

## SPECIES FACT SHEET

**Common Name:** Giant brownwort; arch notchwort (Edwards 2003)

**Scientific Name:** *Tritomaria quinquedentata* (Huds.) Buch

Division: Marchantiophyta (incorrectly called Hepatophyta in U.S. government taxon databases (e.g., ITIS 2008); see Stotler and Crandall-Stotler 2008)

Class: Jungermanniopsida

Order: Jungermanniales

Family: Jungermanniaceae

**Technical Description:** "Relatively large, to 3 mm wide, green-yellowish brown. Leaves imbricate, of almost equal size, obliquely inserted, spreading but always somewhat secund towards the dorsal face, when dry crisped, asymmetrical, 3-lobed to 1/5, lobes ovoid triangular, pointed, point of varying length, ventral lobe larger than the two dorsal ones, mostly concave and frequently obtuse, the two dorsal lobes more longly pointed, incisions wide and rounded, sometimes narrow and acute angled. Marginal cells 15–20  $\mu\text{m}$ , in the center of the leaf 20–25  $\mu\text{m}$ , walls thin and trigones frequently large. Oil-bodies 6–15 per cell, spherical-oval, 4 X 4 to 6 X 9  $\mu\text{m}$ , granular. Underleaves absent." Arnell 1981.

**Distinctive Characters:** The field clues are the relatively large size coupled with the markedly asymmetric, 3-lobed leaf.

**Similar species:** This plant could be taken for a species of *Barbilophozia* but it has neither cilia on the ventral base of the leaves nor the underleaves that characterize *Barbilophozia*. *Tritomaria* is generally has asymmetrical leaves characterized by unequal lobes, the dorsal lobe usually being distinctly smaller than the other lobe(s). From other species in the genus, it is distinguished by its robust size and having leaves wider than long.

**Life History:** This species is perennial, visible whenever the substrate is exposed. Plants are best identifiable when fertile, at the end of the growing season. Studies of life history traits in this particular species have not been located. Plants like this species, growing at high elevations where snow lies late, generally above 5000'/1500 m, may have a short growing season that coincides with late summer and fall.

**Range, Distribution, and Abundance:** Circumboreal at high latitudes; known in Oregon only from a single site; Saddle Mountain in Clatsop County (Schofield and Godfrey 1979). More common in the Olympic and Cascade Mountains of Washington State on up to the high arctic. There are documented sites in King, Okanogan, Snohomish, and Whatcom Counties in Washington (Fredericks and Dewey 2005c).

BLM: Not documented or suspected.

USFS: Documented in the Mt. Baker-Snoqualmie, Okanogan, and Olympic National Forests in Washington State (Fredericks and Dewey 2005) Based on dot on map, apparently also found on the Gifford Pinchot National Forest in Washington (Hong 1994) but supporting vouchers have not been located (Fredericks and Dewey 2005). Suspected on the Wenatchee National forest in Washington, and in the Mt. Hood, Siuslaw, and Wallowa-Whitman National Forests in Oregon.

**Habitat Associations:** Restricted to organic substrates where perpetually shady, cool, and moist. According to Hong (1994), "The species occurs on wet humus over boulders, shaded cliffs, soil over exposed rock surfaces, decaying branches at the fringes of spray zones, and among heather on slopes." Other liverworts are listed as associates, no specific vascular plants are reported to characterize its habitats.

**Threats:** Any activity, such as trail building or quarrying, which disturbs the cliffs or soil in moist areas could damage populations. Likely habitat for this species is largely confined to wilderness areas so such threat seems minimal.

**Conservation Considerations:** See Conservation Assessment (Fredericks and Dewey 2005c).

**Conservation Rankings and Status:**

Global: G5; Oregon: S1

ORNHIC List 2

Washington: Not ranked

USFS Strategic Species in Oregon

**Other pertinent information:**

**Surveys and Survey Protocol:** Search likely habitat in high mountains.

**Key to Identification of the Species:** Christy and Wagner 1996; Doyle and Stotler 2006.

**Preparer:** David H. Wagner

**Edited by:** Rob Huff

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