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# Structural and Histochemical Alterations in the Development of the Stigma in Vibirnum tinus

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**Abstract :** This study presents the structural and cytochemical alterations of stigma at the stages of pre-anthesis, anthesis and post-anthesis in Vibirnum tinus. Capitate stigma continues with a closed style. The receptive surface of stigma is composed of unicellular papillae which are short and flattened at pre-anthesis stage. The papillae in this stage have dense cytoplasm with small vacuoles and a centrally located nucleus. With the start of anthesis, the stigma widens, papillae lengthen and become cylindrical. At anthesis stage, vacuoles enlarge, and nucleus moves to the base of the cell. At post-anthesis stage, the boundaries of the papillae become less noticeable. As proved by Periodic Acid Schiff procedure, the cytoplasm of papillae is rich in insoluble polysaccharides at all stages of development but it becomes remarkable at post-anthesis, particularly at the sub-papillar area. Although there is no significant difference in the content of protein in all stages of the development, it is more abundant at post-anthesis stage, as in Coomassie Brillant Blue stained sections. The surface of papillae is covered by a cuticle which becomes thicker at post-anthesis, and it gives positive reaction with Sudan Black B and Auramine O. The cuticle is covered by a pellicle stained by Coomassie Brillant Blue, indicating dry type of stigma.

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