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## CHECKLIST OF THE MOSSES OF GRAND TETON NATIONAL PARK AND TETON COUNTY, WYOMING

John R. Spence<sup>1</sup>

ABSTRACT.—A preliminary checklist of the mosses of Grand Teton National Park and Teton County, comprising 106 species, is presented. The following nine species are reported as new to Wyoming: *Sphagnum squarrosum* Crome, *Atrichum undulatum* (Hedw.) P.-Beauv., *Tortella humilis* (Hedw.) Jenn., *Bryum bicolor* Dicks., *Pohlia obtusifolia* (Brid.) L. Koch, *Calliergon sarmentosum* (Wahlenb.) Kindb., *Eurhynchium oreganum* (Sull.) Jaeg., *Plagiothecium piliferum* (Sw. ex C.J. Hartm.) B.S.G., and *Lecuraca stenophylla* (Ren. & Card.) Kindb.

Although the vascular plant flora of Grand Teton National Park and vicinity, in western Wyoming, is well known, basic floristic information on the bryophytes are scarce. Early collections in the state of Wyoming by C.L. Porter led to two papers on the mosses and liverworts, with 54 mosses listed from Grand Teton National Park (Porter 1933, 1935). More recently, Hong (1977) added many new liverwort species to the state flora and Churchill (1979, 1982) added several species of mosses new to Wyoming.

Since the reports by Porter, no additions to the moss flora of the park have been reported. This paper is based on my own collections from the park from 1978 through 1981, as well as collecting trips by Dr. E. Lawton and Mr. F. J. Hermann. Also, literature reports from various monographs have been included.

The physiography of Grand Teton National Park and Teton County is rugged, with extremes of relief greater than 2000 m, providing a wide range of habitats available for bryophytes. The climate of the area has been characterized by Reed (1952), Shaw (1958), and Spence (1981). Major vegetation communities include valley floor coniferous forest and sagebrush steppe, marshes and lakeshore vegetation, riverine gallery forests, subalpine coniferous forest, subalpine meadows, alpine meadows, and alpine fell-fields (Reed 1952, Loope and Gruell 1973, Sabinske and Knight 1978, Spence and Shaw 1981). Bryophyte diversity appears to be highest in moist east-facing canyons in the Teton Range, but most areas of the park have only been slightly col-

lected. This checklist reports 106 species of mosses, representing about one-half the flora of the state. The large numbers of species Porter (1935) reported from Yellowstone National Park to the north of Grand Teton National Park suggests that further collecting will greatly increase the known flora.

The checklist is arranged phylogenetically by family, using Corley et al. (1981), with the following exceptions: the Ditricaceae are maintained as distinct from the Dicranaceae; the Polytrichaceae follow Smith (1971); the Scouleriaceae are separated from the Grimmiaceae according to Churchill (1981); and *Platydictya jungermannioides* is maintained (= *Amblystegium jungermannioides* (Brid.) A. J. E. Smith in Corley et al. 1981). For North American endemics synonymy follows Lawton (1971). Collectors (including herbaria collections in which specimens are deposited) are noted as follows: P=Porter (RM); H=Hermann (variously distributed at numerous herbaria); L=Lawton (WTU); S=Spence (UBC); M=Manville (Grand Teton National Park herbarium at Moose, Wyoming). No attempt has been made to verify literature reports. Those species marked with an asterisk (\*) are apparently new reports for Wyoming, and were not reported in Porter (1935), Lawton (1971), or any monographs and taxonomic works cited in this paper.

### CHECKLIST OF THE SPECIES

#### Sphagnaceae

*Sphagnum russowii* Warnst. P1198.1199: S976.

\**S. squarrosum* Crome S974.

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## Tetraphidaceae

*Tetraphis pellucida* Hedw. H25571; S973.

## Polytrichaceae

*Atrichum scheynii* Aust. H25548, 25765.

\**A. undulatum* (Hedw.) P.-Beauv. L1736.

*Polytrichastrum alpinum* (Hedw.) G.L. Smith S291.

*P. lyallii* (Mitt.) G.L. Smith S352.

*Polytrichum commune* Hedw. S318.

*P. juniperinum* Hedw. H25560.

*P. piliferum* Hedw. H25559; S357.

## Buxbaumiaceae

*Buxbaumia viridis* (DC.) Moug. & Nestl. H25577.

## Fissidentaceae

*Fissidens adiantoides* Hedw. L1730.

*F. osmundoides* Hedw. P1201; L1730.

## Ditrichaceae

*Ceratodon purpureus* (Hedw.) Brid. S75.

*Distichum capillaceum* (Hedw.) B.S.G. S334.

## Dicranaceae

*Dicranocisia cirrata* (Hedw.) Lindb. ex Milde (Porter 1935).

*D. crispula* (Hedw.) Milde H25554; S333.

*Dicranum rhabdocarpum* Sull. (Peterson 1979).

*D. scoparium* Hedw. H25766; S979.

## Pottiaceae

*Bryocryptophyllum recurvirostrum* (Hedw.) Chen H25575; S995.

*Desmatodon latifolius* (Hedw.) Brid. S358.

\**Tortella humilis* (Hedw.) Jenn. H25566.

*T. tortuosa* (Hedw.) Limpr. P1166, 1169.

*Tortula norvegica* (Web.) Wahlenb. ex Lindb. H25549.

*T. ruralis* (Hedw.) Gaertn., Meyer & Scherb. S354.

## Grimmiaceae

*Grimmia alpestris* (Web. & Mohr) Schleich. ex Hornsch. H25556, 25584; L1728; S986.

*G. elatior* Bruch ex Bals. & De Not. H25553.

*G. hartmannii* Schimp. L1738, 1759.

*G. ovalis* (Hedw.) Lindb. (Porter 1935).

*G. trichophylla* Grav. L1734, 1765.

*Racomitrium canescens* (Hedw.) Brid. L1764.

*R. fasciculare* (Hedw.) Brid. (Porter 1935).

*R. sudeticum* (Funck) B. & S. S992a.

*Schistidium agassizii* Sull. & Lesq. H25543.

*S. apocarpum* (Hedw.) B. & S. H25544; L1729.

*S. ricular* (Brid.) Podp. H25583.

## Scouleriaceae

*Scouleria aquatica* Hook. L1753; H25582.

## Bryaceae

\**Bryum bicolor* Dicks. H25545.

*B. caespiticium* Hedw. S971.

*B. capillare* Hedw. S313.

*B. hisae* De Not. S337.

*B. pseudotriquetrum* (Hedw.) Gaertn., Meyer & Scherb. H25574, 25579; L1756.

*B. stenotrichum* C. Muell. S359.

*B. turbinatum* (Hedw.) Turn. L1777, 1782.

*B. uliginosum* (Brid.) B.S.G. M3799.

*B. weigbii* Spreng. S996b.

*Leptobryum pyriforme* (Hedw.) Wils. L1733, 1751; H25567.

*Pohlia andalusica* (Höhm.) Broth. Shaw 2704 (Shaw 1981).

*P. campotrachela* (Ren. & Card.) Broth. Shaw 2692 (Shaw 1981).

*P. cruda* (Hedw.) Lindb. L1737; H25568; S343.

*P. drummondii* (C. Muell.) Andr. Shaw 2695 (Shaw 1981).

*P. nutans* (Hedw.) Lindb. H25573; S980.

\**P. obtusifolia* (Brid.) L. Koch S989, 993a.

*P. prolixa* (Kindb. ex Limpr.) Lindb. ex Arnell Shaw 2702 (Shaw 1981).

*P. tundrae* J. Shaw Shaw 2709 (Shaw 1981).

*P. wahlenbergii* (Web. & Mohr.) Andr. H25564.

*Rochlia roellii* (Broth. ex Roell) Andr. ex Crum S329.

## Mniaceae

*Mnium arizonicum* Amann L1770.

*M. spinulosum* B.S.G. S980c.

*M. thomsonii* Schimp. S985a.

*Plagiomnium cuspidatum* (Hedw.) T. Kop. M3802.

*Rhizomnium magnifolium* (Horik.) T. Kop. H25562, 25580; S970.

*R. punctatum* (Hedw.) T. Kop. M3788.

## Aulacomniaceae

*Aulacomnium androgynum* (Hedw.) Schwaegr. (Porter 1935).

*A. palustre* (Hedw.) Schwaegr. S969.

## Bartramiaceae

*Bartramia ithyphylla* Brid. L1761.

*Philonotis fontana* (Hedw.) Brid. L1766; S999.

## Orthotrichaceae

*Amphidium lapponicum* (Hedw.) Schimp. Cain 4675, (UBC).

*Orthotrichum alpestre* Hornsch. ex B.S.G. L1757.

*O. cupulatum* Brid. (Porter 1935).

*O. lacvigatum* Zett. H25550, 25551; L1731, 1760, 1768.

*O. rupestre* Schleich. ex Schwaegr. L1767.

## Fontinalaceae

*Dichlypna falcatum* (Hedw.) Myr. S972.

*Fontinalis antipretica* Hedw. S976b.

*F. hypnoides* C.J. Hartm. M3787.

## Chimaciaceae

*Chimacium americanum* Brid. L1732.

*C. dendroides* (Hedw.) Web. & Mohr S314.

## Leskeaceae

*Lescuria incurvata* (Hedw.) Lawt. L1783.

*L. radicata* (Mitt.) Monk. H25558, 25764; L1744-8.

\**L. stenophylla* (Ren. & Card.) Kindb. Flowers 3833A (UBC).

## Amblystegiaceae

*Amblystegium serpens* (Hedw.) B.S.G. (Porter 1935).

\**Calliergon sarmentosum* (Wahlenb.) Kindb. S996.

*C. stramineum* (Brid.) Kindb. S981.

*Cratoneuron commutatum* (Hedw.) Roth L1778.

*C. filicinum* (Hedw.) Spruce H25563; S978.

*Drepanocladus aduncus* (Hedw.) Warnst. S978b.

*D. exannulatus* (B.S.G.) Warnst. S978a.

*D. uncinatus* (Hedw.) Warnst. H25552; L1726, 1754, 1762, 1781.

*Hygrohypnum bestii* (Ren. & Bryhn ex Ren.) Holz. L1769; S998.

*H. ochraceum* (Turn. ex Wils.) Loeske Cain 4547 (Jamieson 1976).

*Platydictya jungermannii* (Brid.) Crum H25572.

## Brachytheciaceae

*Brachythecium albicans* (Hedw.) B.S.G. H25546.

*B. erythrorhizon* B.S.G. (Porter 1935).

*B. fendleri* (Sull.) Jaeg. L1772, 1774.

*B. frigidum* (C. Muell.) Besch. H25578.

*B. ricular* B.S.G. (Porter, 1935).

*B. salebrosum* (Web. & Mohr) B.S.G. H25547.

- B. starkei* (Brid.) B.S.G. S982.  
*B. velutinum* (Hedw.) B.S.G. L1773.  
 \**Eurhynchium oregonum* (Sull.) Jaeg. M3797,3792.  
 Plagiotheciaceae  
*Isopterygium pulchellum* (Hedw.) Jaeg. (Ireland 1969).  
*Plagiothecium denticulatum* (Hedw.) B.S.G. H25565.  
 \**P. piliferum* (Sw. ex C. J. Hartm.) B.S.G. M3796.  
 Hypnaceae  
*Hypnum cupressiforme* Hedw. S183.  
*H. lindbergii* Mitt. L1727.  
*H. revolutum* (Mitt.) Lindb. H25557; S335,356.

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