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ABSTRACTS – Posters

Endosymbiotic bacteria of the causative agent of white nose syndrome (*Pseudogymnoascus destructans*) of bats

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Since its initial isolation in 2008, *Pseudogymnoascus destructans* has been identified as the causative agent of the disease known as White Nose Syndrome. This emerging fungal pathogen has resulted in a drastic decline in many North American bat populations. Extensive research has focused on methods to ameliorate disease-based declines due to the necessary ecological role that bats play in pollination and pest control throughout the country. We have a current understanding of *P. destructans*' interactions with the host and environment, and recent work has shown a correlation between the bat microbiome and susceptibility to infection. Endosymbiotic bacteria are found in most major lineages of plant-associated fungi and have a biological/ecological influence on host phenotypic expression. This study screened for endosymbiotic bacteria within fungal cells of *P. destructans* since these symbionts may play a role in fungal pathogenicity. We isolated *P. destructans* from 28 bat individuals and have detected bacterial DNA in three isolates of *P. destructans*. We generated full length bacterial 16S rRNA sequences for two of three samples that identify as the genus *Nocardia* (Actinobacteria). Future work will use both imaging and high-throughput DNA sequencing to characterize the tentative endosymbiotic bacteria. Bacterial symbionts have thus far only been observed in endophytic fungi of plants, therefore, detection of endosymbiotic bacteria in *P. destructans* is the first wildlife pathogen to show this biological relationship.