

Studies in Indiana Bryophytes VIII

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The introductory remarks for this study are comparable to those in the preceding numbers of this series. The descriptions of the species have been omitted because of the high cost of printing. They may be found in books concerning the mosses of North America and Europe.

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BRYACEAE

Plants commonly tufted; stems short to 8 cm. in length, erect, usually matted with radicles near base, frequently branching by subfloral innovations; leaves of various shapes, frequently with a differentiated border of narrower cells, costate; inflorescence terminal, dioecious, synoecious, or paroecious; seta elongated; capsule horizontal to mostly pendulous, with neck usually clearly differentiated; peristome double, teeth of outer peristome sixteen.

Key to the Genera of Bryaceae

1. Plants robust, with subterranean rhizome-like growths giving rise to erect shoots with terminal rosettes of leaves..... *Rhodobryum*
Plants not as above..... 2
2. Leaves very narrowly linear-lanceolate (hair-like), with broad flattened excurrent costa..... *Leptobryum*
2. Leaves broader, with narrower costa..... 3
3. Plants whitish green or silvery..... 4
4. Plants whitish green, in large soft lax tufts; leaves distant, irregularly spreading..... *Pohlia*
4. Plants whitish or silvery, usually densely tufted; leaves close, imbricate..... *Bryum*
3. Plants green..... 4
4. Leaves ovate or ovate-lanceolate to oval, margin entire or nearly so, often with a border of narrower cells, median cells rhomboidal-hexagonal..... *Bryum*
4. Leaves ovate-lanceolate to linear-lanceolate, margin slightly

denticulate toward apex, without a differentiated border,
median cells linear to elongate-hexagonal.....*Pohlia*

Bryum

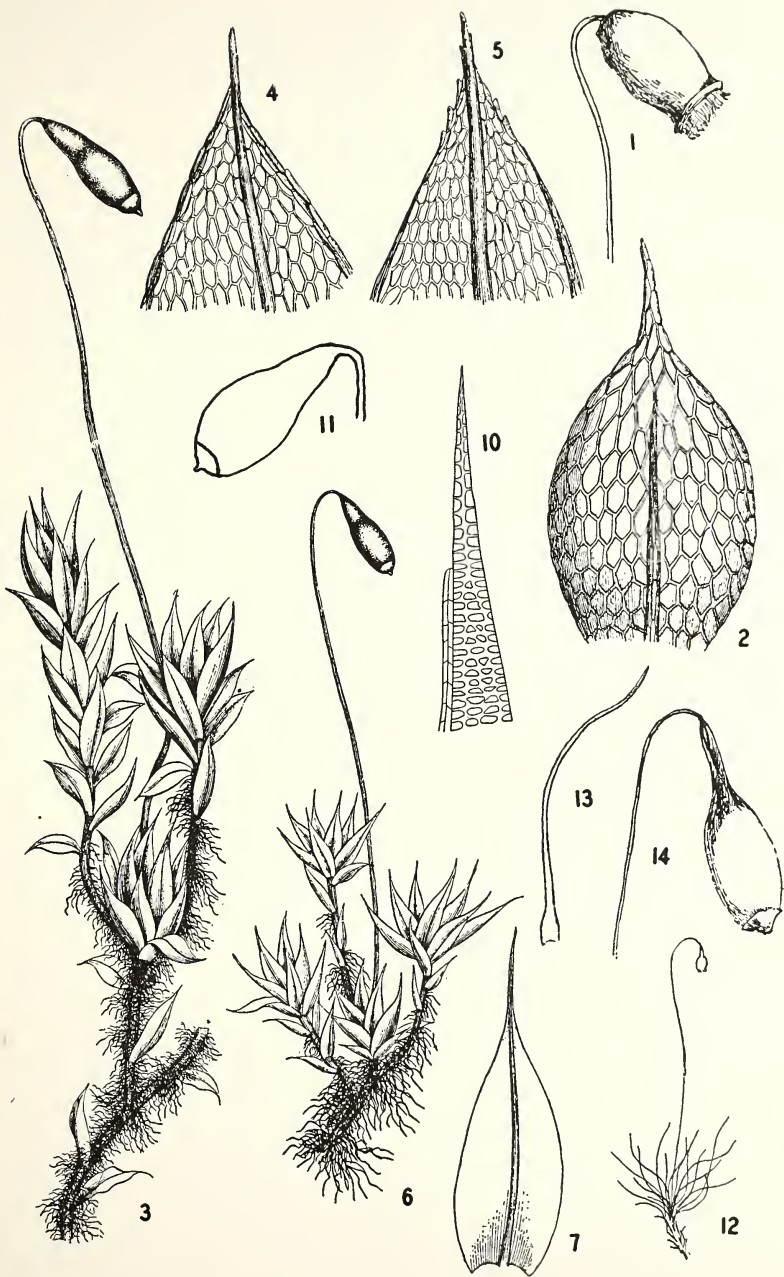
1. Plants whitish or silvery, leaves without a differentiated border... 2
 2. Costa ending below apex in most leaves.....*B. argenteum*
 2. Costa percurrent to shortly excurrent *B. argenteum* var. *lanatum*
1. Plants green, sometimes colored with red and brown, costa percurrent to long excurrent 2
 2. Costa ending below apex to shortly excurrent..... 3
 3. Plants low, 0.5-1 cm. in height..... 4
 4. Leaves variously contorted, often twisted when dry, somewhat decurrent; median cells of leaves broadly hexagonal, up to $70 \times 35\mu$*B. capillare*
 4. Leaves not distorted when dry, not decurrent; median cells of leaves irregularly rhomboidal, up to $35 \times 15\mu$...*B. bicolor*
 3. Plants often elongated, up to 8 cm. in height, leaves contorted when dry, slightly to long decurrent; costa percurrent to shortly excurrent; median cells of leaves $35-50\mu$ long *B. bimum*
 2. Costa long excurrent, especially in uppermost leaves..... 3
 3. Leaf tips irregularly contorted when dry; costa very strong or conspicuous; diameter of operculum conspicuously smaller than that of middle portion of urn, lamellae of ventral surface of peristome teeth joined by cross walls.....*B. pendulum*
 3. Leaf tips and capsules not as above..... 4
 4. Leaf margins strongly revolute; median cells of leaves approximately 7:1, up to 70μ in length; inflorescence dioecious*B. caespiticium*
 4. Leaf margins not noticeably revolute; median cells of leaves 3-5:1, rarely above 60μ long; inflorescence synoecious*B. cuspidatum*

B. argenteum [L.] Hedw. (Figs. 1-2.) Carroll, Cass, Decatur, Delaware, Dubois, Hamilton, Henry, Jasper, Jefferson, Lagrange, Lake, Lawrence, Monroe, Noble, Parke, Perry, Porter, Pulaski, Putnam, St. Joseph, Steuben, Warren, Warrick, and Wayne counties.

B. argenteum var. *lanatum* (P. B.) Br. and Sch.* Carroll and Porter counties.

B. bicolor Dicks.* (Determination checked by A. L. Andrews.) Jasper county.

B. bimum Schreb. (*B. pseudotriquetrum* Schwaegr.) (Figs. 3-5.) Delaware, Hamilton, Henry, Jasper, Jefferson, Jennings, Lake, Madison, Noble, Owen, Perry, Porter, Pulaski, Putnam, Ripley, Wayne, and Wells counties.



B. caespiticium [L.] Hedw. (Figs. 6-7.) Carroll, Cass, Delaware, Grant, Huntington, Jasper, Jefferson, Lagrange, Lake, Madison, Marion, Marshall, Monroe, Montgomery, Newton, Noble, Owen, Parke, Porter, Posey, Pulaski, Putnam, Steuben, Tippecanoe, Warren, Wayne, and Wells counties.

B. capillare [L.] Hedw. (Figs. 8-9.) Blackford, Jasper, Jefferson, Lake, Marshall, Martin, Monroe, and Porter counties.

B. cuspidatum (Br. and Sch.) Sch.¹ Carroll, Cass, Hamilton, Huntington, Jasper, Lagrange, Lake, Lawrence, Madison, Marshall, Monroe, Newton, Noble, Orange, *Owen, Porter, Putnam, Steuben, and Wells counties.

B. pendulum (Hornsch.) Sch.* (Figs. 10-11.) Carroll, Cass, Hamilton, Noble, Owen, and Warren counties.

Leptobryum

L. pyriforme [L.] Schimp. (Figs. 12-14.) Jasper, Lake, Monroe, Orange, Parke, Perry, Porter, Putnam, and Wayne counties.

Pohlia

P. nutans (Schreb.) Lindb. (Figs. 15-18.) Fountain, Hamilton, Jackson, Jasper, Lagrange, Lake, Marion, Marshall, Martin, Monroe, Noble, Owen, Perry, Porter, Putnam, *Steuben, Warren, *Wayne, and White counties.

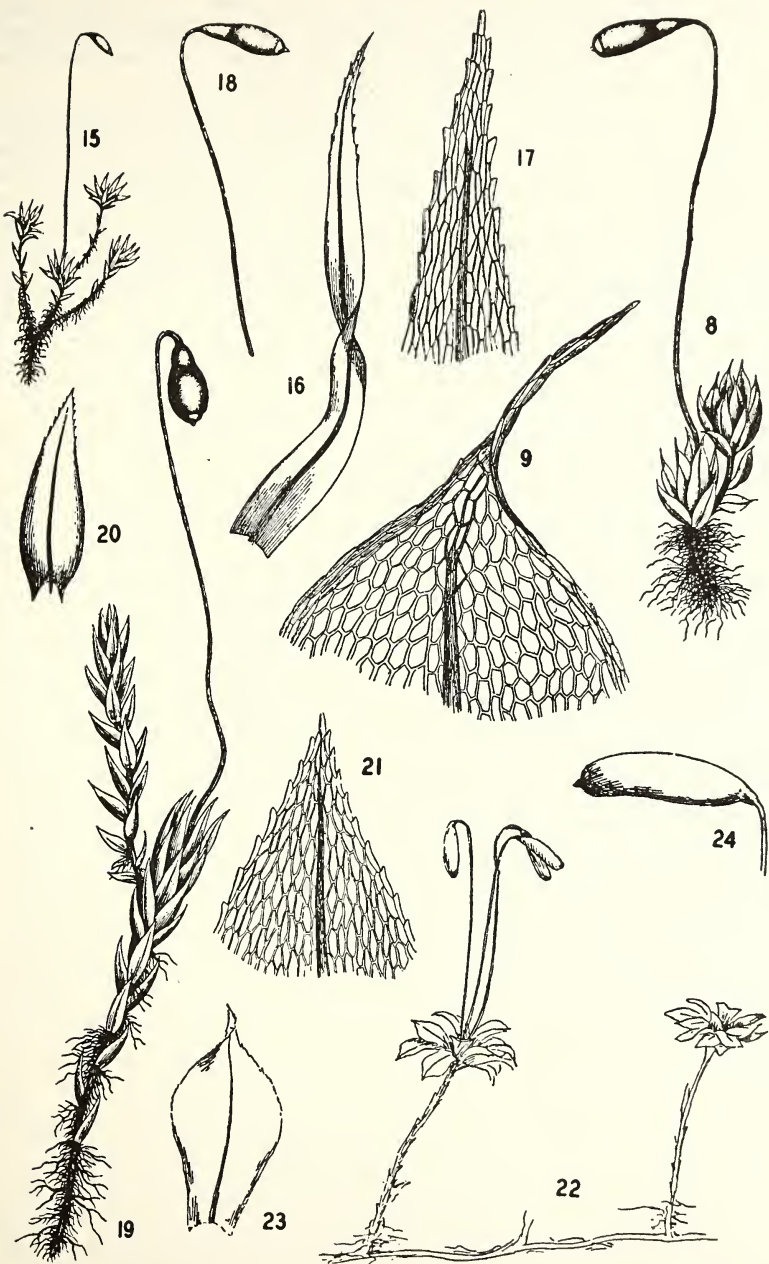
P. Wahlenbergii (Web. and Mohr) Andr. (*Mniobryum albicans* Limpr.) (Figs. 19-21.) Fountain, Huntington, Jasper, Jefferson, Jennings, Knox, Kosciusko, Lake, Madison, Martin, Monroe, Montgomery, Noble, Owen, Parke, Perry, Porter, Posey, Putnam, Sullivan, and Tippecanoe counties.

Rhodobryum

R. roseum (Weis) Limpr. (Figs. 22-24.) Carroll, Henry, Jasper, Jefferson, Jennings, Lake, Lawrence, Madison, Monroe, Noble, Orange, Owen, Perry, Porter, Putnam, Ripley, Steuben, Warren, *Wayne, and Wells counties.

Figs. 1-14. (All figures are from Grout, Mosses with Hand-lens and Microscope, unless otherwise indicated.) Figs. 1-2. *Bryum argenteum* (From fig. 115). Fig. 1. Capsule, X 20. Fig. 2. Leaf, much enlarged. Figs. 3-5. *Bryum bimum* (From pl. 47). Fig. 3. Gametophyte and sporophyte, much enlarged. Figs. 4-5. Leaf apices, much enlarged. Figs. 6-7. *Bryum caespiticium* (From fig. 113). Fig. 6. Gametophyte and sporophyte, much enlarged. Fig. 7. Leaf, much enlarged. Figs. 8-9. *Bryum capillare* (From pl. 48). Fig. 8. Gametophyte and sporophyte, much enlarged. Fig. 9. Leaf apex, much enlarged. Figs. 10-11. *Bryum pendulum*. Fig. 10. Peristome tooth and adherent segment, much en-

1. *Bryum intermedium* (Ludw.) Brid. has been reported as occurring in Indiana. According to A. L. Andrews, in Grout, Moss Flora of North America, this species does not occur in North America, and frequently the plants so determined are *B. cuspidatum*.



larged (From Grout, fig. 110). Fig. 11. Capsule, X 8 (From Dixon, Student's Handbook of British Mosses, pl. 42 C). Figs. 12-14. *Leptobryum pyriforme* (From fig. 105). Fig. 12. Gametophyte and sporophyte, X 2. Fig. 13. Leaf, X 10. Fig. 14. Capsule, X 10.

Figs. 15-24. *Pohlia nutans* (From fig. 107). Fig. 15. Gametophyte and sporophyte, much enlarged. Fig. 16. Comal leaf, much enlarged. Fig. 17. Apex of comal leaf, much enlarged. Fig. 18. Sporophyte, much enlarged. Figs. 19-21. *Pholia Wahlenbergii* (From pl. 46). Fig. 19. Gametophyte and sporophyte, much enlarged. Fig. 20. Leaf, much enlarged. Fig. 21. Leaf apex, much enlarged. Figs. 22-24. *Rhodobryum roseum* (From fig. 116). Fig. 22. Gametophyte and sporophyte, X 1. Fig. 23. Leaf, X 4. Fig. 24. Capsule, X 4.