



Some Needle Contents and Volatile Organic Compounds Emitted by *Pinus Brutia* in Relation to Herbivore Attack

G. SEMİZ*

Pamukkale University, Turkey, Kinikli, Denizli, Faculty of Arts & Science, Department of Biology

Key words: *Pinus brutia*, *Thaumetopoea wilkinsoni*, VOCs, needle contents

Herbivores can cause many types of damage to plants. Caterpillars ingest small sections of the leaves, while others feed on specific parts of the leaf material. In this point, essential oils from coniferous trees contain secondary metabolites that act as feeding deterrent for a great number of herbivore insect species. Attacks by herbivores elicit changes in the bouquet of volatiles released by plants. Terpenoid chemicals exist both as constitutive and massively induced defenses in conifers. Hereby we studied the factors contributing to the specificity of induced defensive responses in economically important pine species of Turkey, *Pinus brutia* Ten., against most famous pest, pine processionary moth (*Thaumetopoea wilkinsoni* Tams). We quantified volatile organic compounds (VOCs) emissions of needle and some other needle contents. Needle feeding by the caterpillar increased emissions of VOCs. We discuss the possible mechanisms responsible for reducing the tree's signalling capacity triggered by *Th. wilkinsoni* oviposition and how enhancement/suppression of VOCs can influence the interaction between the tree, the pest and other biotic/abiotic factors in environment.

This study was supported partially by TUBITAK (110T976) and PAU-Scientific Research Unit.

*Corresponding Author Email: gsemiz@pau.edu.tr

This study was presented at 2nd International Symposium Secondary Metabolites Chemistry, Biology and Biotechnology, 19-23 May 2014, Moscow