

Ultrastructure of Glandular Trichomes in *Rosmarinus officinalis* L.

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The capitate glandular trichome of leaves in *Rosmarinus officinalis* L. was examined by a light microscopy, scanning and transmission electron microscopy. The glandular trichomes are consisted of capitate and peltate glands. The former has a short and cylindrical stalk and a single secretory cell, the latter has multicellular globular head cells. Both glands are extremely abundant in abaxial surface of the leaf veins and petioles. During the secretory phase, the ultrastructure of the secretory cells of both trichomes was characterized by a highly developed endoplasmic reticulum (ER), mitochondria, numerous Golgi apparatus, plastids and vacuoles. The vacuoles are involved in storage and transport of lipophilic secretory substances. A large number of plasmodesmata were observed on the wall of secretory cells and stalked cells.

Figs. 1-2. Low magnification of SEM micrograph in adaxial(Fig.1;  $\times 50$ ) and abaxial leaves(Fig.2;  $\times 50$ ) of leaf with glandular trichomes and non-glandular trichomes.

Fig. 3-4. High mag of SEM micrographs of capitate gland(Fig.3;  $\times 900$ ) and peltate gland(Fig.4;  $\times 400$ ).

