

SPECIES FACT SHEET

Common Name: Norris's Didymodon

Scientific Name: *Didymodon norrisii* Zander

Recent synonyms: none

Division: Bryophyta

Class: Bryopsida

Order: Pottiales

Family: Pottiaceae

Taxonomic Note: In general the genus *Didymodon* is difficult to work with and can be confused with other more common species therefore it is important to obtain verification from an expert that is familiar with this species. This is a new species first described from California and Oregon in 1999.

Technical Description: Plants red-brown to brick red or rose red, sometimes blackish tight tufts. Stems 1–1.5 cm, with a central strand, lower leaves often denuded. Leaves appressed when dry, spreading but not keeled when wet; ovate to ovate lanceolate, ventral surface broadly concave, occasionally channeled near the apex, 1.2–1.5 mm; margins recurved in the lower 2/3–3/4, minutely crenulate by projecting cell walls; apex acute to short-acuminate, sometimes broken; costa thick, 6–10 cells wide above midleaf, percurrent, strong, often weakly spurred; ventral cells quadrate throughout; guide cells in 2 layers; dorsal laminal cells 9–13 mm wide, 1:1 (–2), often transversely elongate near proximal leaf margins, laminal papillae absent or hemispherical and several per cell, or appearing mammillose. Dioicous, seta 1–1.4 cm; capsule 1.5–2 mm; peristome apparently absent or rudimentary; spores 10–13 µm. Capsules mature in May. Asexual reproduction by fragile foliose stem tips. The dorsal laminal cells 2% KOH reaction is deep brick or rose red.

Distinctive characters: (1) the strong mammillose cells, (2) two layers of guide cells, (3) leaf base reflexed as a short collar.

Similar species: the above characters distinguish this species from other species of *Didymodon*.

Other descriptions and illustrations: Zander 1999; Zander 2007.

Life History: Specific details for this species are not documented. In general the protonema, spore germination and development are typical of all mosses. When first described by Zander (1999) sporophytes were unknown and it was assumed that the broken leaf tips served as a means of asexual reproduction. These asexual reproductive structures serve as a rapid way to distribute but they lack genetic out crossing that may be needed for long term survival.

Range, Distribution, and Abundance: Endemic to Western North America. Known only from California, Oregon and British Columbia. The occurrence in British Columbia suggests that this species could be found in drier areas of Washington State.

Oregon Natural Heritage Information Center reports it from Jackson County.

BLM: Documented on the Medford District BLM.

USFS: Suspected on the Rogue River-Siskiyou National Forest.

Rare, most likely under collected or because of taxonomic errors.

Habitat Associations: *Didymodon norrisii* occurs on rock, outcrops, calcareous and volcanic boulders, fields, and cliffs in runoff areas, in low to moderate elevations (200-1500 m). In California it has been found in open grassland above a stand of *Quercus douglasii* on volcanic rock outcrop, on rock outcrops and a rock slab; on a moist, sunny rock outcrop in open *Quercus* and chaparral forest; in open grassland, on volcanic rock slab and about small rocks and pebbles over sheet drainage. On the Mendocino National Forest it occurred on pillow basalt rock terrace in glade within serpentine grassland, overlooking a conifer and oak transition forest.

Threats: Trail and road construction where habitat is altered could provide a threat to populations. Fire may be a primary threat depending upon the intensity of the burn. Rock climbing on cliffs with known populations could also be a threat.

Conservation Considerations: Revisit known localities to determine the extent of the population and to find additional sites. This species is probably under collected or misidentified due to the difficult taxonomic nature of the genus.

Conservation Rankings and Status:

Global: G2G3; National: N2N3. Oregon: (S1); California (S2.2)

Oregon: ORNHIC List 3

Washington: Not ranked

BLM/USFS Strategic Species in Oregon

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(Revision only adds Attachment 1, Photos).

ATTACHMENTS:

(1) Photos

References:

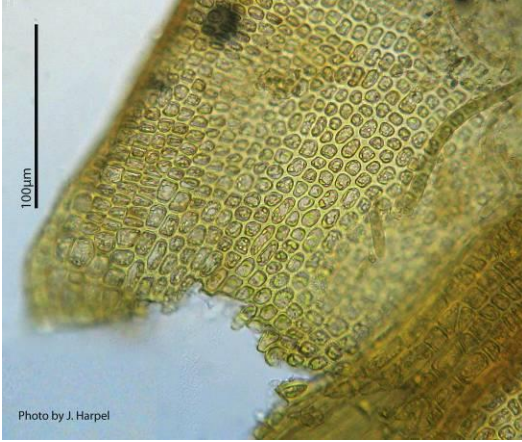
NatureServe Explorer. 2008. An Online Encyclopedia of Life.
<http://www.natureserve.org/explorer/>

Zander, R. H. 2007. Didymodon. In Flora of North America North of Mexico. Bryophyta Vol. 27 Part 1: 539-561. Oxford Univ. Press. Oxford.

Zander, R. H. 1999. A New Species of Didymodon (Bryopsida) from Western North America and a Regional Key to the Taxa. The Bryologist 107(1): 112-115.

Attachment 1 – Photos

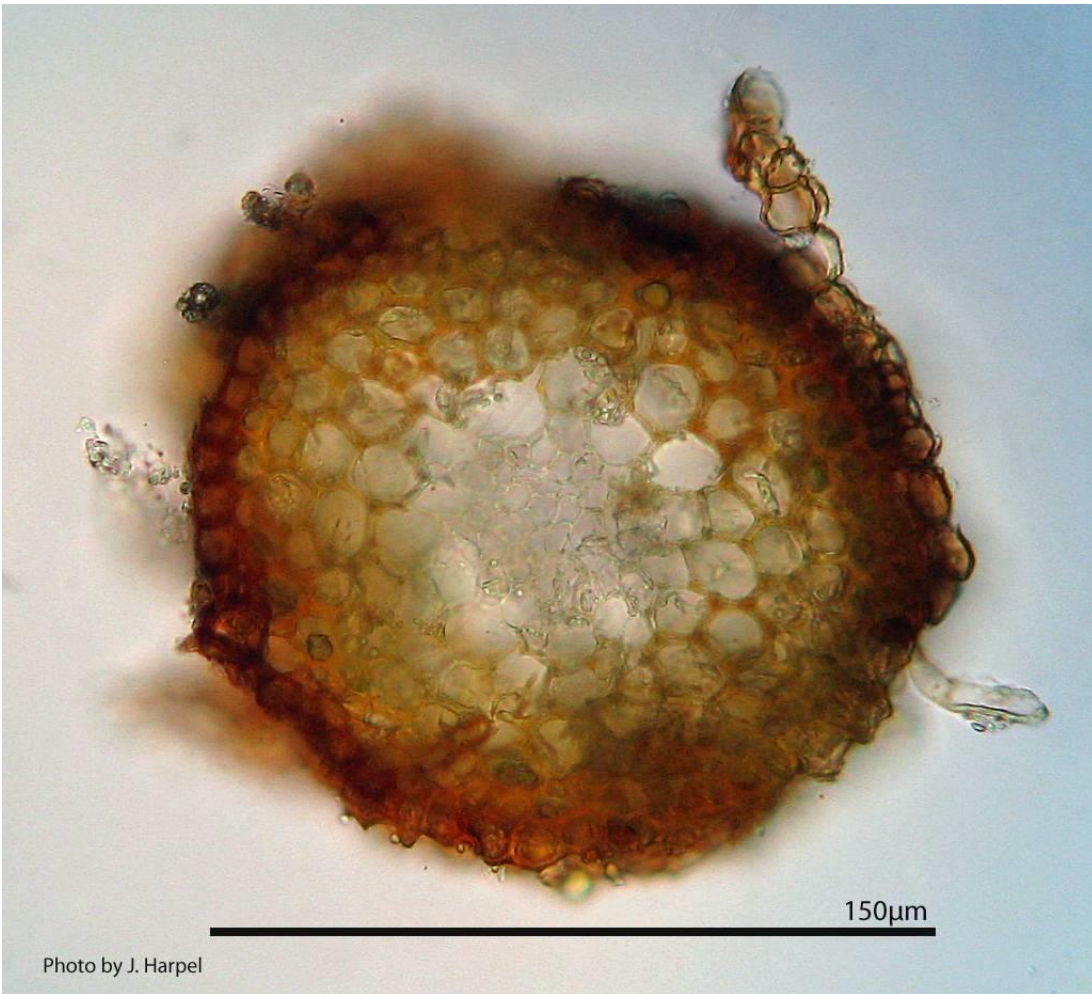
All photos by J. Harpel, under contract with the Oregon/Washington Bureau of Land Management.



Alar and basal cells



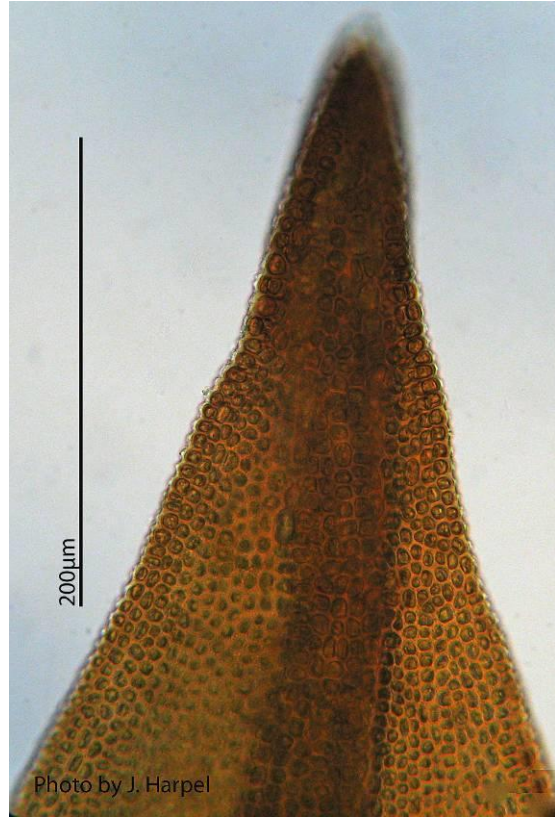
Upper medial cells



Stem cross section



Leaf



Leaf apex



Leaf cross section



Whole mount dry



Whole mount wet