

and Labr. (Nfld.); Ala., Del., Fla., Ga., La., Maine, Mass., Miss., Mo., N.J., N.Y., N.C., S.C., Tenn., Tex., Va.

The sporophytes of *Sphagnum carolinianum* are unknown. In its apparent restriction to the coastal plain, this species is most similar distributionally to such species as *S. macrophyllum*, *S. fitzgeraldii*, and *S. tenerum*. When forming carpets, *S. carolinianum* macrospically most resembles *S. atlanticum* but its branch leaves are not as elongate as those of the latter and its stem leaves have a much more obtuse apex. When growing aquatically, *S. carolinianum* can resemble *S. cribrosum*, but in the latter species the hanging branches are not different from the spreading branches and may even be lacking.

52. *Sphagnum contortum* Schultz, Prodr. Fl. Starg. Suppl., 64. 1819



Plants moderate to small-sized, weak-stemmed to spawling; green, yellow-green to golden brown; capitulum usually large and flat with curved branches; green, yellow-green, or golden brown. **Stems** pale green to light brown, rarely dark brown; superficial cortex of 2–3 layers of enlarged,

thin-walled cells. **Stem leaves** triangular-lingulate to lingulate, 0.7–1.4 mm; apex rounded-obtuse and weakly denticulate; hyaline cells nonseptate, mostly e fibrillose, and, if porose, with more pores per cell on the concave surface (3–6) than on the convex surface (0–2). **Branches** somewhat curved, leaves spreading. **Branch fascicles** with 2–3 spreading and 2–3(4) pendent branches. **Branch leaves** ovate to ovate-lanceolate, 1.2–2 mm; subsecund; hyaline cells with numerous tiny pores in a continuous line along the commissures on the convex surface, no or scattered pores on the concave surface. **Sexual condition** dioicous. **Capsule** exserted, with scattered pseudostomata. **Spores** 22–28 μm ; papillose on both surfaces; proximal laesurae more than 0.5 spore radius.

Very minerotrophic, sometimes found in slightly basic mires; intolerant of shade; low to moderate elevations; Alta., B.C., Nfld. and Labr. (Nfld.), N.S., Ont., Que.; Alaska, Calif., Colo., Conn., Idaho, Ill., Ind., Maine, Md., Mass., Mich., Minn., N.H., N.J., N.Y., N.C., Ohio, Oreg., Pa., R.I., Vt., Wash., W.Va., Wis.; Eurasia.

Sporophytes are rare in *Sphagnum contortum*. This species is often associated with *S. warnstorffii*, *S. centrale*, *Campylium stellatum*, and *Calliergonella cuspidata*. The relatively small size, curved capitulum branches, and loosely spreading, subsecund branch leaves separate this species along with *S. subsecundum*. See also discussion under 61. *S. platyphyllum*.

53. *Sphagnum cyclophyllum* Sullivant in A. Gray, Manual ed. 2, 611. 1856



Plants low, erect or procumbent, loosely tufted; green or more frequently yellowish, orangish brown-red, reddish brown or dark red; capitulum not developed. **Stems** brown to black; superficial cortex of 1 (–2) layers of enlarged, thin-walled cells. **Stem leaves** broadly ovate, 3.5–4 mm, apex

rounded and indistinctly toothed; hyaline cells on convex surface with 10–20 small (2.5–7.5 μm) round pores approximately $\frac{1}{6}$ the diameter of the hyaline cells along the commissures, cells on concave surface uniporose in distal end or aporose, sometimes one or a few pores are scattered over the surface of the cells. **Branches** few, single and short or more commonly none. **Branch fascicles**, if any, usually only 1 single branch. **Branch leaves** if any, are usually slightly smaller, 2–3 mm, but otherwise identical to the stem leaves. **Sexual condition** dioicous. **Capsule** immersed in perichaetial leaves, pseudopodium extremely short, without pseudostomata. **Spores** 25–40 μm ; coarsely papillose on both surfaces; proximal laesura more than 0.5 the length of the spore

In open grassy savannas, pine barrens, ditches, bare sand in places that are usually submerged for a portion of the year; low to moderate elevations; N.S.; Ala., Fla., Ga., La., Miss., N.J., N.C., S.C., Tenn., Tex., Va.; South America.

Sporophytes are quite rare in *Sphagnum cyclophyllum*, which grows associated with *S. pylaesii*, *S. perichaetiale*, *S. portoricense*, and *S. lescurii*. *Sphagnum pylaesii* is the only other North American *Sphagnum* that regularly grows unbranched. The latter species not only lacks the typical sect. *Subsecunda* branch leaf porosity of *S. cyclophyllum* but is also much more slender. *Sphagnum pylaesii* is also much more likely to occur submersed, where it occurs in branched forms, something *S. cyclophyllum* rarely does. See also discussion under 57. *S. microcarpum* and 61. *S. platyphyllum*.

54. *Sphagnum inexpectatum* Flatberg, Lindbergia 30: 59. 2005 [E]



Sphagnum subsecundum var. *andrusii* H. A. Crum; *S. subsecundum* var. *junsaiense* (Warnstorff) H. A. Crum

Plants moderate-sized, normally erect; yellowish to reddish brown, greenish in shaded forms; capitulum moderately distinct and rounded. **Stems** green to brown; superficial cortex of partly 1 and partly 2 layers of thin-walled enlarged cells. **Stem leaves** triangular-lingulate to

ovate-lingulate, 0.8–0.9 mm, apex rounded, straight; hyaline cells mostly non-septate, fibrillose in distal $\frac{1}{3}$ – $\frac{2}{3}$ of leaf, a few ringed pores at corners of cells and along commissures on convex surface, ringed pores along the commissures on the concave surface in greater numbers than on convex surface. **Branches** short, not turgid. **Branch fascicles** with 2–3 spreading and 1–2 pendent branches. **Branch leaves** broad-ovate to ovate-lanceolate, 0.9–2.1 mm, straight; hyaline cells with numerous ringed pores (10–20) along the commissures on the convex surface, a few pseudopores and ringed pores (less than 8 per cell) occur on the cell angles on the concave surface. **Sexual condition** dioicous. **Capsule** exserted, with few pseudostomata. **Spores** 36–39 μm ; coarsely papillose on both surfaces; proximal laesura less than or equal to 0.5 spore radius.

Ecology unclear, but growing in carpets in depressions, blanket mires; low to moderate elevations; B.C.; Alaska; Asia.

Sphagnum inexpectatum is frequently collected with *S. tenellum*, *S. pacificum*, *S. andersonianum*, and *S. rubellum* in weakly minerotrophic blanket mires. It is similar in size to *S. subsecundum*, with which its range completely overlaps. The latter species has many of the branch leaves subsecund while those of *S. inexpectatum* are straight. The stem leaves of *S. inexpectatum* are also conspicuously larger than those of *S. subsecundum*.

Microscopically *Sphagnum inexpectatum* has a stem cortex that has enlarged thin-walled cells that form 1–2 layers, whereas *S. subsecundum* has only one. The stem leaves of *S. inexpectatum* also have numerous commissural pores in the hyaline cells in the distal half of the concave surface, whereas *S. subsecundum* has only a few if any in this region and these are more free than commissural.

55. *Sphagnum inundatum* Russow, Arch. Naturk. Liv-Ehst- Kurlands, Ser. 2, Biol. Naturk. 10: 390. 1894



Sphagnum auriculatum var. *inundatum* (Russow) M. O. Hill;
S. novo-foundlandicum Warnstorff;
S. subsecundum var. *inundatum* (Russow) C. E. O. Jensen

Plants moderate-sized, green in the shade to variegated yellow or orange or both in open habitats; capitulum typically rounded.

Stems green to brownish or yellow; superficial cortex of 1 layer of enlarged, thin-walled cells. **Stem leaves** lingulate to triangular-lingulate, 0.9–1.2 mm, apex rounded, usually $\frac{1}{3}$ – $\frac{1}{2}$ of leaf fibrillose; hyaline cells usually fibrillose in distal $\frac{1}{3}$ – $\frac{1}{2}$ of leaf, on convex surface near apex with 1–3 pores per cell, on concave surface near apex 1–4 pores per cell. **Branches** arched but rarely curved and contorted. **Branch fascicles** with 2–3

spreading and 2–3 pendent branches. **Branch leaves** ovate, 1–1.5 mm, straight to slightly subsecund; hyaline cells of convex surface with numerous ringed pores along the commissures (12–22 per cell), 0–3 pores per cell on the concave surface. **Capsule** with few pseudostomata. **Spores** 30–37 μm ; finely papillose on both surfaces, indistinct raised Y-shaped sculpture on distal surface; proximal laesura 0.5 spore radius or less.

Weakly minerotrophic habitats such as the margins of ponds, marshes, and mires, in addition to seeps and dripping cliff faces; low to moderate elevations; B.C., N.B., Nfld. and Labr. (Nfld.), N.S., Que.; Alaska, Conn., Del., Ky., Maine, Mass., N.H., N.J., N.Y., N.C., Ohio, Pa., R.I., S.C., Vt., Va., W.Va.; Eurasia.

The sporophytes of *Sphagnum inundatum* are uncommon. The ovate, concave branch leaves that are occasionally subsecund give this species an appearance similar to that of *S. subsecundum*, from which it can usually be distinguished by its larger size. *Sphagnum lescurii* typically has distinctly larger stem leaves and capitulum branches that can be quite turgid and curved in open-grown forms.

The names *Sphagnum bavaricum* Warnstorff and *S. bushii* Warnstorff & Cardot have been applied to this taxon.

56. *Sphagnum lescurii* Sullivant in A. Gray, Manual ed. 2, 611. 1856



Sphagnum orlandense Warnstorff;
S. plicatum Warnstorff; *S. wieboldtii*
H. A. Crum

Plants moderate-sized to robust; upright, prostrate, or aquatic; green, pale yellow, golden brown, dark brown, tinged with red in exposed sites and purplish in aquatic forms; capitulum rounded and often strongly twisted. **Stems**

pale green to brown, darker in aquatic forms; superficial cortex of 1 layer of enlarged, thin-walled cells. **Stem leaves** lingulate to ovate-lingulate, 1.3–2 mm; apex truncate to rounded, usually denticulate; hyaline cells typically fibrillose for $\frac{1}{2}$ of leaf or more, often 1–2-septate, convex surface with 4–12 or more pores per cell along the commissures, concave surface with fewer pores. **Branches** usually curving, often large and tumid. **Branch fascicles** with 2 (rarely 3) spreading and 1–2 (–3) pendent branches. **Branch leaves** broadly ovate to ovate-lanceolate, 1.3–2.5 mm, greatly elongated in aquatic forms, straight or infrequently subsecund or subsquarrose; hyaline cells with 10–22 pores along the commissures on the convex surface, no or fewer pores per cell (1–8) on the concave surface. **Sexual condition** dioicous. **Capsule** exserted, with few pseudostomata. **Spores** 27–34 μm ; finely papillose on both surfaces, with

distinct raised Y-mark sculpture (indistinctly bifurcated Y-mark) on the distal surface; proximal laesura less than 0.5 spore radius.

Weakly minerotrophic in a broad range of wetlands, often of an aquatic or periodically dried character; low to moderate elevations; Nfld. and Labr. (Nfld.), N.S.; Ala., Ark., Conn., Del., D.C., Fla., Ga., Ill., Ind., Iowa, Ky., La., Maine, Md., Mass., Mich., Minn., Miss., Mo., N.H., N.J., N.Y., N.C., Ohio, Okla., Pa., R.I., S.C., Tenn., Tex., Vt., Va., Wis., W.Va.; Europe.

Sporophytes are uncommon in *Sphagnum lescurii*, which may be the most phenotypically variable of all the North American *Sphagnum* species, and quite probably deserves some taxonomic splitting. The tremendous phenotypic plasticity of this species, however, makes it quite difficult to sort out the genotypic component of variability, and thus most sphagnologists since Warnstorf have avoided the temptation of splitting and have instead treated this as one very variable species. This is the approach maintained in this treatment. We have also chosen not to use the earlier name *S. denticulatum* because its type is a phenotypic morphotype not clearly assignable to the current concept of either *S. auriculatum* or *S. lescurii* (K. I. Flatberg, pers. comm.). Some of the American material assignable to *S. lescurii* is quite likely the same as the European species *S. auriculatum*, but much of our material is certainly not the same. Until more definitive data are available, we have chosen to continue to use the name *S. lescurii*. The large stem leaf will generally distinguish this from similar species of sect. *Subsecunda*. See also discussion under 55. *S. inundatum* and 61. *S. platyphyllum*.

The names *Sphagnum alabamae* Warnstorf, *S. aquatile* Warnstorf, *S. obesum* (Wilson) Warnstorf, *S. rufescens* (Nees & Hornschuch) Warnstorf, and *S. turgidulum* Warnstorf also have been applied to this taxon.

57. *Sphagnum microcarpum* Warnstorf, Hedwigia 47: 94. 1907 [E] [F]



Sphagnum microcarpum var. *humile* Warnstorf

Plants small; green to light green, capitulum indistinct. **Stems** green to dark brown; superficial cortex of nearly undifferentiated. **Stem leaves** isophyllous, ovate to ovate-lanceolate, 2.2–2.8 mm; apex rounded; hyaline cells nonseptate,

convex surface with 6–12 pores per cell along commissures, concave surface aporose. **Branches** straight and short. **Branch fascicles** nearly all with 2 spreading branch only. **Branch leaves** ovate, 1.3–1.7 mm; hyaline

cells on convex surface with 8–18 elliptic pores more than 8 μm, concave surface aporose. **Sexual condition** unknown. **Capsule** not seen. **Spores** not seen.

Ruderal sites such as desiccation-prone depressions, ditches, tire tracks, and natural depressions among tussocks; low elevations; Fla., La., N.C.

Sporophytes are rare in *Sphagnum microcarpum*, which grows over bare soil in a manner similar to that of *S. cyclophyllum* and *S. fitzgeraldii*. It is now recognized as separate from *S. cyclophyllum*, with which it has been treated as synonymous in the past. Besides the microscopic differences, *S. microcarpum* has a compact upright growth form quite unlike that of typical *S. cyclophyllum*. *Sphagnum microcarpum* is nearly always branched whereas *S. cyclophyllum* is nearly always simplex.

The name *Sphagnum mobile* Warnstorf also has been applied to this taxon.

58. *Sphagnum oregonense* Andrus, Bryologist 110: 123, figs. 1–4. 2007 [E]



Plants small, green to light brown; capitulum moderately well defined. **Stems** green; superficial cortex of 1 layer of well-differentiated, enlarged and thin-walled cells. **Stem leaves** lingulate, 1–1.2 mm, apex entire to somewhat erose; hyaline cells non-septate; fibrillose and porose in

apical region. **Branches** slender with small spreading leaves. **Branch fascicles** with 2 spreading and 2 pendent branches. **Branch leaves** ovate-lanceolate, 1.4–1.6 mm, straight to slightly subsecund, weakly undulate, often recurved in capitulum branches; hyaline cells on convex surface with up to 5 small round faint pores per cell in the basal portion of the cell and free from the cell margins, concave surface aporose. **Sexual condition** unknown. **Capsule** not seen. **Spores** not seen.

Fens; high elevations; Oreg.

Sphagnum oregonense is currently known only from the type locality. Sporophytes of it are unknown. It is associated with other minerotrophic bryophytes such as *Meesia triquetra*, *Calliergon cordifolium*, and *Campylium polygamum*. This is a curious species that has an obvious close relationship with sect. *Cuspidata*. When wet it is similar in appearance to *S. subsecundum* but upon drying the slightly undulate and recurved branch leaves give it the characteristic appearance of this section. The branch leaf porosity is also more similar to that of species in sect. *Cuspidata* than that found in sect. *Subsecunda*.

59. *Sphagnum orientale* L. I. Savicz, Bot. Mater. Otd. Sporov. Rast. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 7: 206. 1951 [F]



Plants pale yellow-brown, grey-green, to dark brown. Stems green to brownish; superficial cortex of 1 and often irregularly 2 layers of inflated, thin-walled cells. Stem leaves triangular-lingulate to lingulate; 0.7–0.8 mm; apex rounded and often erose, hyaline cells nonseptate or sometimes 1-

septate, numerous small round pores more than 2 μm along the commissures and scattered across the cell on the convex surface, on the concave surface fewer similar-sized pores along the commissures. Branches short and slightly curved. Branch fascicles with 2 spreading and 2 pendent branches. Branch leaves ovate, 1.1–1.3 mm, distinctly curved to secund; hyaline cells covered with numerous (more than 30 per cell) tiny pores (ca. 1 μm) on convex surface along the commissures and across the cell surface, sometimes forming several linear rows of free pores, on concave surface with fewer pores round to oval and slightly larger (more than 2 μm) restricted to commissures. Sexual condition probably dioicous. Capsule not seen. Spores not seen.

Commonly in muskeg pond margins, low center polygons, wet meadows, and tundra pool margins, usually occurring in very wet or submerged habitats; low to moderate elevations; Nunavut, N.W.T.; Alaska; Asia.

The ecology of *Sphagnum orientale* is poorly known, due in part to taxonomic confusion with *S. perfoliatum* and in part to its very northern distribution. Like other species of sect. *Subsecunda*, however, it is clearly minerotrophic, probably weakly so. Associated vascular plants include *Carex aquatilis* Wahlenberg, *C. bigelowii* Torrey, *C. fuliginosa* Schkuhr, *C. rotundata* Wahlenberg, *Eriophorum vaginatum* Linnaeus, *Vaccinium oxycoccus* Linnaeus, and *Betula glandulosa* Michaux. Associated bryophytes include *Sphagnum aongstroemii*, *S. fimbriatum* subsp. *concinnum*, *S. jensenii*, *S. obtusum*, *S. rubellum*, *S. talbotianum*, *S. squarrosum*, and *Cinclidium subrotundatum*. Sporophytes are rare. Similar species with which it overlaps in range are *S. subsecundum*, *S. perfoliatum* and *S. inexpectatum*. Field separation from *S. subsecundum* and *S. inexpectatum* is difficult but the tiny branch leaf pores will separate it microscopically. *Sphagnum perfoliatum* is much larger and indeed looks much like some forms of *S. lescurii* or *S. auriculatum*, even to having curved, horn-like branches. *Sphagnum perfoliatum* is also typically quite richly colored and glossy in appearance.

60. *Sphagnum perfoliatum* L. I. Savicz, Bot. Mater. Otd. Sporov. Rast. Bot. Inst. Komarova Akad. Nauk S.S.S.R. 7: 208. 1951 [F]



Plants moderate-sized, upright but weak-stemmed; golden brown to dark brown; capitulum distinct and often with strongly curved branches. Stems brownish to dark brown; superficial cortex of 1 layer of enlarged, thin-walled cells. Stem leaves triangular-lingulate to lingulate; 0.8–1.2 mm; apex

rounded and sometimes erose; hyaline cells non-septate or sometimes septate, usually fibrillose in distal $\frac{1}{2}$ of leaf, convex surface with very small pores (ca. 2 μm) along commissures and free, concave surface with fewer commissural pores. Branches turgid and often strongly curved. Branch fascicles with 2 spreading and 2 pendent branches. Branch leaves ovate-lanceolate; 1.4 or more mm; mostly subsecund; hyaline cells on convex surface with numerous small (2 μm or more) pores along the commissures and sometimes free, concave surface with no pores or fewer small pores along the commissures. Sexual condition not known. Capsule not seen. Spores not seen.

Low to moderate elevations; N.W.T.; Alaska; Asia.

For ecology, see discussion under 59. *Sphagnum orientale*. Sporophytes of *Sphagnum perfoliatum* are apparently rare.

61. *Sphagnum platyphyllum* (Lindberg) Warnstorf, Flora 67: 481. 1884



Sphagnum laricinum var. *platyphyllum* Lindberg, Not. Sällsk. Faun. Fl. Fenn. Förh. 13: 403. 1874; *S. contortum* var. *platyphyllum* (Lindberg) Åberg, *S. grasslii* H. A. Crum; *S. subsecundum* var. *platyphyllum* (Braithwaite) Cardot

Plants small to moderate-sized, unbranched or sparsely branched; green, golden brown to brown, capitulum small with a large and conspicuous terminal bud. Stems green to brown; superficial cortex of 2–3 layers of enlarged, thin-walled cells. Stem leaves broadly ovate, 1.2–2.2 mm; straight; apex rounded; hyaline cells non-septate, convex surface with numerous small pores (less than or equal to $\frac{1}{6}$ cell diameter) forming a continuous row along the commissures, concave surface aporose or with a few scattered pores along the commissures and cell ends. Branches short and blunt, sometimes lacking completely and plants simplex. Branch fascicles of 1–3 branches, 1–2 of these spreading, branches

usually not numerous. **Branch leaves** broadly ovate, 1.4–2.5(–3) mm; straight; apex rounded; hyaline cells as in stem leaf. **Sexual condition** dioicous. **Capsule** exserted, with few pseudostomata. **Spores** 23–35 μm ; papillose on both surfaces, with indistinct Y-mark sculpture on distal surface; proximal laesura 0.5 spore radius or less.

Capsules mature late spring to early summer. Typically growing in minerotrophic habitats such as shores of lakes, ponds, streams, flarks of string mires, margins of open fens, especially seasonally flooded sites; low to high elevations; Greenland; Alta., B.C., Man., N.B., Nfld. and Labr. (Nfld.), Ont., Que., Yukon; Alaska, Ariz., Calif., Colo., Conn., Ind., Maine, Mass., Mich., Minn., Mont., N.H., N.J., N.Y., Ohio, Oreg., R.I., Vt., Wis., Wyo.; South America; Eurasia.

Sporophytes are uncommon in *Sphagnum platyphyllum*, which can be quite variable in size and the development of branch fascicles, with some forms even being simplex while other forms may have up to three branches per fascicle. The species can usually be recognized by the large stem leaves that are spreading and easily visible because of the scarcity of hanging branches. It should also be noted that in this species and *S. contortum* the 2–3-layered stem cortex is not an entirely consistent trait, as plants quite typical in all other respects are occasionally found with the cortex only 1-layered, at least in part.

62. *Sphagnum pylaiesii* Bridel, Bryol. Univ. 1: 749. 1827



Hemitheca pylaiei Bridel; *Sphagnum pylaiesii* var. *austinii* (Husnot) Warnstorf; *S. pylaiesii* var. *prostratum* (Bridel) Cardot; *S. pylaiesii* var. *ramosum* Warnstorf; *S. sedoides* Bridel; *S. sedoides* var. *austinii* Husnot; *S. sedoides* var. *prostratum* Bridel

Plants slender and delicate, aquatic or prostrate, with a conspicuous terminal bud; dark greenish to purplish brown in submerged plants to deep salmon-red in prostrate plants, capitulum quite indistinct but with distinct terminal bud. **Stems** pale green to brown; superficial cortex of 1–2 layers of thin-walled enlarged cells. **Stem leaves** broadly ovate, 1.5–2(2.5) mm; straight; hyaline cells fibrillose and nearly aporse, with single small pores occasionally found in the distal cell ends on the concave surface. **Branches** lacking or short and slender. **Branch fascicles** none or 1 spreading branch. **Branch leaves** when present similar to stem leaves but smaller, 0.8–1.2 mm, hyaline cells fibrillose and mostly aporse, 1–6 irregularly round-shaped membrane gaps in some cells near apex on convex surface. **Sexual condition** dioicous. **Capsule** usually immersed in perichaetia leaves, but may be slightly emergent,

pseudostomata absent from capsule surface. **Spores** 29–41 μm , coarsely papillose on both surfaces, indistinct raised sculpture on distal surface; proximal laesura less than 0.5 spore radius.

Weakly minerotrophic, wet rocks, poor fens; low to high elevations; Greenland; Nfld. and Labr. (Nfld.), N.S., Que.; Maine, Mass., N.H., N.J., N.Y., N.C.; Europe.

Sporophytes rare in *Sphagnum pylaiesii*. This species is distributed as a pioneer on wet rocks associated with *S. tenellum* and *S. papillosum*, or in poor fens with *S. pulchrum*, *S. majus*, and *S. papillosum*. See also discussion under 53. *S. cyclophyllum*.

63. *Sphagnum subsecundum* Nees in J. Sturm et al., *Deutschl. Fl.* 2(17): species 3. 1819



Sphagnum crispum R. E. Andrus

Plants small, slender, often wiry; green, yellow-brown or golden brown; capitulum small with terminal bud absent. **Stems** light brown to dark brown; superficial cortex of 1 layer of enlarged thin-walled cells. **Stem leaves** triangular-lingulate, 0.8 mm or less; apex entire or weakly denticulate, hyaline cells sometimes septate, eifibrillose and aporse except near apex. **Branches** often short and blunt. **Branch fascicles** with 2–3 spreading and 2–3 pendent branches. **Branch leaves** broadly ovate, subsecund, hyaline cells on convex surface with very numerous small pores (18–40 per cell) in a continuous row along the commissures, concave surface usually aporse. **Sexual condition** dioicous. **Capsule** exserted, with few pseudostomata. **Spores** 30–35 μm ; finely papillose on both surfaces, distinct bifurcated Y-mark sculpture on distal surface; proximal laesurae more than 0.5 spore radius.

Minerotrophic, near the edges of open, poor fens, less commonly found in open medium fens; low to high elevations; Greenland; Alta, B.C., Man., N.B., Nfld. and Labr. (Nfld.), N.W.T., N.S., Ont., Que., Yukon; Alaska, Calif., Colo., Conn., Idaho, Ill., Ind., Maine, Mass., Mich., Minn., Mont., N.H., N.J., N.Y., Ohio, Oreg., Pa., R.I., Vt., Wash., Wis., Wyo.; Eurasia.

Sporophytes are rare in *Sphagnum subsecundum*. This species is often associated with *S. angustifolium*, *S. centrale*, *S. fimbriatum*, *S. flexuosum*, *S. palustre*, and *S. teres*. The most widespread and common species of sect. *Subsecunda*, it exhibits considerable phenotypic plasticity in size. However, the stem leaves are always quite small in comparison to those of similar species. See also discussions under 52. *S. contortum* and 55. *S. inexpectatum*.