

## Portraits of Boreal Mosses.

***Splachnum luteum* Hedw., Sp. Musc. Frond. 56. 1801.**

*Splachnum luteum* was described by Hedwig in his Species Muscorum in 1801. When fruiting it is one of the most spectacular mosses with its very long setae (stalk bearing the capsule) and bright yellow 'parasol' (apophysis) which develops on the neck of the capsule at the lower end of the spore-bearing urn.

The moss family Splachnaceae contains six genera: *Aplodon* R. Br. – 1 species in N. America but not in Alberta; *Moseniella* Broth. - known from Brazil; *Splachnum* Hedw. - 6 species in N. America, 5 in Alberta; *Tayloria* Hook. - 6 species in N. America, 5 in Alberta; *Tetraplodon* Bruch & Schimp. – 5 species in N. America, 3 in Alberta; *Voitia* Hornsch. – 2 species in N. America, 1 in Alberta. Most of the species are coprophilous, i.e., occur on animal dung. Spore dispersal is often by insects, attracted by volatile chemicals that presumably resemble the smell of rotting organic matter.

*Splachnum* species are entomophilous (spread by insects) and coprophilous (dung inhabiting), and boreal species are found growing mostly on herbivore dung (e.g., moose, caribou) but may also be found on carnivore dung (dog) and bear dung.

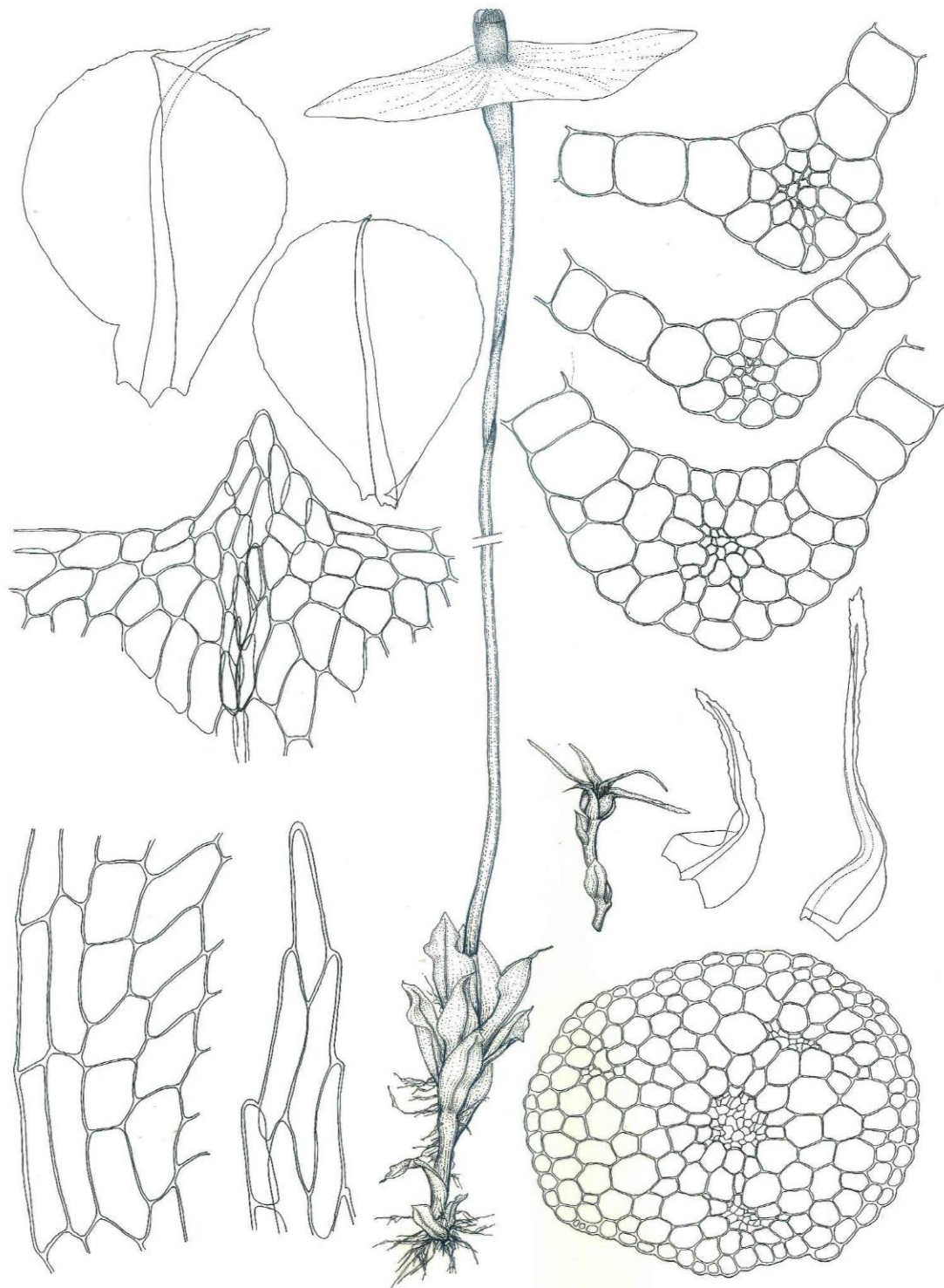
The following description and notes are modified from the Flora of North America Mosses 1.

The plants are 1.5--3.5 cm tall, soft, loosely clumped, pale or yellow-green, and form shiny tufts. The stems are usually brown tomentose (hairy) towards the base. Leaves are 5--6 mm long, oblong-obovate in shape, abruptly narrowed to a slender point (acumen); the margins bluntly serrate to subentire towards the tips, indistinctly bordered by longer cells; the costa disappears in the acumen just below the apex. The species is dioicous, with separate male and female plants that grow intermixed. The seta is from 2--15.5 cm in length, greenish yellow to orange-red. The capsule is smaller than the apophysis, the urn is orange-brown and 1--1.5 mm long. The highly characteristic and distinctive apophysis is bright yellow, discoid-umbrelliform, measuring 4.5--11 mm across. There are 16 lanceolate peristome teeth inserted just inside the capsule mouth, arising close together in pairs, orange-brown and reflexed when dry, inflexed when moist, densely and minutely papillose on the outer surface. Spores are 7--9 µm in diameter, rounded, smooth, yellow-green, sticky.

The bright yellow apophysis on its long seta is unmistakable. The apophysis is flattened and umbrelliform, unlike the more convex purple red umbrelliform apophysis of *S. rubrum*. Immature sporophytes are similar to the mature sporophytes of *S. sphaericum* or the immature sporophytes of the other North American species of *Splachnum*. The oblong-obovate leaves that narrow to a slender acumen and the bluntly serrate leaves help distinguish *Splachnum luteum*.

The species is not common but one of the most spectacular when seen.

*Splachnum luteum*.



Plant with mature capsule, leaves, leaf cells, sections of the costa, stem section; small male shoot with perigonal bracts.

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