

Selaginella Beauv. SPIKE-MOSS

Selaginella bigelovii L. Underw., BIGELOW'S SPIKE-MOSS, BUSHY SPIKE-MOSS. Perennial herb, colonial, rhizomatous, fibrous-rooted (from rhizomes and leafless shoots), many-stemmed at base, cespitose and cushionlike to mat-forming, dichotomously branched, prostrate or decumbent to ascending with upturned tips, 3–10(–15) cm tall; shoots tough, bearing minute, overlapping, tan (dead) and green leaves (“microphylls”), aging gray later gray-black and curled when fully dehydrated and weathered, glabrous, dead shoots ± persistent until new growth; rhizomes horizontal, with tightly appressed, scalelike leaves; ± leafless shoots (rhizophores) growing downward, formed on upper side of rhizomes and below midpoint of aerial stems, 0.3–0.4 mm diameter, bearing roots at tip. **Stems:** slender, flexible, with very short internodes. **Leaves (microphylls):** helically alternate, simple, sessile, without stipules but with a minute, tongue-like appendage (ligule) on upper surface at axil; blade appressed and ascending, narrowly daggerlike, 1.4–3.9 × 0.3–0.5(–0.75) mm, with minute, 1-celled teeth on margins, narrowly acute to acuminate at tip with a stout bristle 0.2–0.3 mm long, ridged on upper surface and grooved on lower surface, 1-veined. **Strobilus (cone):** solitary (typically not seen in range), terminal, (0.4–)10–15 mm long, ± erect, with fertile leaves (“sporophylls”) opposite decussate forming 4 distinct vertical rows (4-ranked), each sporophyll unisexual (male, microsporophylls; female, megasporophylls), ovate-lanceolate to lanceolate, 1.5 × 0.7 mm, bristle-tipped, ± fleshy, each with 1 short-stalked sporangium and ligule at its base; microsporophylls present base to tip, megasporophylls occurring below midstrobilus often mixed with microsporophylls. **Microsporangium:** with many microspores, kidney-shaped to compressed-ovoid, ca. 0.45–0.6 × 0.4 mm, tannish, dehiscing transversely across top; microspore 0.05 mm diameter, orange; male gametophyte formed within spore wall and releasing many sperm. **Megasporangium:** with (3–)4 megaspores, ovoid-tetrahedral, 0.3–0.5 × 0.35–0.55 mm, yellowish, 3-ridged, dehiscing transversely across top; megaspore opening with 3-line split; female gametophyte formed within spore wall with sex organs (archegonia) on exposed tissue.

Native. Perennial herb potentially occurring in any nonsaline habitat, especially on thin soil or along edges of boulders, where it forms patches as a dense ground cover. New shoots of *Selaginella bigelovii* are produced following rains in late fall or winter and remain green until the soil dries out. With approaching drought the plants die back, but old shoots persist until they are weathered away or replaced by new growth. Any time of the year heavy rains can stimulate new growth, so it is possible to have two vegetative generations per year. Sporangium-bearing strobili, if produced, are formed during warm spring, but most observers never see these structures.

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