



Wood Wide Web



The Fungus Among Us

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Roseanne is our long-time facilitator in Vernon. She enthusiastically shares her vast knowledge of the outdoors to help teachers and leaders experience and enjoy nature. Follow her on Facebook for more.

Have you heard the latest findings about the Wood Wide Web? It's quickly gaining in notoriety. Scientists are exploring the amazing fungal kingdom that, until recently, has been underestimated. One of those leading scientists is BC's own Suzanne Simard from the mushroom-rich world of BC's temperate rainforests, now teaching and researching at UBC. She's gaining international recognition for her mycorrhizal (fungal tree-root relationships) experiments and studies.

Mushroom vs Fungi

I often used to say, "Mushrooms are amazing!". But, it's really fungi that's fantastic! Mushrooms are only the fruiting bodies of fungi. They contain and spread the spores – similar to the way plants spread through seeds. Mushrooms may rot away, but the fungus continues to grow underground as wispy, cobweb-like mats called "**mycelium**", spreading out through the soil, through decaying matter, and around the roots of plants. These root-like fungal structures create life-giving community connections. This is known as the **mycorrhizal network** (*myco* is Latin for fungus, *rhizomes* are roots); the fungal connections between plant roots.

The Community Forest

Plants, especially trees, require fungi to wrap around their roots to help them absorb water and nutrients. It's a *symbiotic* relationship because there are benefits for both the plant and the fungus. In return, the fungus receives photosynthesized sugars from the tree which fuels it to grow and spread to the roots of new trees.

Once connected, a networked community of trees can send chemical messages and receive nutrients from one another. Only recently have we begun to understand the level of sophisticated communication passing through these mycorrhizal networks. Scientists such as Suzanne Simard have found that trees can recognize neighbours, elicit warnings, mount defences, compete, and cooperate with one another through these connections. It's the basis of forest ecology.

So whenever you see morel mushrooms popping up in the spring – or chanterelles in the fall, when plant a small sapling for Earth Day or marvel at big, old trees, think of that whole unseen system underground!

Fungi Forever!

Animals have a limited lifespan. Plants grow to a maximum size. Fungi, however, can keep growing and spreading if food is available and their environment allows. Some fungal mycelium bodies are among the biggest and oldest organisms on Earth.



The Nose Knows

Did you know that by volume, 85% of our BC Red Squirrels' diet is mushrooms?

Some mycelium grow mushrooms underground; these are called truffles. Squirrels, bears and other wildlife with sensitive noses can smell truffles and dig them out to eat. Look for shallow holes dug into forest banks below trees, especially after rain in the fall.



Learn and Grow

- **Fungi, Mosses, and Lichens ID Cards** from HCTF Education. Robust, waterproof cards with a BC focus to bring along on your next forest visit.
- **Finding the Mother Tree** by Suzanne Simard reveals her research into the reality of the intimate interconnection and intelligence of the forest through underground fungal networks with communal lives not that different from our own. **The Hidden Life of Trees** by Peter Wohlleben is a fabulous introduction to the mycorrhizal network.
- **Entangled Life** by Merlin Sheldrake, and Paul Stamets' **Fantastic Fungi** are amazing in-depth books. **Mycophilia** by food writer author Eugenia Bone examines the role of fungi as exotic delicacy, curative, poison, hallucinogen, and environmental remediation.
- **Know Your Mushrooms** and **Fantastic Fungi** are two of the many intriguing mushroom videos out now.
- Leading American mycologist, Paul Stamets' **Fungi Perfecti** website sells all sorts of mushroom paraphernalia including grow-your-own mushroom kits and spores, books, and more.

Check out these books and videos! You'll appreciate and enjoy mushrooms and fungi in a whole new way.