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Pathogenesis of Oak Wilt Disease Caused by Raffaelea Species

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Wilt disease in Oak trees occurs during summer season in Korea. Mass attack of trees by an ambrosia beetle (*Platypus koryoensis*) was the characteristic feature before appearance of the wilting symptoms. *Raffaelea* sp. caused the discoloration of xylem area called as wound heartwood. *Raffaelea* sp. was observed both on the body surfaces and inside the mycangia of the beetle *Platypus* sp. The scanning electron microscope (SEM) analysis showed that fungal spores were present within the wall of gallery and vessels that formed tyloses. The results revealed that the water movement in vessels was blocked as the fungus started to grow which caused the formation of tyloses thereby resulting wilt symptoms. We found that both female and male beetle Platypus sp. had fungi on their bodies and their large and small mycangia. This study confirmed that the fungus was transferred to oak trees by *Platypus* sp.