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RESEARCH ARTICLE

POLLEN MORPHOLOGY OF SOME PLANT SPECIES OF ORDER MALVALES

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ABSTRACT

Present paper deals with the pollen diversity of some plant species of order Malvales, which belongs to subclass Polypetalae of class Dicotyledon. Malvales is the most important order of subclass Polypetalae. Here investigated plants were taken from Malvaceae, Stereuliaceae and Tiliaceae families. Mostly plants are multipalynous in porate grains the common type were polyporate. The pollen grains varies in their size from large to very large, the most common are large sized grains. The shape of the pollen grains seems to be more or less constant i. e. prolate, spheroidal to oblate. Spine morphology is variable may have blunt or pointed tips and with long or short spines. The pore size has been observed whereas the shape of pores seems to be fairly constant being more or less circular. The nexine is thicker than sexine.

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INTRODUCTION

The morphological structure of pollen grains exhibit wonderful criterion in identification of plants and has revolutionized the study of pollen and spores (i.e. Palynology). Pollen morphology is conducted as an aid to the morphological study and a significant tool for modern taxonomist for the delimitation of species. Pollen characters are useful in solving complicated problems of interrelationship between various taxa and assessment of their status in the classification, particularly with reference to the families, sub families, tribes, genera, species and sub species. Mature pollen grain size, exine sculpturing, and number of pores are the most distinctive features. Palynological data is useful for further research work in the field of allergic disease, forestry, agriculture, horticulture, archaeology and plant geography. Order Malvales is a major group of subclass Polypetalae, have large numbers of plants, specifically have economic and medicinal importance. This order contains highly multipalynous plants. It is expressed to a higher degree (more so the former with a large variety of aperture morph forms the colporate, porate, the aperture varying in number and distribution.), rarely unipalynous with one or two aperture forms.

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MATERIALS AND METHODS

The specimen selected for the study is authentically identified with help of Flora of Gujarat by G. L. Shah. Flowers and flower buds of *Abelmoschus manihot* L., *Abutilon indicum* L., *Bombax mulbaricum* L., *Chorchorus fascicularis* Lam., *Gossypium herbaceum* Linn., *Hibiscus schizopetalus* H.K.F., *Hibiscus tilaceus* var. *Tricolor* L., *Pentapetes phoenicea* L., *Sida cordifolia* L., *Sida ovata* Forssk. were collected from Bardoli area during April 2016. Pollen sample were collected from fresh plant material in to 10% formalin. They are stored for further investigation at room temperature. Each slide was prepared by acetolysis method of Erdtman (1952) and at a few places that of Walker (1974). An acetolysed pollen grains were mounted in lacto phenol. Observations were made with research binocular light photomicroscope.

RESULT AND DISCUSSION

1. *Abelmoschus manihot* L.

Family – Malvaceae
Local name – Khati Bhindi
Habit – Herb
Observation under – 100x.