

S.P.V.V.S
G.P.PORAWAL ARTS COMMERCE & V.V.SALIMATH
SCEINCE COLLEGE SINDAGI – 586128
DIST – VIJAYAPUR



RANI CHANNAMMA



UNIVERSITY, BELAGAVI



MINI PROJECT ON
POLLEN MORPHOLOGY

DEPARTMENT : BOTANY - 2022-23

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NAME : Shruti B. Patil
SUBJECT : Botany
TITLE OF THE PROJECT : POLLEN MORPHOLOGY
CLASS : BSc III sem
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S.S. Muddapendimath nam

Submitted To

HEAD

Dept. of Botany

G.P.P. & V.V.S. College
SINDGI - 586.128

Examiners

1)

2)

Coordinator IOAC

G. P. PORWAL ARTS, COMM & V. V. SALIMATH Sc. College,
SINDGI-586128,

Shruti-B. Patil
SUBMITTED BY

Principal,

G. P. Porwal Arts, Comm & V. V. Salimath Sc. College

SINDGI-586128. College Code: 586128

~% Hibiscus %~



~% pollen grain %~

* pollen grains are in diameter, apolar, to spherical the wall of a mature pollen grain is composed of unremitting intine and exine overspread with exine of variable height and width. sexine is thinner than nexine or rarely thicker

* pollen is a powdery substance produced by seed plants

* it consists of pollen grains reduced which produce male gametes

* pollen grains have a hard coat made of sporopollenin that protects the gametophyte during the process of their movement from the stamens to the pistil of flowering plants, or from the male cone to the female cone of gymnosperms.



~% Rose %~

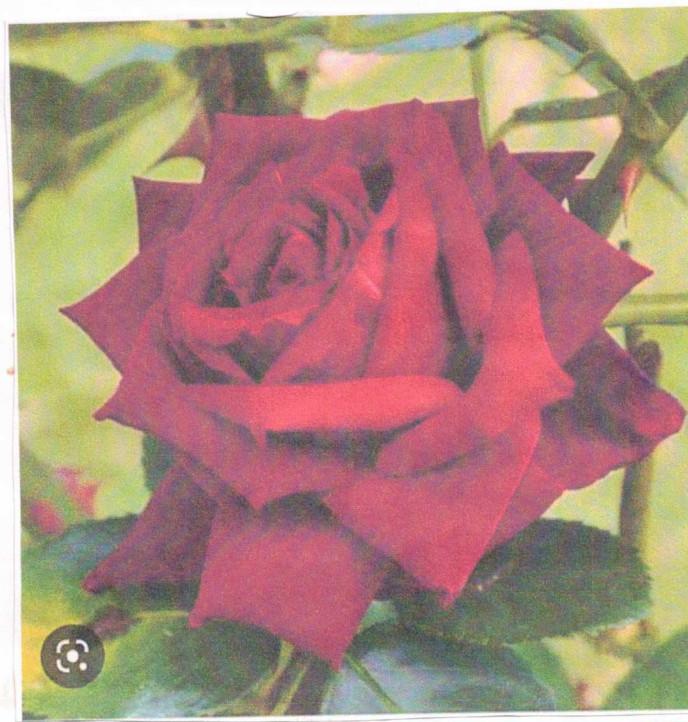


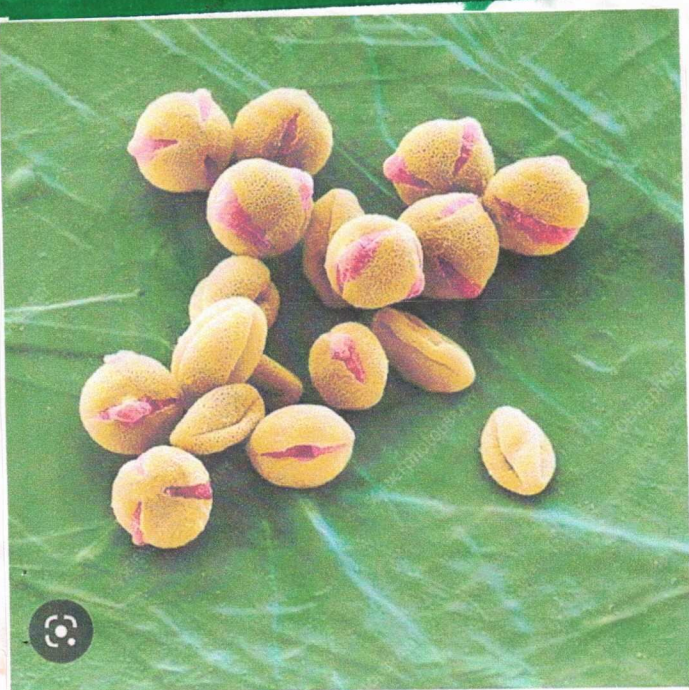
~% pollen grains %~

* Frequency distribution of the pollen diameters of the 10 studied rose cultivars, measured on the whole population after hydration microscopic observations related two types of pollen grains undeveloped with a diameter [smaller than 30 μ m (abnormal)] and globular with a diameter larger than 30 μ m [normal]

* The pollen grain wall consists of a resistant outer layer known as exine, which is characterized by the presence of several apertures and tiny projections

* Pollen grains are tricolporate are round in shape, have a striate exine, in the species studied, the length of polar.





°° pollen grains °°

- ⇒ pollen in vitro culture of three jasmine petal types at different development stages [a] germination of the double-petal [DP] jasmine pollen grains in stage
- ⇒ B] germination of the single petal jasmine pollen grains in stage 4. [i.e. one day post flowers fully opened]
- ⇒ C] germination of the DP. jasmine pollen grains in stage 4.
- ⇒ D] germination of the multi-petal [mp] jasmine pollen grains in stage 4
- ⇒ crosses among single double and multi petal jasmine cultivars [*Jasminum sambac* var.] are unable to easily generate hybrids.



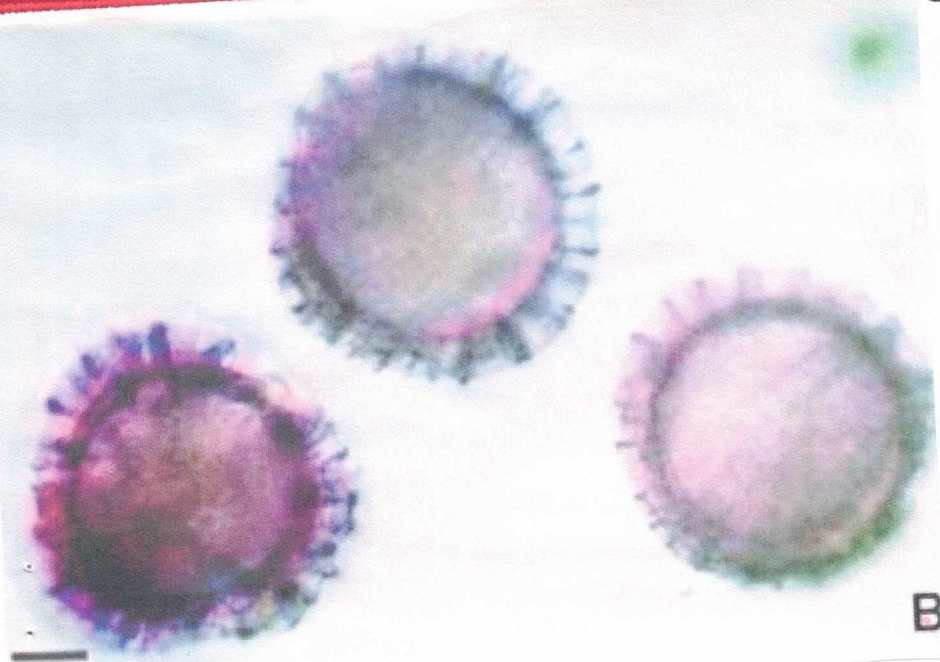
°° Vinea Rosell °°



°° pollen grains °°

- * the pollen grains are characterized by a distinctly granular sexine and an absence of nexine in the intersapertural areas and by a non granular sexine and nexine near the colpus, where the exine has on a typical structures intermediate between granules and columellae
- * the pollen grain germinated best at a sucrose concentration between 14.2% and 30% when the pollen grain concentration exceeds 500 per 0.0234 ml.
at near neutral pH in darkness and at a temperature close
- * pollen grains remain viable in a wide range of temp, and the wall of the pollen grain is capable of withstanding severe osmotic imbalance.





B



* A study of and seed morphology of barleria
L. of yemen that comprises nine species has been
carved out. this study utilized the pollen and seed

* micromorphological characters to show its taxonomic
significance with the genus and the species studied

B. acanthoides, *B. aculeata*, *B. orbicularis*, *B.*

parvifera, *prioritis*, *B. ventricosa*, *B.*

* The genus is distinguished by pollen ~~characters~~ ^{characters} and pseudoluminum. absent

PLT ratio 1.0-4 shape

spherical or some-times more
or less. distinctly three lobes

* honey comb like aperture with
varies from gum on *B. acanthoides*
and *B. aculeata*

* this study also provided
significant characters for
distinguishing this genus with in the

Principal,

V. V. Salimath Sc. College

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