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PP43. Volatiles from seven truffle species (*Tuber* spp.) wild-growing in Greece

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In the framework of our phytochemical studies on mushrooms, we report herein, our analyses of seven selected species of *Tuber* (*T. aestivum, T. melanosporum, T. mesentericum, T. magnatum, T. borchii, T. brumale* and *T. uncinatum*), wild-growing in Northern Greece. Truffles are the fruiting bodies of mycorrhizal filamentous fungi well-known and part of the human diet, since antiquity [1] due to their unique and peculiar aroma. The aim of this study was to qualify and semi-quantify their aroma profile, as well as, to evaluate their total phenolic content, to the best of our knowledge for the first time on Greek truffles. The volatile organic compounds (VOCs) were analyzed by Headspace Solid-Phase Microextraction (HS-SPME) with two different polarity fibers (PDMS and CAR-PDMS) and led to the identification of more than fifty (50) VOCs. *T. magnatum*'s profile was characterized by aldehydes and other secondary metabolites, including its marker compound 2,4-dithiapentane [2]. In addition to this, amines and other nitrogen-containing derivatives were identified, leading to a distinction between the studied species. *T. mesentericum* was dominated by aromatic compounds, such as 3-methylanisole, previously referred to as its most characteristic chemical marker [3]. *T. melanosporum* and *T. brumale* were mainly characterized by aldehydes and *T. uncinatum, T. aestivum* and *T. borchii* showed an abundant presence of ketones and alcohols. Differing from all other studied samples, *T. borchii* was shown to emit the highest concentration of sulfur-containing derivatives, in accordance with the existing literature [4]. Moreover, all studied truffles were evaluated regarding their total phenolic content; *T. mesentericum* and *T. borchii* were the richest sources of phenolics (7.8 and 7.4 mg GAE (gallic acid equivalents)/g of the samples, respectively), followed by *T. aestivum* > *T. uncinatum* > *T. melanosporum* > *T. magnatum* > *T. brumale*.

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