

## ***Viscum album* ssp. *abietis* on Silver Fir in Gorski Kotar (Croatia)**

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**Abstract** – Research on the occurrence of common mistletoe (*Viscum album* ssp. *abietis* /Wiesb./ Abromeit) on Silver fir (*Abies alba* Mill.) in the region of Gorski kotar, Croatia, was carried out in the period 2003-2005. Six sites – fir natural stands were selected, three of soil sub-types on silicate and three of soil sub-types on limestone-dolomite. The aim of research was to reveal the intensity of mistletoes' occurrence in fir trees according to the degree of crown defoliation, and also to found out if there were any differences in mistletoes' presence between sites.

In total of 42 fir trees (7 per each research site) in defoliation categories 20-25, 30-35, 40-45, 50-55 and 60-65%, were felled and analysed. Firs in categories of 30-35 and 60-65% crown defoliation were represented by two trees. The data per sampled tree were collected as follows: tree's height and breast height diameter, fir age on stump, number of mistletoes and their biomass, and the age of the oldest mistletoe obtained in analysed crown.

The research data revealed differences in fir stands according to mistletoes' occurrence. The site average number of mistletoes in the crown of affected fir tree varied from 80.0 (locality Oštrac on silicate) to 160.3 (locality Miletka on silicate), with average biomass of 12.43 kg (locality Oštrac) to 23.68 kg (locality Podvodenjak on silicate). The heavily affected firs were obtained in three localities: Miletka and Podvodenjak on silicate, and Potočine-Crna Kosa on limestone-dolomite.

In all research sites it was found out that with the increased crown defoliation the number of mistletoes and their biomasses increase as well. The average fir tree grown on silicate revealed slightly more mistletoes (3.24%) in the crown than the fir grown on limestone-dolomite, and the mistletoes' average biomass was higher (11,69%) in the fir crown grown on silicate than on limestone-dolomite. On the other hand, the average age of the oldest mistletoe obtained in the fir crown growing on limestone-dolomite had 2.2 years more (15,56%) then the oldest mistletoe in the fir crown growing on silicate.

**crown defoliation / number of mistletoes / mistletoes' biomass / silicate / limestone-dolomite**

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