Abstract

The aim of this study is to give information on ultrastructure of in vivo pollen tubes of Mimulus aurantiacus which were collected from the Botanical Garden of the University of California at Berkeley. Materials were prepared according to electron microscopy methods and examined under Zeiss electron microscope. Four zones were examined in the pollen tubes of Mimulus aurantiacus. APICAL ZONE: Mitochondria, smooth endoplasmic reticulum, rough endoplasmic reticulum, dictyosomes and secretory vesicles were observed. SUBAPICAL ZONE: This area contained abundant rough endoplasmic reticulum and occasionally some smooth endoplasmic reticulum. The polysomes, mitochondria, proplastids that contain starch, small vacuoles and a few lipid bodies were detected. NUCLEAR ZONE: Both generative and vegetative cell nuclei lie in this zone. The vegetative cell nucleus was large and long. Rough endoplasmic reticulum, mitochondria, ribosomes, dictyosomes, and amyloplasts that are rich of starch were observed. VACUOLATION AND PLUG FORMATION ZONE: Cytoplasm of the tubes was full of large vacuoles. Few organelles such as mitochondria, dictyosome and rough endoplasmic reticulum were detected along their periphery.

Keywords

In vivo, Mimulus, pollen tube, ultrastructure.