from the production of normal gibberellin to an
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MOSAIC DISEASE OF NASTURTIUM
(TROPHEOLUM MAJUS L.)—A NEW RECORD
FROM INDIA

Mosaic disease of Nasturtium has been reported
from California (Jensen, 1950) and Brazil
(Silberschmidt, 1953); from India it is the first
record. In the year 1976–77, the authors observed
this disease in Taj nursery, Agra. Besides the
typical mosaic symptoms, the infected Nasturtium
plants showed vein clearing and cupping of
leaves in both young and mature plants. The
infected plants were stunted and excessively
branched. The leaves were greatly reduced in
size; lamina showed crinkling and lobed margin
(Fig. 1, B). The flowering was either absent or
only few.

The virus is readily transmitted from host to
host both by graft and sap prepared in phosphate
buffer (pH 7.0, 0.02 M) and applied with

carbonundum powder as an abrasive. Out of the
8 plants (viz., Chenopodium amaranticolor Coste
and Regn, C. album L., C. mural L., Gomphrena
globosa L., Datura stramonium L., Nicotiana
plutino L., N. tobacum L. var. white burley,
N. tobacum L. var. xanthi), commonly used as
local lesion hosts, the virus gave chlorotic local
lesions only on Chenopodium amaranticolor Coste
and Regn (Fig. 1 C) while all the others did not

show the presence of the virus when back inocula
tions were done on both the host as well as
Chenopodium amaranticolor Coste and Regn.

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STUDIES ON DEGRADATION OF ANTIFUNGAL
ANTIBIOTICS

The use of antibiotics in plant disease control has
assumed importance. In India, antibiotics have
given encouraging results in seed treatment against
seed-borne diseases. Although antibiotics have been
evaluated for seed disinfection, no information is
available about their behaviour when treated seeds
are stored. Studies on this aspect are reported.

Paddy seeds were treated with pimyc and atro-
fungin at 500 ppm. The biological activity of the
antibiotics soon after seed treatment was determined
by plateing the seeds on potato-dextrose-agar seeded
with Helminthosporium oryzae. The inhibition zone
was observed around the treated seeds indicating the
presence of antibiotics. The treated and untreated
seeds were stored in cloth bags at room temperature,
for a period of one year. After this period the activity was reassessed by the same method. In all, three experiments were carried out, and the data based on these studies are presented in Table I.

TABLE I
Effect of seed treatment with antibiotics against H. oryzae and seed germination

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Efficacy</th>
<th>Per cent Efficacy</th>
<th>Per cent Efficacy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Piomy</td>
<td>+</td>
<td>90</td>
<td>..</td>
</tr>
<tr>
<td>Aureo-</td>
<td>+</td>
<td>91</td>
<td>..</td>
</tr>
<tr>
<td>fungin</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Check</td>
<td></td>
<td>85</td>
<td>76</td>
</tr>
</tbody>
</table>

+ denotes effective — denotes ineffective

It is evident from Table I, that piomy and aureomycin are rendered biologically inactive on the seed after one year, suggesting their degradation in storage and consequent loss of fungicidal properties.

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TOPOGRAPHICAL RELATIONSHIP BETWEEN THE BLASTOCYST AND THE UTERUS IN THE RHINOLOPHID BAT, RHINOLOPHUS ROUXI (TEMMINCK)

The mammalian blastocyst bears a specific topographical relationship with the morphology of the uterus at the time of implantation, and this is usually constant within the family and sometimes within the order (Mossman1,4,5,6). Among the bats, the orientation of the embryonic mass of the implanting blastocyst is mesometrial in Megachiroptera (Keibel4, Moghe3, Mossman1), and antimesometrial in the Microchiroptera (Duvall9, Ramaswami7, Wimsatt8, Gopalakrishna6). Most of the earlier work on the embryology of Microchiroptera relates to members of the family Vespertilionidae. During the past 20 years the embryology of members of several families of Microchiroptera has revealed that the orientation of the embryonic mass differs not only in different families of Microchiroptera (Gopalakrishna10,11, Gopalakrishna and Moghe11) but also in different individuals of the same species, in a few cases (Gopalakrishna and Kharapal12, Gopalakrishna and Karim13). Where the orientation of the embryonic mass has been shown to be variable in the same species, the blastocysts described were at a very early stage of development, and the embryonic mass in all the cases was still spherical. Gopalakrishna and Kharapal12, and Gopalakrishna and Karim13 suggested that the embryonic knob in these bats may rotate within the blastocyst, as in the case of the mouse (Kirby, Potts and Wilson13).

While making a detailed study of the early development of the Rufous Horse-shoe Bat, Rhinolophus rouxi, the author examined eight late implanted bilaminar blastocysts, all nearly at the same stage of development. In every case the blastocyst was in a large implantation chamber of the uterus, and the wall of the blastocyst was in intimate contact with the endometrium since the uterine epithelium was lost from all sides of the implantation chamber. The embryonic area had expanded into a flat disc. Among the eight blastocysts, the embryonic disc was oriented towards the antimesometrial side in two, towards the mesometrial side in one, towards the lateral side in two, towards the medial side in two and between the lateral and mesometrial side in one.

Whereas the earlier descriptions of variable orientation of the embryonic mass referred to early blastocysts having spherical embryonic mass13,14, the present study refers to advanced blastocysts with expanded emroyonic disc. Hence the explanation that the embryonic mass may rotate within the blastocyst covering is not tenable in the present case. The final position of the placental disc in Rhinolophus rouxi is however invariably mesometrial (Gopalakrishna...