



**Forest and Geoscience
E-science Information**

Forest and Geoscience

Volume 1 & Issue 2
Editorial

Why to Promote Decaying Wood?

Martti Venäläinen

Senior Scientist, Natural Resources Institute Finland, Finland

Corresponding author: Martti Venäläinen, Senior Scientist, Natural Resources Institute Finland, Finland

E-mail: martti.venalainen@luke.fi

Received: November 03, 2023; **Accepted:** November 17, 2023; **Published:** November 25, 2023

© **Copyright 2023:** Venäläinen M. This is an open access article distributed under the terms of the Creative Commons Attribution License [CC-BY 4.0.], which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

Editorial

Builders are currently encouraged and guided to use timber and engineered wood products, such as cross laminated timber (CLT) and laminated veneer lumber (LVL), at least in my home area Northern Europe. Indeed, wood is among our most important renewable natural resources, and as a material that binds carbon for a long time, it helps a bit to mitigate the global climate change. In addition, the wooden structure is a pleasure to the eye and wood in the interior gives good vibes and may even provide health-promoting effects via the indoor air. Wooden constructions are expected to have a long service life and therefore the danger of decay must be fought off structures exposed to weathering and wetting. New substances and modifications that are less harmful to nature and humans are being developed to replace the old strong preservatives used to protect wood. Thus there are several reasons to keep the wood quality properties and durability issues in the focus of research and development.

But why to title the Editorial as I have done? There are two reasons, the first concerns biodiversity. In our modern efficient forestry, stemwood is harvested totally away and there is no coarse woody debris, shortly said deadwood, left. Therefore, the saproxylic organisms dependent on decaying stemwood have lost their habitat and become endangered. All forest dwelling organisms, regardless of size and whether they are associated with living or dead trees or soil, are needed to keep the forest ecosystem in balance. Responsibility for decelerating the biodiversity loss cannot be put solely on strictly protected nature reserves. Forestry is also responsible. It is a promising sign that the forest management certificates, such as issued by FSC, require an increase in the amount of deadwood. At least in the boreal context, the amount and quality of deadwood has shown to be a good indicator of forest biodiversity. The scientific community is encouraged to carry out stirring research related to biodiversity impoverishment.

Another reason for promoting decaying wood is the microbes, especially bacteria. It is quite well known already that rot fungi and bacteria have complex interactions and together return the carbon bound to the recalcitrant lignocellulosic matrix into circulation. It is just bacteria that link the soil, living and dead trees, insects, mammals, and humans! However, the connection of urbanized people to the diverse microbiome of nature is often broken. In addition, especially in rich countries, habitats are kept too clean for fear of pathogenic bacteria and viruses. This has led to the impoverishment of the microbiome of men and is expected to lead to the spread of autoimmune diseases (such as diabetes and atopic dermatitis) due to the malfunction of our immune defence system. Isn't that an interesting research topic at the interface between biology and medicine?

Since a decaying tree is, except an aesthetic piece of art, obviously a hotspot of visible and invisible biodiversity, it is worth increasing in urban parks and courtyards. There are already good examples of such a course of action at least in some Northern European cities, Gothenburg in Sweden as one example. When an old park tree dies, there is seldom a compelling reason to delete it. The harmless torso may remain in place and the degrading pieces of the stem may lie in a suitable place for decades to be touched by humans. Perhaps in the future we will see research results on whether decaying wood enriches the microbiome of children playing with them!