

# Host Selection in *Tomicus piniperda* L.: Composition of Monoterpene Hydrocarbons in Relation to Attack Frequency in the Shoot Feeding Phase

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The aim of this study was to investigate the host selection capacity of the pine shoot beetle, *Tomicus piniperda*, in the shoot-feeding phase and analyze the chiral and non-chiral host volatiles by means of GC-MS and 2D-GC in five *Pinus* species originating from France (*Pinus sylvestris*, *P. halepensis*, *P. nigra laricio*, *P. pinaster maritima*, *P. pinaster mesogeensis*). Dominating monoterpenes were (–)- $\alpha$ -pinene, (+)- $\alpha$ -pinene, (–)- $\beta$ -pinene and (+)-3-carene. The amounts of the enantiomers varied considerably within and among the species. In a principal component analysis-plot, based on the absolute amounts of 18 monoterpene hydrocarbons, separation of the pine species into two groups was obtained. *P. halepensis* and *P. sylvestris* were grouped according to the amount of (+)- $\alpha$ -pinene and (+)-3-carene, while *P. nigra laricio*, *P. pinaster maritima* and *P. pinaster mesogeensis* were grouped according to (–)- $\alpha$ -pinene and (–)- $\beta$ -pinene. *P. nigra laricio* was the species most attacked and *P. halepensis* the one least attacked by *T. piniperda*.

**Key words:** Host Preference, *Tomicus*, (–)- $\alpha$ -Pinene