



LICHENS, BIOFILMS, AND STONE

August 16 – August 22, 2015

Maine's Hancock and Sullivan Counties, with their rocky shorelines and inland hills, are rich with lichen species and biofilms. Some are hosted by buildings and structures made with granite from local quarries and by imported grave markers of granite, marble, slate, and sandstone from other New England states and foreign countries. In this seminar, we will study the physical, chemical, ecological, and aesthetic relationships between lichens, biofilms, and stone.

Lichen growth is influenced by a stone's mineralogy and condition, and by the microclimates created by plant cover, open-air exposure, proximity to water, stone orientation, and surface topography. Biofilms also show diversity with their presence on different stone types and in different environments. We will discuss the interactions between lichens and biofilms and the extent to which they protect or harm stone surfaces.

We will present lectures on basic lichen morphology and species identification; biofilm morphology; the role of lichens and biofilms in the environment; basic geology; the history of stone quarrying, finishing, and construction; and the history and contemporary practices of preservation "treatments" for stone. Field trips are planned for forest and shore environments, a granite quarry, a gravel pit, and several cemeteries. We will examine and identify lichens, biofilms, and stones in the field and in the laboratory. We will also examine the impact of surface manipulation of stone and their effect on the growth of lichens and biofilms. As a class project, participants will compile a checklist of the lichen species found during the field trips.

We expect participants to represent a wide variety of disciplines and avocations; the pursuit of individual interests will be encouraged. While prior knowledge of lichens, biofilms, or stone will be useful for this seminar, it is not necessary.

about the instructors

Judy Jacob (judyjacob@gmail.com) is a Senior Conservator with the National Park Service, Northeast Region, in the New York City Field Office. She works primarily on stone monuments and masonry buildings: evaluating conditions, preparing preservation plans, and executing stabilization and repair treatments. She is currently working on a study examining biofilms and white marble.

Michaela Schmull, (mschmull@oeb.harvard.edu) PhD., is a lichenologist and the Research and Curatorial Associate at the Farlow Herbarium, Harvard University. Her research interests include lichen ecology, biodiversity, and systematics. She has taught classes in plant microscopy, plant identification, and lichens and air pollution.

