



Researcher Profile

A RESEARCHER WHO'S A 'FUNGI' AT HEART!

A research scientist in the Forest Pest Risk Management program at NRCan's Pacific Forestry Centre (PFC) in Victoria, **Joey Tanney** gets to think about fungi all day long—and that's a good thing! Growing up, Tanney spent much of his youth in Ontario where his interest in natural history kept him busy exploring nearby ravines and forests. A dog-eared field guide to insects, and an interest in plants eventually led him into a career in forest pathology.



Joey Tanney in the Pacific Forestry Centre's Forest Pathology Herbarium

But it wasn't a given Tanney would succeed. Three years into his undergrad forestry program at Lakehead University in Thunder Bay, he struggled with grades and motivation. It wasn't until he was required to take a forest pathology course that "a passionate professor" ignited his academic fire. "I was immediately drawn into mycology," said Tanney, "it was like my compass finally stopped spinning and I found my bearing." He began to see the world in a whole new light. "It astonished me to think that in all my time spent in the forest, I never saw a fungus," he exclaimed, "I simply didn't have the awareness or knowledge to notice them!" Since then, his passion for the field continued to grow.

From an undergraduate degree in forestry, Tanney continued at Lakehead to a Masters in Science and followed that up with a Ph.D. from Carleton University in Ottawa. His thesis research was conducted at the Ottawa Research and Development Centre on the Central Experimental Farm, an agriculture facility of the Research Branch of Agriculture and Agri-Food Canada. "Being from Eastern Canada, I knew the profound impact that alien invasive species had on our ecosystems," explained Tanney. "Especially in the forests, they have permanently altered the landscape".

Motivated by a desire to protect the Canadian environment and economy by improving detection, and our ability to predict, identify and prevent the establishment of invasive species, Tanney aspired to improve knowledge of fungal biodiversity. Why? As he puts it, "there are an estimated 1.5 to 5 million species of fungi, of which, two to three percent is described. Any of these could be the next biological invader or sources of life-saving pharmaceuticals, biological control agents and more". Today, as a researcher at PFC, he provides scientific advice supporting phytosanitary policies to reduce trade barriers, while conducting research, risk assessments, and response strategies for native pests and alien invasive species.

The ocean, big trees and biodiversity are what lured Tanney to the west coast, especially "its relatively unexplored fungal biodiversity". Now a year into his work in the Forest Pest Risk Management program in Victoria, Tanney foresees a lifelong career in this exciting research field. In fact, he has just applied for funding for two additional projects, one involving real-



time detection of fungi within plant tissues. It's important to him that his work leads to practical and valuable applications. "The Pacific Forestry Centre is in a unique position to provide innovative scientific research because we are tapped into a strong nationwide network of potential collaborators as part of the Canadian Forest Service," Tanney explains. "Our work is funded by the public, which means our research must be pragmatic and geared towards addressing real problems."

Tanney believes that the metrics of success include influencing your field and contributing to policy and real-world applications, but sometimes ideas take time to be adopted and success might not be readily evident. This is what keeps him motivated. "Knowing that there are far more questions than I can ever answer and new species than I can ever describe is both exciting and overwhelming," says Tanney, which is why he keeps his focus on what will have the greatest positive impact.

The Pacific Forestry Centre (PFC) is one of five research centres within the Canadian Forest Service. One of seven areas of focus for the CFS includes Forest entomology and pathology. Studying various aspects of biology, population dynamics and management options in order to minimize the damage from forest pests such as the mountain pine beetle, spruce beetle, Asian gypsy moth, White pine blister rust, and root rots. Research on forest quarantine pests helps develop policies to protect Canadian forests and minimize the movement of pests in international trade.

Pacific Forestry Centre's Forest Pathology Herbarium

<https://www.nrcan.gc.ca/science-data/research-centres-labs/forestry-research-centres/pacific-forestry-centre/pacific-forestry-centres-forest-pathology-herbarium/13493>