SPECIES FACT SHEET

Common Name: Purple-vased stink moss, Small capsule dung moss
Scientific Name: *Splachnum ampullaceum*
Division: Bryophyta
Class: Bryopsida
Order: Funariales
Family: Splachnaceae

Technical Description Plants erect, 1-3 cm tall, usually in densely packed sods, with brown rhizoids on lower stems. Leaves pale green, contorted when dry, with long, slender tips and prominent teeth along the upper half of the margin. Setae 0.3-6 cm long, flexuose, red or violet. Capsules cylindric, 0.1 mm wide and 1 mm long, subtended by a much larger, reddish-brown to violet, vase-shaped or top-shaped body of swollen tissue (a hypophysis) to 3 mm wide and to 6 mm long. Capsules abundant and conspicuous when present. **Distinctive characters:** (1) Tiny capsules subtended by a much larger, vase or top-shaped, swollen and colorful mass of tissue, (2) growing on dung in peatlands. **Similar species:** None. Other species of *Splachnum* produce very different capsules and there are no look-alikes in other genera. Sterile leafy plants could be mistaken for a *Bryum* or one if its segregate genera, but these (1) lack conspicuous teeth on the leaves, have (2) bordered leaves and (3) pendant capsules without a hypophysis. **Other descriptions and illustrations:** Grout 1903: 188; Sayre 1935: 101; Nyholm 1956: 187; Lawton 1971: 157; Crum and Anderson 1981: 496; Crum 1983: 150; Noguchi 1988: 419; Christy & Wagner 1996: VII-70; Boas (no date).

Life History: *Splachnum ampullaceum* and other dung mosses depend on flies to disperse their sticky spores. They attract flies by exuding foul-smelling compounds from specialized and often conspicuously swollen or colored tissues immediately below the capsule, using visual as well as olfactory cues. The odor varies from dung to carrion. Because of the ephemeral substrate, *Splachnum* may disappear from a locality the following season. Capsules develop in the summer and fall.

Range, Distribution, and Abundance: Circumboreal. In the Pacific Northwest, reported from Alaska, British Columbia, Alberta, Washington, and Oregon.

National Forests: documented on the Fremont-Winema NF; suspected on all forests in the region. BLM Districts: none documented; suspected on the Eugene and Salem districts.

Cited by most sources as rare throughout its range. Probably undercollected but discontinuous in distribution.

Habitat Associations: Forming green sods on old dung of herbivores, or on soil enriched by dung, in peatlands or other wetlands. The sodden, decomposed dung will scarcely be visible, or may be completely humified. The two known sites for *Splachnum ampullaceum* in Oregon are at 5000 feet elevation, but Hutten et al. (2005) reported it from as low as 500 feet in Olympic National Park. Plants in Oregon occurred in fens dominated by *Eleocharis quinquefolia, Hamatocaulis vernicosus*, and *Pinus contorta* var. *latifolia*. *Splachnum ampullaceum* tends to outcompete *Tetraplodon mnioides* in wet habitats, indicating that wetlands are optimal habitat for this species (Studlar and Byers 2007).

Threats: Over the last century, fen habitats have been impacted by grazing, water diversion, water impoundment, drainage projects, road construction, commercial harvest of peat and sphagnum moss, and succession in the absence of fire. Changes in water regime, nutrient inputs, and succession lead to the disappearance of fen communities and species. Federal and state regulations prohibit building new roads in wetlands, but dust from nearby roads can alter pH in fens and smother small plants such as bryophytes. Livestock trample and destroy bryophyte cover. Commercial collecting of peat depletes bryophyte diversity in mires, although some species require periodic disturbance. Many peatlands are converting to forest in the absence of fire and few new peatlands are forming. Scientific collecting can also deplete populations of rare mosses such as *Splachnum*.

Conservation Considerations: Revisit all known localities to reconfirm presence of populations, and search for new populations. At known sites or in potential habitat, manage peatlands to maintain hydrology, peat formation processes, and fen species composition. If threatened by livestock, consider measures to protect wetland margins (fencing, seasonal rotations). Consider managing populations and sites for a year or two, with monitoring, to allow them to complete their life cycles and disperse spores to new habitats.

Conservation rankings: Global: G5; National: NNR. Oregon: S1, List 2; Washington: SNR; British Columbia: S3S5, Yellow List.

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Date Completed: August 2006. Revised May 2007 with edits from Rob Huff, Russ Holmes, and Daphne Stone.

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