Dermatocarpon meiophyllizum Vainio in the US Pacific Northwest.

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Abstract. The aquatic lichen, Dermatocarpon meiophyllizum, is reported new to Oregon and Washington. The lichen was previously collected in these states but was mistaken for D. luridum. Differentiating characters, new sites, and confirmed historical sites, primarily in northern California, Oregon, Washington, are presented.

The genus Dermatocarpon Eschw. is comprised of foliose, gray- to brown-colored, peritheciate lichens (Heidmarsson 2000). They are most often found in wet habitats such as stream channels, seeps, and lake-margins. Many members of this genus have a global temperate to arctic distribution (Heidmarsson 2000, Purvis et al. 1992; Harada 1993) and ten species are known to occur in North America (Esslinger 1997). Seven of the North American species occur in the Pacific Northwest (McCune & Geiser 1997), and one species, Dermatocarpon luridum (With.) J. R. Laundon, suspected to be both rare and associated primarily with old-growth forests, was listed for management in the Survey and Manage program of the Northwest Forest Plan (US Dept. of Agriculture & US Dept. of the Interior 2003).

While surveying the Pacific Northwest to better characterize the status and habitat requirements of D. luridum for management purposes, we discovered D. meiophyllizum Vainio, a lichen that has been only been recently recognized in North America. Dermatocarpon meiophyllizum has been collected sporadically in North America in the past few decades, but based on morphological uncertainties within the genus and information available at the time, the specimens were mis-identified as other Dermatocarpon species. Heidmarsson corrected the identity of some of these specimens in the late 1990's. Prior to our study, there were only nine verified D. meiophyllizum locations in the United States. Of these records, only one of them is in the Northwest Forest Plan area of northern California (Klamath National Forest, Ryan 25237b [ASU]), and there are two other records from California's Sierra Nevada Mountain Range (Ryan 24666b; Ryan 12611-a [ASU]). The remaining six records are from four localities in Minnesota, and one in Colorado (see ‘Representative specimens’).

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Outside the recently discovered localities of *D. meiophyllizum* in North America, this lichen is well known in Scandinavia, Central Europe, and the British Isles (Heidmarsson 2000).

During the summers of 2002 and 2003, we surveyed 12 previously reported sites of *D. luridum* and 230 randomly-selected stream sites, all in the area of the Northwest Forest Plan (US Dept. of Agriculture & US Dept. of the Interior 2003), i.e., Washington, Oregon, and California north of San Francisco, from the Pacific Ocean through the Coastal and Siskiyou Ranges up to the crest of the Cascades. Heidmarsson kindly verified our 2002 field collections, and we identified the 2003 field collections using vouchers from the 2002 field season and the taxonomic concepts of Heidmarsson (2000). All new collections of aquatic *Dermatocarpon* from previously reported sites of *D. luridum* and from the randomly selected sites were *D. meiophyllizum*. Therefore, it is likely that *D. meiophyllizum* has been mistaken for *D. luridum* in the Pacific Northwest.

Confusion regarding the identification of *Dermatocarpon* species is not surprising; Heidmarsson (2000) only recently tackled the taxonomic uncertainties of this genus. A few basic characters are now known to clearly distinguish *D. luridum* from *D. meiophyllizum* (Heidmarsson 2000). *Dermatocarpon luridum* is easily recognized by its many-lobed thallus, the presence of multiple holdfasts, and a red medullary reaction to Melzer's reagent. In contrast, *Dermatocarpon meiophyllizum* has a small, umbilicate thallus and a negative medullary Melzer's reagent reaction. In natural aquatic habitats of Pacific Northwest forests, we have observed that *D. meiophyllizum* frequently grows in tight clusters consisting of many small thalli and can therefore appear, at first, to be the multi-lobed *D. luridum*. Upon closer inspection, however, these colonies are comprised of small, individual, umbilicate thalli.

**Representative specimens**

Vouchers for the following records are located in the Oregon State University Herbarium (OSC) unless otherwise noted.


**Acknowledgements.** Special thanks to Starri Heidmarsson for specimen verification and to members of the field crew: Erin Brown, Christine Carlson, Ben Gillock, Lane Kahan, Lori Miles, Miko Nadel, and Lorena Wisenhart for carefully made observations and collections under difficult working conditions. We also thank USDA-Forest Service Aquatic
Resources Environmental Monitoring Program for invaluable logistical, technical, and field support, and Clifford Wetmore and Tom Nash III for herbarium information. The USDA Forest Service Survey and Manage Program funded this project.

Literature Cited

Esslinger, T. L. 1997. A cumulative checklist for the lichen-forming, lichenicolous and allied fungi of the continental United States and Canada. North Dakota State University:
http://www.ndsu.nodak.edu/instruct/esslinge/chcklst/chcklst7.htm
(First Posted 1 December 1997, Most Recent Update 17 July 2002), Fargo, North Dakota.


https://doi.org/10.5962/p.346599.

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