Study of *Quercus crispula* Wood Extractives Damaged from *Platypus quercivorous* Attack

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Abstract Discoloration of *Quercus crispula* sapwood resulting from colonization by the ambrosia beetle *Platypus quercivorus* was examined. Polyphenol analyses showed that hydrolyzable tannin was contained in healthy sapwood but diseased sapwood contained large quantities of ellagic acid and lesser amounts of gallic acid. Tannase and laccase activities were identified from *Raffaelea quercivora*, a symbiotic fungus associated with *P. quercivorus*. Purprogallincarboxylic acid bio-converted with laccase from gallic acid was contained in diseased sapwood. We conclude that the discoloration of sapwood is caused by the biological oxidation of wood extractives, especially polyphenolic compounds.