

## Pollen Morphology Of Malvaceae And Its Taxonomic

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### Pollen Morphology Of Malvaceae And

In the studies on the pollen morphology of Malvaceae, variation in pollen size, aperture and spine characteristics, as well as exine stratification were elaborated as taxonomic value (Saad, 1960 ...

### Pollen Morphology of Egyptian Malvaceae: An Assessment of ...

eral taxa (Ferguson 1986; Hilsbeck 1990; El Naggar 2002). Pollen morphology of Malvaceae or some of its representatives has been included in many studies: for example: Surova and Velieve (1984), Christensen (1986a, 1986b), Culhame and Blackmore (1988) and El Naggar (2004). The pollen of Malvaceae is characterized by large size, spherical

### Pollen Morphology of Malvaceae and its taxonomic ...

Pollen grains of more than 120 species from c. 40 genera of Malvaceae were studied with light and scanning electron microscopy. The pollen grains are spiny, usually spheroidal and an evolutionary trend from a medium sized, ancestral 3-zonocolporate pollen type with small spines to a large polytreme type with long, sometimes distinctly dimorphic spines is recognised.

### Pollen morphological studies in the Malvaceae: Grana: Vol ...

Pollen Morphology of Egyptian Malvaceae: An Assessment of Taxonomic Value Plate 1. Pollen morphology of the studied taxa of Malvaceae 1- Abelmoschus esculentus x 500 2-Hibiscus trionum x 750 3- Hibiscus rosa-sinensis x 750 4- Hibiscussp. x 500 5- Gossypium barbadence x 750 6- Lagunaria patersonii x 1500

### Pollen Morphology of Egyptian Malvaceae: An Assessment of ...

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### Pollen morphological studies in the Malvaceae

Due to the taxonomic importance of the Malvaceae family and the need for studies to corroborate the circumscription of the group, which remains uncertain, this study aimed to characterize the pollen morphology of the Bombacoideae species occurring in the state of Rio de Janeiro, which are distributed predominantly in areas of restinga (coastal woodland) and Atlantic Forest, in order to support taxonomic studies of the group.

### Pollen morphology of selected species of the subfamily ...

Saba MD, Santos FAR. 2015. Pollen morphology and exine ultrastructure of selected species of Waltheria L. (Byttnerioideae-Malvaceae). Review of Palaeobotany and Palynology 221: 204-210. [ Links ] Saba MD, Santos FAR, Esteves GL. 2004. Palinotaxonomia das tribos Byttnerieae DC., Hermannieae DC. e Helictereae DC.

### Pollen morphology of Waltheria L. (Malvaceae ...

Malvaceae pollen is uncollectable for corbiculate bees which has previously been ascribed to pollen size, spines, and pollenkitt. We analysed the influence of pollen grain properties (diameter, spine length, spine density) on the collectability of echinate (spiny) pollen by bumble bees (*Bombus terrestris*).

### Pollen grain morphology is not exclusively responsible for ...

The pollen grains of this apertural type are called Pantoporate or Periporate, e.g., Amaranthaceae, Chenopo- diaceae, Malvaceae etc. Ulcus: Distal simple circular aperture with length/breadth ratio <2 and restricted to less than half the distal surface.

### Morphological Characteristics of Pollen Grains

In Malvaceae, heterostyly is common in the genera Melochia and Waltheria (Byttnerioideae), which also exhibit pollen dimorphism. The pollen grains of the brevistyle morph are microechinate, while those of the longistyle morph are suprareticulate.

### Pollen morphology and exine ultrastructure of selected ...

Important Types of Malvaceae: 1. Althaea rosea (Fig. 38.5): Habit: Tall ornamental annual herb. Root: Tap, branched and annual. Stem: Erect, cylindrical, green, hairy, woody and solid. Leaves: Alternate, stipulate, petiolate, simple, palmati-lobed with a cordate base, multicostate reticulate venation. Inflorescence: Solitary axillary. Flower:

### Malvaceae: Characters, Distribution and Types

Pollen morphology and the degree ofpollen variability within the fourteen species belongingto the two genera, Abutilon Mill.and HibiscusL. of the family Malvaceae was studied and documented in...

### (PDF) Pollen morphology of 14 species of Abutilon and ...

The Malvaceae is generally characterized by large spherical pollen grains with an elaborate system of sculpturing. The species under con- sideration here are pantoporate with small apertures and conspicuous echinae or verrucae uniformly distributed over the surface of the grain.

### Malvaceae - ScienceDirect

Conversely, distinct pollen morphology was reported by Saad (1960) in Malvaceae and he observed distinguish morphological features between the genera. Also, this family was divided into six pollen categories; on the basis of aperture number and diameter, grain diameter and spine form ( Culhane and Blackmore 1988 ).

### Various Pollen Morphology in Hibiscus syriacus

Hibiscus hirtus - Malvaceae - pollen oblate spheroidal, pantoporate, exine with echinate sculpturing, with convex bulbous protuberances. k. Hibiscus lobatus - Malvaceae -pantoporate pollen with circular to oblate pori, echinate sculpturing, echinae lanceolate in outline, tips obtuse.

### Pollen Morphological Description of Some Plants - Pollen ...

The echinate nature of species of Malvaceae was also reported by Perveen and Qaiser (2009). Hibiscus pollen is differentiated from Ipomoea aquatica in being larger in size. This size disparity was noted by Sowunmi (1973), who reported H. tiliaceus of 116.1 µm in size.

### Pollen Grains of Asteraceae and Analogous Echinata Grains

Pollen morphology and the degree of pollen variability within the fourteen species belonging to the two genera, Abutilon Mill. and Hibiscus L. of the family Malvaceae was studied and documented in detail using light microscopy (LM) and scanning electron microscopy (SEM).

### Pollen morphology of 14 species of Abutilon and Hibiscus ...

We report a phylogenetic analysis of “core” Malvales (Tiliaceae, Sterculiaceae, Bombacaceae, and Malvaceae) based on morphological, anatomical, palynological, and chemical features. The results of the analyses lead to the conclusion that Tiliaceae, Sterculiaceae, and Bombacaceae, as variously delimited, are paraphyletic; only the Malvaceae are likely monophyletic.

### Circumscription of Malvaceae (Malvales) as determined by a ...

The pollen grain wall becomes thinner and collumella separate due to its increase in volume. The exine is more compacted. It has collumella on a thick basal layer and conspicuous supratectum spines.