



Using the microscope to help get that I.D.

Distinguishing two *Psathyrella* Species

by Sue Lancelle

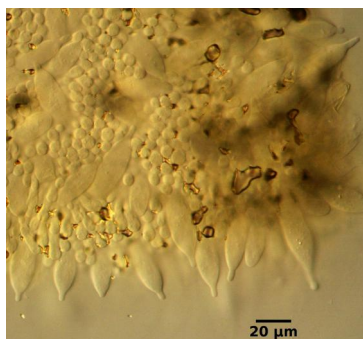
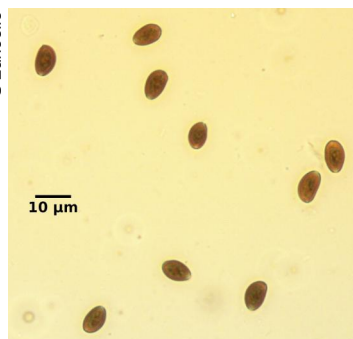
In Jessica's article about using DNA sequencing as an important tool to "get another piece of the puzzle," we saw how using macroscopic characteristics alone is often not adequate to get to a species determination. Yet another tool we can use is the microscope. Here is an example of how using the microscope can sometimes quickly help with a species determination.

There are two wrinkly species of *Psathyrella* in our area that look alike to the eye, *P. delineata* and *P. rugocephala*. Both have very wrinkled, somewhat sticky caps with veil remnants around the margin. They are wood rotters. To tell them apart, you must look in the microscope. *P. rugocephala* has warty spores that are 9-11 x 6-8 μm , while *P. delineata* has smooth spores that are smaller, in the range of 6.5-9 x 4.5-5.5 μm . I used this distinction recently to determine that the specimens I had found were indeed *P. delineata*. The spores were elliptical, smooth, and measured 7.4-8.5 x 4.5-5.3 μm , right in the range of this species. Also, as reported for this species, the cystidia (specialized cells lining the gills) were mucronate (with sharp tips). Unless DNA sequencing eventually shows otherwise, I am satisfied with my determination of *Psathyrella delineata* for this specimen.

S Lancelle



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Smooth smaller spores and mucronate cystidia point to *P. delineata*