

A preliminary study on some tree parameters in *Dendroctonus micans* (Kugelann) (Coleoptera: Curculionidae) attacked and unattacked oriental spruce trees in Artvin, Turkey

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Abstract: *Dendroctonus micans* (Kugelann) (Coleoptera: Curculionidae) that was first discovered in 1966 in Posof has well established and built up outbreak populations in oriental spruce forests in Turkey. It killed millions of trees along its distribution area in Europe and Turkey. There are both attacked and unattacked neighbouring trees in a stand, and there may be only successful attacks, aborted attacks or a number of aborted attacks as well as successful attacks on same tree. In this study, some tree characteristics affecting beetle's successful establishment to the host are investigated. Phloem thickness, recent tree growth rates (the mean annual increment in the past five and ten years, and annual increment in the last year), tree size (diameter of breast height) and the average number of xylem cells (tracheids) in a radial file formed in the last ten years were investigated to figure out tree characteristics of attacked and unattacked trees. Field studies were performed at a pure spruce stand that was in the stand closure at 1683 m a.s.l. and in southwest aspect in Taşlıca – Artvin. Tree cores were extracted from ten naturally attacked and ten unattacked healthy spruce trees on June 23, 2016. Leica M60 stereomicroscope and Olympus BX53 light microscope were used to make measurements. There were difference between phloem thickness, the mean annual increment in the past five and ten years, and annual increment in the last year, and the number of xylem cells in a radial file in attacked and unattacked spruce trees.

Keywords: Greater European spruce bark beetle, Successful establishment, *Picea orientalis*