Microscopic analysis of glandular and nonglandular trichomes of *Satureja subspicata* Bartl. ex Vis

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The genus Satureja (Lamiaceae) comprises about 200 species of herbs and shrubs, often aromatic, widely distributed in Mediterranean area (Šilić, 1984). The essential oil isolated from various Satureja species showed certain biological properties, such as antimicrobial activity (Ciani et al., 2000; Skočibušić et al. 2006; Ćavar et al. 2008). Satureja subspicata Bartl.ex Vis. is a rare, endemic Dinaric species distributed in the eastern Mediterranean area. This plant is a perennial shrub sprouting every spring with new twigs full of linear and leathery leaves and purple flowering during October (Šilić, 2005). Morphology and distribution of trichomes on leaves of S. subspicata was investigated using scanning electron microscopy. Besides multicellular, uniseriate, nonglandular trichomes (Fig.1.C), which were densely distributed on margins of the leaves, two types of glandular trichomes - peltate and capitate were found. The peltate trichomes were distributed on both leaf sides, consisted of one basal epidermal cell, a stalk cell and a head of twelve secretory cells. The apical region of juvenile peltate trichomes appeared slightly smooth indicating that, initially, the cuticle was closely attached to the secretory cells emphasizing the cell outlines (Fig.1A). Mature peltate glands are located in epidermal depressions, the cuticular cap has been completely detached (Fig.1B). The capitates glandular trichomes were found on both leaf surfaces. They are consisted of one basal epidermal cell, a stalk cell and a round head of one secretory cell (Fig. 1C).

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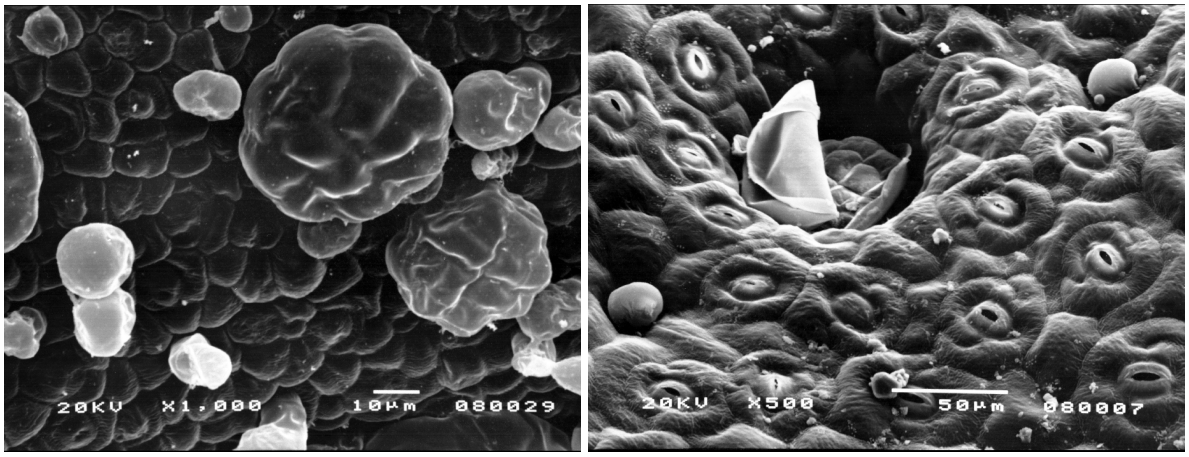
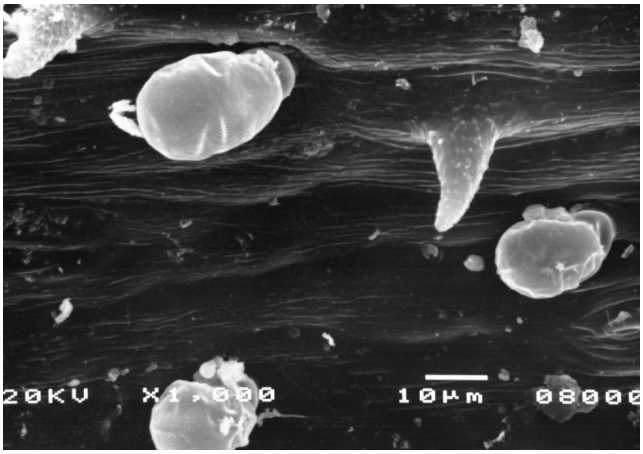


A. **B.**



C.

Fig. 1. SEM of *S. subspicata* leaf. A. Juvenile peltate trichomes. B. Mature peltate trichome. C. Capitate and nonglandular trichomes.

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