

Botrychium hesperium (Maxon & R.T. Clausen)

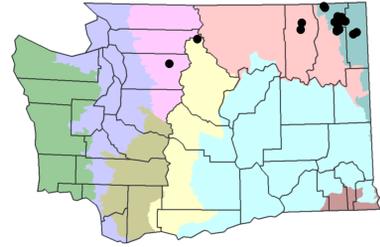
W.H. Wagner & Lellinger

western moonwort

Ophioglossaceae - adder's-tongue family

status: State Threatened, BLM sensitive, USFS sensitive

rank: G4 / S1



General Description: Perennial fern (5) 12-20 cm tall. Produces 1 branched stem per season, with a sterile leafy portion and a fertile spore-bearing branch that share a common stalk 3-13 cm long. Leaf blade oblong-linear to triangular, firm, dull grayish green, up to 6 x 5 cm, 1-2 pinnate; stalk of blade short to nearly absent, 0-3 (10) mm, up to about 1/4 the length of the blade. Pinnae in up to 6 pairs, ascending, usually close together or overlapping; basal pair oblong to oblong-lanceolate, elongate, much larger and more divided than adjacent pinnae, margins lobed to the tips. Remaining pinnae broadly spatula-shaped, margins entire or with 1 or more shallow lobes, venation pinnate, midrib present, tips rounded.

Reproductive Characteristics: Fertile branch 3-10 cm long, 2-3 times the length of the sterile branch, 1-3 pinnate, bearing clusters of globelike sporangia. Leaves appear in early spring and begin dying in early fall. In WA this species is fertile from late May to August.

Identification Tips: *B. hesperium* is not in Hitchcock & Cronquist (1973). *B. pedunculosum* is similar but distinguished by the long leaf stalk, which is about equal to the length of the blade, and ovate-rhombic to spatula-shaped basal pinnae, approximately equal in size to the adjacent pinnae. *B. pedunculosum* also has a reddish brown common stalk and may have extra sporangia on the lower pinnae.

Range: WA, OR, B.C., Alberta, Sask., south through the Rockies to AZ. Also in MI, MN, and Ontario.

Habitat/Ecology: Sagebrush shrubland, moist and dry meadows, forest edges; in dry, gravelly, or sandy loams. It may remain dormant during droughty years. Associates include lodgepole pine (*Pinus contorta*), Engelmann spruce (*Picea engelmannii*), strawberry (*Fragaria virginiana*), and other grapeferns (*Botrychium* spp.). Elevations in WA: 760-1920 m (2500-6300 ft).

Comments: This taxon is rare throughout its range. Cattle grazing in known sites should be delayed until after spore dispersal.

References: Douglas et al. 1998-2002, vol. 5; Flora of North America 1993+, vol. 2; Wagner & Wagner 1983.



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