



The University of Michigan

Department of Biology

830 N. University • Ann Arbor, Michigan 48109-1048

313-764-1440 • FAX 313-647-0884  
http://www.biology.lsa.umich.edu/

MOONWORT ALERT

Botrychium boreale found for the first time in North America

Long confused with the well known B. pinnatum St. John of northwestern North America, B. boreale Milde has been known in the past from Greenland and northern Eurasia, especially in Scandinavia. Much to our surprise, during our study of collections of moonworts we turned up two collections of this species in British Columbia. These are as follows:

15 mi. S. of Valemont (west of Jasper), 22 June 1985,  
52°50' 119°15' Gerald Straley s. n. (MICH)

Kootenay National Park. Route 90<sup>3</sup> at the juncture  
of Marble Canyon Road. 12 July, W. H. Wagner 80101  
(MICH) 1980

This is an amazing discovery and range extension. Moonworts, in their elusive way, have a habit of turning up this way, as apparently sporadic populations, but often, once recognized, field workers find that a given moonwort is more common and widespread than previously believed. (Remember the situation with B. pallidum which is now being found over an enormous range.) It often grows with B. lunaria.

Attached are some xeroxes to help you recognize this interesting moonwort. The characters can be compared as follows:

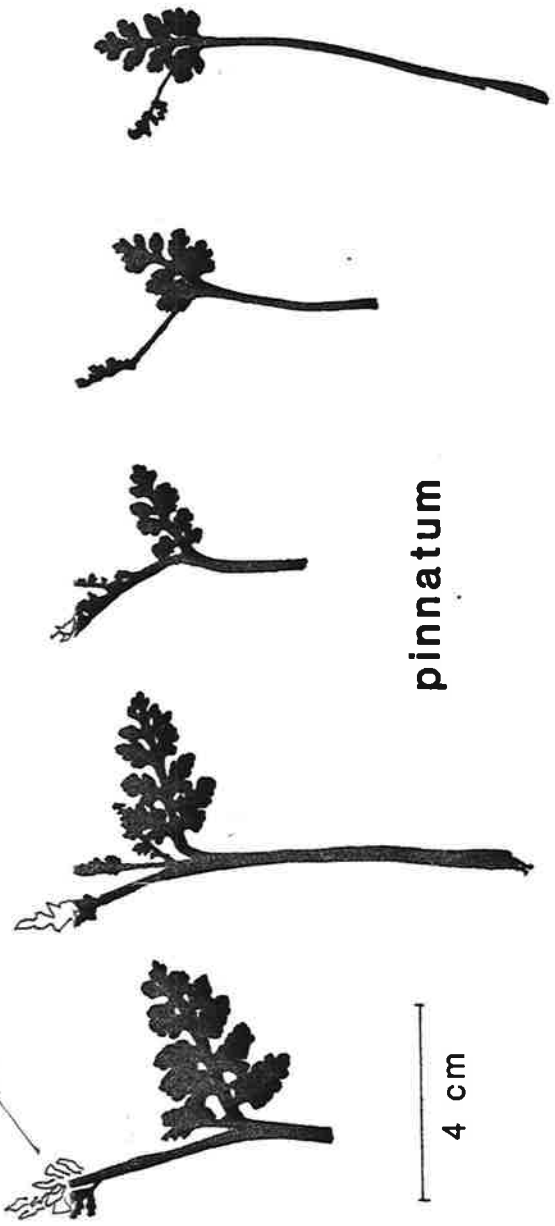
	<u>B. boreale</u>	<u>B. pinnatum</u>
SPOROPHORE	Somewhat shorter	Somewhat longer
TROPHOPHORE OUTLINE	Broadly to narrowly deltate	Narrowly deltate to oblong
TIPS AND LOBES	Shallow, angular, pointed	Deeper, rounded or truncate at tips.
APICAL LOBES	2-3 segments	4-5 segments
LATERAL LOBES ON BASAL PINNAE	1-2	2-3
SEGMENT ORIENTATION	Ascending	Only slightly above horizontal
PINNA MIDRIBS	Short, weakly developed	Longer, more strongly developed
GEOGRAPHY	Mainly north Old World	Entirely northern New World

You are urged to look through your collections for specimens of the true B. boreale, using the xeroxes and chart to facilitate their identification. Also, those of you who are in the field, be sure to watch for this species, especially in the north and southward at high altitudes. It is very commonly associated with B. lunaria and sometimes B. lanceolatum. There are many questions that we need to answer about this plant. For example, no one has ever counted its chromosomes. Is it a diploid? Does it have any habitat peculiarities?

With best regards,

Herb and Florence Wagner 1998

Cut off by vent



pinnatum

4 cm



boreale