

Hypnum lindbergii Mitt.- **Shelby:** Oxbow Nature Trail near Bethel, Darigo & Vanderbilt 2307. **Washington:** Washington State Park, Darigo 2107.

Platydictya confervoides (Brid.) Crum - **Lincoln:** Cuivre River State Park, Allen 7833.

Platygyrium repens (Brid.) Schimp. in B.S.G.- **Schuyler:** Rebel's Cove Conservation Area, Darigo & Vanderbilt 2338. **Mississippi:** Big Oak Tree State Park, Allen 17125.

Pylaisiella selwynii (Kindb.) Crum et al.- **Monroe:** Hwy 15 river access near Paris, Darigo 2249a. **Lincoln:** Cuivre River State Park, Feigley. **Oregon:** Turner Spring Recreation Area, Allen 17100.

Taxiphyllum taxirameum (Mitt.) Fleisch.- **Schuyler:** Rebel's Cove Conservation Area, Darigo & Vanderbilt 2317. **Lincoln:** Cuivre River State Park, Schuette 2660.

LESKEACEAE

Haplocladium microphyllum (Hedw.) Broth.- **Schuyler:** Rebel's Cove Conservation Area, Darigo & Vanderbilt 2315. **Shelby:** Oxbow Nature Trail near Bethel, Darigo & Vanderbilt 2304.

H. virginianum (Brid.) Wat. & Iwats.- **Lincoln:** Cuivre River State Park, Darigo & Darigo 2504.

Leskea australis Sharp - **Mississippi:** Big Oak Tree State Park, Allen 17131. First report in Mississippi Lowlands; known only from three other counties in Missouri and listed as Endangered in Missouri.

L. gracilescens Hedw.- **Schuyler:** Rebel's Cove Conservation Area, Darigo & Vanderbilt 2344. **Scotland:** Hwy 15 rest stop, Darigo & Vanderbilt

2254. Montgomery: Graham Cave State Park, Feigley. **Randolph:** Clark city park, Darigo 2399. **Oregon:** Turner Spring Recreation Area, Allen 17103. **Mississippi:** Big Oak Tree State Park, Allen 17143a.

L. obscura Hedw.- **Mississippi:** Big Oak Tree State Park, Allen 17146. First report of the species in Mississippi Lowlands.

Lindbergia brachyptera (Mitt.) Kindb.- **Holt:** Big Lake State Park, Darigo & Darigo 2579. **Lincoln:** B. K. Leach Conservation Area, Darigo & Darigo 2453a. **St. Louis:** Babler State Park, Darigo 2496.

LEUCOBRYACEAE

Leucobryum glaucum (Hedw.) Angstr. in Fries - **Montgomery:** Graham Cave State Park, Feigley. **Carter:** Peck Ranch Conservation Area, Darigo 2163.

LEUCODONTACEAE

Leucodon julaceus (Hedw.) Sull.- **Lincoln:** Cuivre River State Park, Feigley. **St. Charles:** A. A. Busch Conservation Area, Darigo 2477.

MNIACEAE

Plagiomnium ciliare (C. Mull.) T. Kop.- **Montgomery:** Graham Cave State Park, Feigley. **Reynolds:** Taum Sauk Creek, near Taum Sauk Cemetery, Darigo & Sullivan 2566.

P. cuspidatum (Hedw.) T. Kop.- **Putnam:** Rebel's Cove Conservation Area, Darigo & Sullivan 2380. **Schuyler:** Rebel's Cove Conservation Area, Darigo & Vanderbilt 2335. **Montgomery:** near Mineola, Redfearn & Key 27759. **Mississippi:** Big Oak Tree State Park, Allen 17137.

Rhizomnium punctatum (Hedw.) T. Kop.- **Lincoln:** Koenig Property near Argenville, Darigo & Vanderbilt 2474

ORTHOTRICHACEAE

Drummondia prorepens (Hedw.) Britt.- **Warren:** Koenig Property near Jonesburg, Darigo & Vanderbilt 2083.

Orthotrichum pusillum Mitt.- **Lincoln:** B. K. Leach Conservation Area, Darigo & Darigo 2454. **St. Charles:** A. A. Busch Conservation Area, Darigo 2478. **St. Louis:** Babler State Park, Darigo 2497. **Butler:** Allred Lake Natural Area, Allen 17110.

O. stellatum Brid. - **Lincoln:** Cuivre River State Park, Feigley. Common, but represents the first report in a Border county and the northernmost station for this species in Missouri.

O. strangulatum P. Beauv.-**Lincoln:** Cuivre River State Park, Allen 4811.

POLYTRICHACEAE

Atrichum angustatum (Brid.) Bruch & Schimp. in B.S.G.- **Clark**: Battle of Athens State Park, Darigo & Vanderbilt 2280. **Macon**: Atlanta-Long Branch Conservation Area, Darigo & Sullivan 2384. **Shelby**: near Cherry Box, Darigo & Vanderbilt 2290. **Montgomery**: Graham Cave State Park, Feigley.

Polytrichum commune Hedw. var. *commune* - **Shelby**: Oxbow Nature Trail near Bethel, Darigo & Vanderbilt 2306.

P. ohioense Ren. & Card.- **Montgomery**: Graham Cave State Park, Darigo & Darigo 2191.

POTTIACEAE

Astomum muehlenbergianum (Sw.) Grout - **Lincoln**: Cuivre River State Park, Schuette 2664. Common, but first report in a Border county.

Barbula convoluta Hedw.- **Iron**: Taum Sauk Mountain State Park, Allen 17044. Known from only three other Missouri counties; first report in St. Francois Mountains and listed as Rare in Missouri.

B. unguiculata Hedw.- **Platte**: Weston Bend State Park, Darigo & Darigo 2602. **Lincoln**: Cuivre River State Park, Darigo & Darigo 2425. **Carter**: Peck Ranch Conservation Area, Darigo 2161. **St. Francois**: St. Francois State Park, Darigo 2389. **Washington**: Washington State Park, Darigo 2508. *Gymnostomum aeruginosum* Sm.- **Lincoln**: Cuivre River State Park, Feigley.

Phascum cuspidatum Hedw.- **St. Charles**: A. A. Busch Conservation Area, Darigo & Darigo 2460. **Butler**: Allred Lake Natural Area, Allen 17112. Uncommon.

Syntrichia pagorum (Milde) Amann- **Butler**: Allred Lake Natural Area, Allen 17104.

Tortella humilis (Hedw.) Jenn.-**Lincoln**: Cuivre River State Park, Allen 7830.

T. plinthobia (Sull. & Lesq.) Aust.- **Lincoln**: County Rd 925 near Foley, Darigo 2440.

Weissia controversa Hedw.- **Scotland**: Hwy 15 rest stop, Darigo & Vanderbilt 2253. **Montgomery**: Graham Cave State Park, Feigley.

SEMATOPHYLLACEAE

Sematophyllum adnatum (Michx.) Britt.- **St. Charles**: A. A. Busch Conservation Area, Darigo & Darigo 2462. Uncommon.

THELIACEAE

Thelia asprella Sull. in Sull. & Lesq.- **Audrain**: Marshall Diggs Conservation Area, Darigo 2245.

T. lescurii Sull. in Sull. & Lesq.- **Iron**: Taum Sauk Mountain State Park, Allen 17049.

THUIDIACEAE

Thuidium delicatulum (Hedw.) Schimp. in B.S.G.- **Montgomery**: Graham Cave State Park, Feigley.

T. recognitum (Hedw.) Lindb.- **Shelby**: Oxbow Nature Trail near Bethel, Darigo & Vanderbilt 2305.

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