

Maine Department of Conservation  
Natural Areas Program

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*Botrychium lunaria* (L.) Sw.

**Moonwort**

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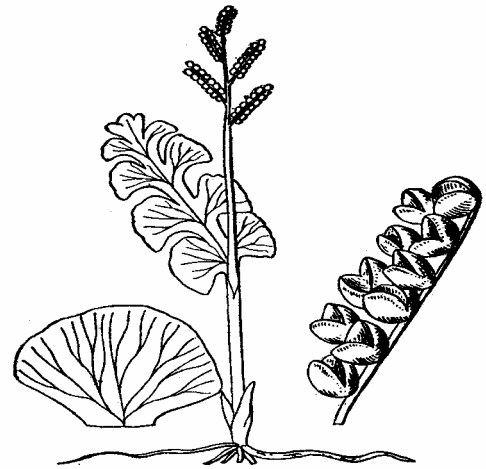
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**Habitat:** Open turf, gravelly or ledgy slopes, shores and meadows, chiefly calcareous. [Old field/roadside (non-forested, wetland or upland); Rocky coastal (non-forested, upland)]

**Range:** Greenland to Alaska, south to parts of the extreme northern United States.

**Phenology:** A fern (perennial): fertile segment and sporangia appear in July in Maine.

**Family:** Ophioglossaceae



**Aids to Identification:** Like most members of the genus *Botrychium* (Grape-ferns), *B. lunaria* is distinguished both by its succulent texture and by the fertile frond, which appears above the sterile frond and consists of a cluster of golden-brown globular sporangia (hence the name grape-fern). It differs from the other succulent *Botrychium* species in having the sterile blade only once-pinnate (divided), with the segments distinctly fan-like (lunate) in shape. The entire plant usually stands less than 8 cm high.

Illustration from Britton & Brown's *Illustrated Flora of the Northern United States and Canada*, 2nd ed.

**Ecological characteristics:** Moonwort is a circumboreal species which is sporadic through much of its range. Because it is so rare in New England, little is known about its ecological relationships here. It is a calciphile (growing in areas of higher available calcium) and seems to prefer moderate light rather than deep shade. At one known Maine station, the necessary calcium is apparently derived not from a limestone bedrock, but rather from the mussel and clam shells which have been deposited on the shore.

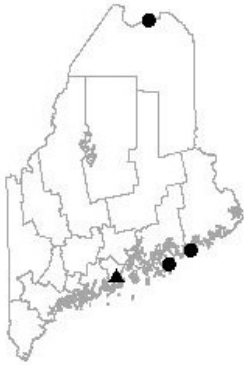
**Synonyms:** Formerly known as *Botrychium onondagense* Underwood; *Osmunda lunaria* L.

**Rarity of *Botrychium lunaria***

<b>State Rank:</b>	S1	Critically imperiled in Maine because of extreme rarity or vulnerability to extirpation.
<b>New England Rank:</b>	Division 2	Regionally rare plant: Fewer than 20 current (seen since 1970) occurrences within New England.
<b>Global Rank:</b>	G5	Demonstrably widespread, abundant, and secure globally.

## Status of *Botrychium lunaria*

<b>Federal Status:</b>	None	No Federal Status.
<b>State Status:</b>	Endangered	
<b>Proposed State Status:</b>	Endangered	Rare and in danger of being lost from the state in the foreseeable future; or federally listed as Endangered. Listing criteria met: Few individuals, At edge of range, Vulnerable to human activity



- ▲ Historical (before 1982)
- Recent (1982 - present)

### Known Distribution in Maine:

This rare plant has been documented from a total of 4 town(s) in the following county(ies): Aroostook, Hancock, Knox, Washington.

**Dates of documented observations are:** 1908, 1986, 1989, 1991

### Reason(s) for rarity:

At southern limit of range; rare throughout much of range.

### Conservation considerations:

Known populations are small, and subject to the vagaries of small populations like random fluctuations or localized disturbance events. At least one has not been recently relocated even with extensive searching in exactly the same spot.

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The information in this fact sheet was downloaded from the Natural Areas Program Biological and Conservation Database on 11 MAY 2004. We are grateful to our Botanical Advisory Group for additional information on particular species, and in particular, to Arthur Haines for his assistance with identifying characteristics and taxonomic questions. Nomenclature follows Haines and Vining's *Flora of Maine* (V.F. Thomas Press, 1998); where older works refer to a plant by another name, it is given under "Synonyms". The Natural Areas Program, within the Department of Conservation, maintains the most comprehensive source of information on Maine's rare or endangered plants and rare or exemplary natural communities, and is a member of the Association for Biodiversity Information.

If you know of locations for this plant or would like more information on this species, please contact the Natural Areas Program  
State House Station 93, Augusta, Maine 04333; telephone (207) 287-8044.

