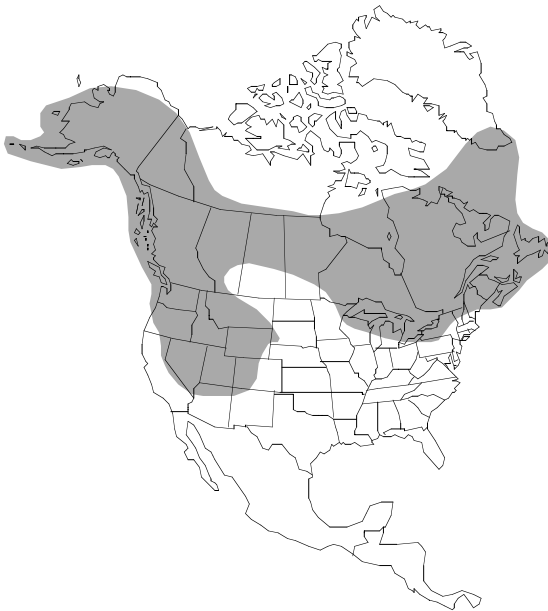
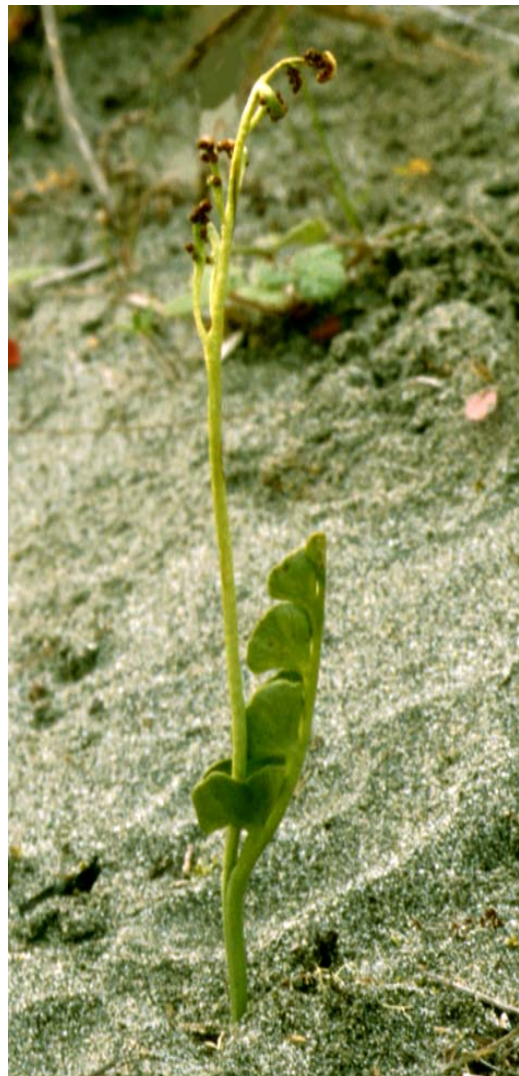


Botrychium lunaria

Family:	Ophioglossaceae
Genus:	<i>Botrychium</i>
Subgenus:	<i>Botrychium</i> (syn. <i>Eubotrychium</i>)
Species:	<i>Botrychium lunaria</i> (L.) Swartz
Common Name:	Common Moonwort
Ploidy:	Diploid



Published description: Trophophore stalk 0-1 mm; blade dark green, oblong, 1-pinnate, to 10 x 4 cm, thick, fleshy. Pinnae to 9 pairs, spreading, mostly overlapping except in shaded forest forms, distance between 1st and 2nd pinnae not or slightly more than between 2nd and 3rd pairs, basal pinna pair approximately equal in size and cutting to adjacent pair, broadly fan-shaped, undivided to tip, margins mainly entire or undulate, rarely dentate, apical lobe usually cuneate to spatulate, notched, approximate to adjacent lobes, apex rounded, venation like ribs of fan, midribs absent. Sporophores 1-2 pinnate, 0.8-2 times length of trophophore. $2n = 90$. (Wagner and Wagner 1993)



Identification

Botrychium lunaria is most easily differentiated from other moonworts by the breadth of its pinnae. Typically the basal pinnae span an arc of nearly 180 degrees and the third pinna pair has a span of approximately 90 degrees. The upper pinnae angle upward—the lower side margin creates a large angle (nearly 90°) with the rachis, the upper side margin is nearly parallel to the rachis. Although it is occasionally short stalked, the trophophore of *B. lunaria* is typically sessile, the stalk length seldom equaling or exceeding the distance between the first pinna pair as it usually does in *B. minganense*. Plants are green to dark green with a surface that is lustrous to dull, but never glaucous. The sporophore is long stalked, the stalk, at spore release, exceeding the length of the trophophore.

The only other species with basal pinnae as broad as *B. lunaria* are *B. crenulatum* and the newly described species in Alaska, *B. tunux* and *B. yaaxudakeit*. *Botrychium crenulatum* is a much more delicate plant with thin textured pinnae with finely crenulate or toothed margins. Its trophophore is typically short-stalked and all pinnae stand more or less at right angles to the rachis. *B. tunux* can be differentiated by its asymmetrical lower pinnae, stiffly spreading pinnae, and a sporophore stalk that is shorter or equal to the length of the trophophore. *B. yaaxudakeit* has stalked lower pinnae that span an arc greater than 180° and lower side margins that are distinctly recurved. Its upper pinnae also approach 180° in span and conspicuously overlap one another and their upper side margins overlap the rachis. *B. yaaxudakeit* is an allotetraploid with spores significantly larger (average 45 µm) than those of *B. lunaria* (average 36 µm).

Distribution

Botrychium lunaria is one of the most abundant and widely distributed of moonwort species. In North America, *B. lunaria* ranges from Pennsylvania north to Labrador and west across Minnesota and South Dakota to the high mountains of all southwestern states and across all Canadian provinces and Alaska. Through much of this range it is the most common moonwort in its habitat.

Habitat

Botrychium lunaria is cosmopolitan in its habitats. At high latitudes and high altitudes it is often a plant of open to lightly wooded meadows as well as sparsely vegetated scree slopes. At lower elevations and southern latitudes it occurs in mesic woodlands as well as meadows and sparsely vegetated sand dunes. It most commonly occurs on moist but well-drained soils with a neutral pH.

Additional photographs of *Botrychium lunaria*:

