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DISEASE NOTE

First report of *Fomitiporia torreyae* causing trunk rot on Chinese torreya (*Torreya grandis*) in Anhui Province of China

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In the early of 2017, disease symptoms of trunk rot have been observed on 20–65% of the Chinese torreya (*Torreya grandis* Fort. ex Lindl. cv. Merrillii) plants in Huangshan city of Anhui Province, China. The timber trunk was infected with a white decay of the stem heart. To isolate the pathogen, stem segments collected were surface sterilized with 1% $HgCl_2$ for 30 s, rinsed twice with sterile pure water for 30 s, and incubated on water agar at 26 °C. Then the isolated fungus cultures were transferred to potato dextrose agar (PDA) for two weeks. The characteristics of the fungus are typical of *Fomitiporia torreyae* with perennial, resupinate basidiocarps, and small basidiospores. Identification was also confirmed on the basis of the partial ITS gene which was amplified by using the universal primers ITS1 and ITS4. A 164-bp fragment was amplified and sequenced from the obtained isolates, and it showed 99% similarity to the *F. torreyae* strain MUCL WC31 (GenBank Accession No. JQ087897.1). To verify the pathogenicity of the fungus, a 5-mm-diameter mycelial plug was affixed to a portion of the stem of Chinese torreya from which the superficial tissues had been removed and the inoculation site was covered with wet cotton and wrapped with parafilm. Control plants were treated by the same method but using PDA plugs. Two months after inoculation, all plants showed a white decay of the heart of stem, whereas the control plants remained healthy. *F. torreyae* was also reisolated from all infected plants. The fungus has been previously reported to cause trunk rot of Japanese cedar in Japan (Ota et al. 2014, 2016), but this is the first report of *F. torreyae* causing trunk rot of Chinese torreya in Anhui Province of China.

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References

Ota Y, Hattori T, Nakamura H, Lee S-S, Miyuki Y, Sotome K (2014) Taxonomy and phylogenetic position of *Fomitiporia torreyae*, a causal agent of trunk rot on Sanbu-sugi, a cultivar of Japanese cedar (*Cryptomeria japonica*) in Japan. Mycologia 106(1):66–76

Ota Y, Kimura MK, Hattori T, Miyuki Y, Endo R (2016) First report of trunk rot caused by *Fomitiporia torreyae* in Kyoto prefecture on cultivars of Japanese cedar with no relatedness to 'Sanbu-sugi'. J For Res 21:105–109

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