

Morphological comparison of the glandular trichomes  
in two species of *Pelargonium*

Kyoung-Nam Ko\*, Bum-suk Cho, and Eun-Soo Kim  
Department of Biology, Konkuk University

The capitate trichomes of leaves in *Pelargonium x fragrans* 'Mabel Grey' and *Pelargonium peltatum* were investigated with a light microscopy, scanning and transmission electron microscopy. The trichomes consisted of unicellular globular heads and stalks with various length and features were classified into two groups : Type I with a short and cylindrical stalk, and Type II with a long and conical stalk supported by a basal cell. These glandular trichomes have one secretory cell, stalk cells, and one basal cell. Both glands are extremely abundant in 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 and numerous Golgi apparatus, and vacuoles involved in storage and transport of lipophilic substances. It seems to be the secretory substance temporally transported in the interfibrillar space of the secretory cell wall, and released it through the rupture of the cavity.

Figs. 1-2. SEM micrographs of the capitate trichomes of leaves in *Pelargonium x fragrans* 'Mabel Grey' . Note the large number of non-glandular trichomes. Adaxial(Fig.1; ×100) and abaxial view(Fig.2; ×200) of leaf.

Figs. 3-4. SEM micrographs of the capitate trichomes of leaves in *Pelargonium peltatum*. Adaxial (Fig.3; ×120) and abaxial surface (Fig.4; ×100).



