



## Pathogenicity of *Diplodia sapinea* isolates on endemic and exotic pine species

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**Abstract:** *Diplodia sapinea* has a worldwide distribution in temperate and tropical regions and causes the disease known by the common name of Diplodia tip blight of pine. Some of the most severe damage from Diplodia shoot blight has occurred in the southern part of Turkey. The pathogen was first noted on dead twigs or canker samples of *Pinus brutia* var. *eldarica* and *Pinus brutia* in Kahramanmaraş. Soon after, *D. sapinea* was shown to be the main causal agent of shoot blight of *P. brutia* in the Isparta region, in the western part of Taurus Mountains. Similar symptoms were reported in *Pseudotsuga menziesii* (Mirb.) Franco plantations in İzmit province and the same pathogen were suggested as the causal agent. The aims of the work reported here was to investigate pathogenicity, host specialization and virulence of *D. sapinea* isolates.

Host specialization and virulence of isolates were tested on 30-cm-long twigs of *P. sylvestris*, *P. nigra*, *P. taeda*, *P. radiata* and *P. pinaster*. Totally 25 isolates grown on PDA were inoculated on twigs. Inoculated twigs were kept at 20°C in a growth chamber. After one month, lesion length in the inner bark and fungal growth in the sapwood were examined. Analysis of variance (ANOVA) was performed on lesion lengths using the SPSS GLM procedure and differences among mean values assessed using Duncan's multiple range test. As a results, most of the isolates used in the inoculation trial induced lesions on the twigs of the five host species. In general, the isolates obtained from *P. taeda* caused longer lesion length on *P. radiata* twigs. *P. radiata*, *P. sylvestris* and *P. nigra* twigs seemed to be susceptible to all isolates compared to seedling inoculations.

**Keywords:** Virulence, Host specialization, Shoot blight, Inoculation