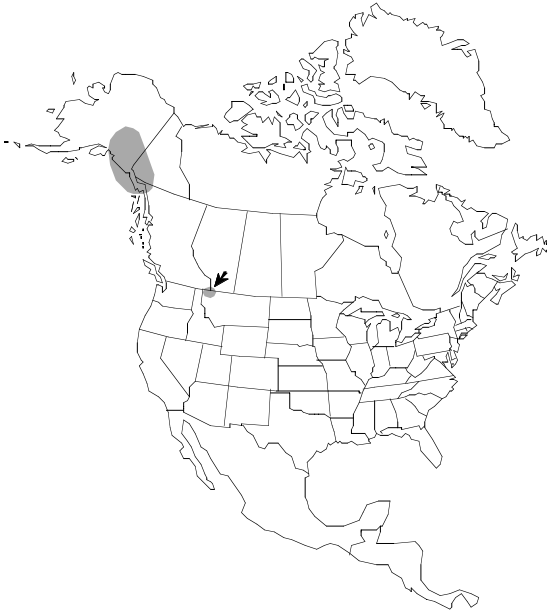


## ***Botrychium yaaxudakeit***

<b>Family:</b>	Ophioglossaceae
<b>Genus:</b>	<i>Botrychium</i>
<b>Subgenus:</b>	<i>Botrychium</i> (syn. <i>Eubotrychium</i> )
<b>Species:</b>	<i>Botrychium yaaxudakeit</i> Stensvold & Farrar
<b>Common Name:</b>	Giant Moonwort, Yakutat Moonwort
<b>Ploidy:</b>	Tetraploid



**Published description:** Rhizomes erect, unbranched, their apex 2–4 (ave. 5) cm below the soil surface, bearing 5–24 (ave. 13) fleshy roots; gemmae absent. Above-ground plants 8–25 (ave. 18) cm tall, with a common stalk 1–5 (ave. 2.5) cm long. Trophophores green, leathery; stalks 0–0.5 cm long; blades 1.75–11 (ave. 7) cm long, 1.25–6 (ave. 4) cm wide at the base, oblong to ovate, once pinnate. Pinna pairs 4–7, angled toward the apex, strongly overlapping one another, the anterior portion overlapping the rachis. Basal pinnae 7–30 (ave. 18) mm long, 9–32 (ave. 20) mm wide, short-stalked, fan-shaped, spanning an arc of 180° to 250°, usually symmetrical; basiscopic inner margin strongly recurved; outer pinna margins entire to undulate, occasionally denticulate or occasionally shallowly cleft with angular sinuses; veins dichotomous, 3–5 major veins entering the pinna base, 90–120 veins ending at the margins. Sporophores 8–18 (ave. 14) cm long; sporophore stalks 5–9 (ave. 7) cm long and longer at maturity than the length of the trophophore; sporangia-bearing portion erect, 1–2 pinnate, broadly lanceolate to narrowly ovate in outline, the branches 6–8, basal branches ascending and not twisted. Spores 43–48 (ave. 45)  $\mu\text{m}$  in longest diameter, released earlier or at

about the same time as those of *B. lunaria*. Apparently tetraploid. (Stensvold, Farrar and Johnson-Groh 2002)

## Identification

*Botrychium yaaxudakeit*, *B. lunaria* and *B. tunux* are the only northern moonwort species in which the span of the outer margin of the basal pinnae equals or exceeds 180°, i.e., a half-moon shape. *B. yaaxudakeit* most closely resembles *B. lunaria* and was formerly identified as that species. It differs from *B. lunaria* in its darker green, more lustrous and firmer textured trophophore, pinnae that overlap one another and the rachis, and basal pinnae that are usually stalked and have a strongly recurved lower side margin. Pinna veins are fewer and coarser than those of *B. lunaria*. These characters plus a sporophore stalk much longer at maturity than the length of the trophophore also distinguish *B. yaaxudakeit* from *B. tunux*. Questionable specimens can be distinguished from either species by their larger spores averaging 45 µm in longest diameter. Spores of *B. lunaria* average 36 µm and those of *B. tunux* average 40 µm.

## Distribution

*Botrychium yaaxudakeit* has been recorded from southeast Alaska, southwestern Yukon, northwestern British Columbia, and from Glacier National Park in northwestern Montana. Considering the disjunctive record in Montana, it seems likely that *B. yaaxudakeit* will ultimately be found elsewhere in the Canadian Rocky Mountains.

## Habitat

In its coastal habitats *B. yaaxudakeit* grows on beach sand deposits sparsely to densely vegetated by bryophytes and herbaceous plants. In inland locations it occurs in grassy riverine meadows and mountain talus slopes.

Additional photographs of *Botrychium yaaxudakeit*.

