



2015

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Recommended Citation

Valeruz, H., Hersh, M., Friedlander, I., Bernstein, C., Kahn, B., & Feldman, H. R. (2015). Endophyte growth on two species of conifers on the Shawangunk Ridge, mid-Hudson Valley, New York. *Geological Society of America Abstracts with Programs*, 47(7), 726.

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2015 GSA Annual Meeting in Baltimore, Maryland, USA (1-4 November 2015)

Paper No. 288-26

Presentation Time: 9:00 AM-6:30 PM

ENDOPHYTE GROWTH ON TWO SPECIES OF CONIFERS ON THE SHAWANGUNK RIDGE, MID-HUDSON VALLEY, NEW YORK

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The Middle Silurian Shawangunk Formation is underlain by the Upper Ordovician Martinsburg Formation in the mid-Hudson Valley. The Shawangunk Ridge is composed of a very resistant quartz pebble conglomerate whereas the Martinsburg consists of less resistant shales and graywackes. Endophytes are fungi growing asymptotically in plant tissues that are thought to act as a support system for the plant, protecting against desiccation and pathogens. We compared the diversity of endophytes colonizing two species of conifers, *Pinus strobus* and *Tsuga canadensis*, on two different substrates, conglomerate and shale. We hypothesized that there would be a marked difference in diversity between the two substrates, resulting in different microenvironments for the endophytes, since differences in diversity between species would occur if endophytes are host specific. We collected 7 individuals of each of the two conifer species along with pH readings of the soil at the base of the trees. Readings were taken at several sites on the Ridge last spring (2015). The needles of the specimens collected were surfaced sterilized and plated within 48 hours, then grown for 8 weeks on an agar plate. There was no difference in pH between the two substrates. To date, we have grown over 90 morphotypes of endophytes, including fungi from the genera *Cladosporium*, *Chaetomium*, *Alternaria*, *Lophodermium*, and *Phoma*. We expect to continue this project as we investigate endophyte growth on other genera such as *Quercus*, *Hamamelis* and *Acer*.

Session No. 288--Booth# 26

[Environmental Geoscience \(Posters\)](#)

Wednesday, 4 November 2015: 9:00 AM-6:30 PM

Exhibit Hall (Baltimore Convention Center)

Geological Society of America *Abstracts with Programs*. Vol. 47, No. 7, p.726

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