Strolling safely around treetops

A walk through the woods offers only a limited glimpse into this diverse habitat. What happens at dizzying heights in the treetops remains hidden from walkers. From May 2018, however, the Canopy Walk in Neckertal, Toggenburg, will enable visitors to stroll around the forest canopy on filigree wooden structures. To make sure the eight to twelve-meter wooden masts that support the treetop walkway are safe, the wood needs to be protected against pests. This is where the biological wood treatment method developed by Empa spin-off Mycosolutions AG in St. Gallen comes in, as the operators insisted on finding an ecological solution. The canopy walkway is an exciting pilot project for the spin-off from Empa’s Applied Wood Materials lab.

The 200 masts made of local spruce were, therefore, treated with an organism that keeps pests at bay. Before they were assembled, the supports were sprayed with a suspension containing fungal spores of Trichoderma harzianum and nutrients, which help the spores to grow. With sugar and urea in their backpacks, the helper organisms immediately begin penetrating the trunks with their fine netting. In future, however, the protective organisms will feed on harmful members of the fungus kingdom.

The fungus hunters from Mycosolutions are well aware that natural processes eventually change wood as a material. “Cracks will appear in the trunks as the wood dries out,” says Reto Vincenz, CEO of the Empa spin-off. “So the spruce will be treated to regular wellness spas with the protective spores.”

With a desired service life time of 30 to 50 years for these supports, untreated spruce masts would not be able to go the distance. And anyone who uses the wrong wood treatment risks the whole structure collapsing at any minute – as was the case in a similar park in Spain, where the masts had been eaten away within eight years and suddenly came tumbling down.

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