Comparative Study of the Volatiles' Composition of Healthy and Larvae-Infested *Artemisia ordosica*

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Z. Naturforsch. **68 c**, 8–12 (2013); received April 21, 2012/January 26, 2013

Volatiles emitted by healthy *Artemisia ordosica* (Asteraceae) and plants infested with larvae of *Sphenoptera* sp. (Coleoptera: Buprestidae) or *Holcocerus artemisiae* (Lepidoptera: Cossidae) were obtained using a dynamic headspace method and analysed by automatic thermal desorption/gas chromatography/mass spectrometry (ATD/GC/MS). Twenty-eight major compounds were identified, and qualitative and quantitative differences were compared. The novel green leaf volatiles 2-hexenal, (*Z*)-3-hexen-1-ol, 2-hexen-1-ol 1-hexanol, and (*Z*)-3-hexen-1-ol acetate, the terpenoids *Ů*-copaene, *ß*-cedrene, and (*E*,*E*)-*Ů*-farnesene, and the ester methyl salicylate were present in all infested plants. Volatiles from healthy plants were dominated by D-limonene (32.14%), *ß*-pinene (16.63%), *ß*-phellandrene (16.06%), and sabinene (12.88%). Volatiles from *Sphenoptera* sp. larvae-infested plants were dominated by D-limonene (24.74%), *ß*-pinene (21.05%), *Ů*-pinene (19.39%), and sabinene (11.64%), whereas volatiles from *H. artemisiae* larvae-infested plants were dominated by D-limonene (31.76%), sabinene (18.49%), ocimene (15.93%), and *ß*-phellandrene (10.59%). In addition to the qualitative variation, a larvae-induced quantitative change in the proportion of terpenoids in the blends was also a noticeable feature.

Key words: Artemisia ordosica, *Sphenoptera* sp., *Holcocerus artemisiae*, Volatile Compounds