

## Detection and absolute quantification of *Serpula himantioides* in wood of *Chamaecyparis pisifera* and soil of *C. pisifera* plantation by real-time PCR

Ryusei Haraguchi, Toshihide Hirao, Toshihiro Yamada, Toshihiro Umebayashi

The University of Tokyo, Japan

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**Purpose and methods:** In *Chamaecyparis pisifera* plantations in Japan, it is presumed that butt-rot caused by *Serpula himantioides* has spread out. Proportion of heavily damaged trees exceeds 50% in some stands in the University of Tokyo Chichibu Forest. To examine the distribution of *S. himantioides* in decayed wood, we have designed specific primers derived from the rDNA ITS region and tried to detect *S. himantioides* in wood of *C. pisifera* and soil of *C. pisifera* plantation by quantitative real-time PCR with intercalator method.

**Results and conclusions:** Real-time PCR assays with the specific primers were positive for *S. himantioides* and negative for *S. lacrymans* of the same genus and *Coniophora puteana* of the same family. For absolute quantification, a standard curve was constructed by plasmid inserted with a fragment of rDNA ITS region of *S. himantioides*, where strong linearity was validated in the range of  $10^1$  to  $10^{10}$  copies. The rDNA copy number of *S. himantioides* was highest in slightly decayed wood, and was rather low in adjacent advanced decayed wood. *S. himantioides* was also detected in part of the soil of *C. pisifera* plantation.