

# ***Botrychium crenulatum*** W.H. Wagner

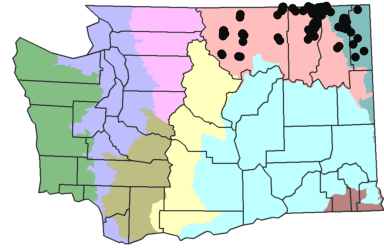
crenulate moonwort

Ophioglossaceae - adder's-tongue family

status: State Sensitive, Federal Species of Concern, BLM

sensitive, USFS sensitive

rank: G3 / S3



**General Description:** Adapted from Flora of North America (1993+) and Wagner & Wagner (1981): Perennial fern 6-16 cm tall. Produces 1 branched stem per season, with a sterile leafy portion and fertile spore-bearing branch sharing a common stalk. Leaf stalk of sterile blade 0.5-7 mm long; blade yellowish green, oblong, 1-pinnate, up to 6 x 2 cm, thin, herbaceous. Pinnae usually 3 pairs (up to 5 pairs), spreading, well separated, wedge-shaped, undivided to the tip; margins with small rounded to pointed teeth. Lower pinnae with 1 or more shallow incisions, rounded tips, fanlike venation, and absent midribs.

**Reproductive Characteristics:** Fertile branch 1-2 pinnate, 1-3 times the length of the sterile portion, erect, bearing clusters of globelike sporangia. Leaves appear in middle to late spring; plants are fertile June to September and dies in late summer.

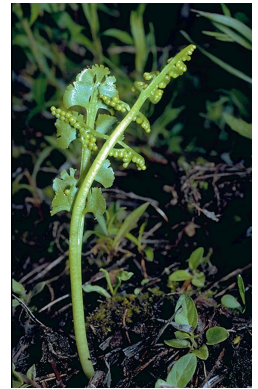
**Identification Tips:** This species is not in Hitchcock & Cronquist (1973). *Botrychium ascendens*, *B. minganense*, and *B. crenulatum* will all key to *B. lunaria* var. *onondagense*. *B. lunaria* is a thick, fleshy plant with a dark green blade and 4-9 pairs of mostly overlapping pinnae. *B. crenulatum* is smaller, thinner in texture, pale yellowish green, and has pinnae that do not overlap. *B. ascendens* has strongly ascending, wedge-shaped or triangular pinnae, with conspicuously toothed to torn margins. *B. minganense* has up to 10 pairs of nearly circular to fan-shaped pinnae, with margins nearly entire to shallowly round-lobed.

**Range:** Sporadic in western N.A. from AZ, CA, north to B.C. and Alberta.

**Habitat/Ecology:** Moist meadows, perennial or intermittent stream banks, seeps, and moist forest openings; generally in western redcedar (*Thuja plicata*), western hemlock (*Tsuga heterophylla*), and Englemann spruce (*Picea engelmannii*) forests with greater than 70% canopy cover. Elevations in WA: 620-1930 m (2030-6340 ft). *B. crenulatum* may tolerate low-intensity fires that occur after spore release in late summer or early fall.

**Comments:** Threats include timber harvest and road building. This species is rare throughout its range.

**References:** Flora of North America 1993+, vol. 2; Lellinger 1985; Wagner & Wagner 1981.



© Steve Wirt



© Ben Legler