instance (Fig. 17) and the constituent margins of the adjacent carpels subsequently (Fig. 18) and are used up in supplying the ovules. Simultaneously the dorsals move to the periphery of the ovary and branch forming many secondary margins (Fig. 13) supplying the carpellary wall unlike the two secondary margins which are either conjoint with each dorsal as seen in Gisekia and Glinus or originating from the receptacular stele independent of each dorsal as in Mollugo nudicaulis (Sharma, 1963). These secondary margins fuse higher up and fade away. However, the mid-dorsal bundles of the five carpels alone extend into the five filiform styles (Fig. 1) as in Gisekia and Glinus (Sharma, 1963). The placation is axile. In the upper region of the ovary the septae separate from one another (Fig. 10) as in Mollugo and Glinus (Sharma, 1963) supporting the derived nature of the parietal placation from the axile (Puri, 1952; Sharma, 1954).

To sum up, the flower of Orygia decumbens is monochlamydeous with five free quincunxial tepals. The vascular traces are three per tepal arising independently from the receptacular stele forming separate gaps. Both tepals and stamens exhibit different degrees of cohesion as indicated by their vascular traces and surface fusion. There is no adnation between the stamens and tepals. The adaxial base of the staminal tube is secretory. The gyroecium is pentacarpellary, syncarpous, superior and pentalocular. The axile placation with two rows of ovules in each locule presents the appearance of parietal placation at the apex. The numerous secondary margins of the carpels are conjoint with their dorsals.

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EFFECT OF ASAFOETIDA ON ROOT INITIATION IN BEAN PLANTS

The present note deals with the effect of commercial asafoetida on root initiation in bean plants.

In the experiments conducted, solutions (A) asafoetida (AF); (B) indole-butyric acid (IBA); and (C) indole-butyric acid and asafoetida combined solution of the following concentrations (ppm): (1) 0.195/2, (2) 0.390/2, (3) 0.781/2, (4) 1.562/2, (5) 3.125/2, (6) 6.25/2, and (7) 12.5/2 were prepared in half strength Hoagland’s solution.

The bean seedlings were grown in dark, and when they reached 10” to 12” in height, they were removed and cut 5” below the cotyledons, and only the aerial parts were used in the experiments.

The culture solutions were taken in different conical flasks and the cut seedlings were grown in them. The control plant was maintained in half strength Hoagland’s solution. All plants were kept under constant illumination from 7.30 a.m. to 5.30 p.m., and maintained at room temperature. Every alternate day, solutions were changed. On the eighth day seedlings were removed to count the number of roots formed. Experiments with solutions A were repeated thrice and those with solutions B and C twice. The results are shown in Graph 1.

![Graph 1](image)

**Fig. 1.** Relation of soln. concentrations to the number of roots in bean seedlings. A=AF soln.; B=IBA soln.; C=IBA & AF combined soln.

As can be made out from the graph, asafoetida alone has a slight enhancing effect on root initiation, particularly in concentrations
1.562/2 p.p.m. and 3.125/2 p.p.m.; but in other concentrations it has a retarding effect. This latter effect is more striking in the combined solution, particularly in concentration 12.52/2 p.p.m. root development is completely inhibited. In the remaining concentrations the number of roots produced is reduced approximately by 1/3 of the roots produced in IBA alone.

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SOMATIC CHROMOSOME NUMBER OF RHIZOPUS ARRHZUS FISHER

Genus Rhizopus belongs to the order Mucorales. Nuclear behaviour of some members of this order had been studied in the past by Cutter (1942). Baird (1924) reported on the structure and behaviour of nucleus in Rhizopus nigricans Ehrl. An extensive investigation on this aspect specially of the nuclei of growing hyphae and of spores of many fungal representatives of the order Mucorales was made by Robinow (1957) in the recent past. Very recently, however, Falnagan (1969) has made study on the nuclear division in the vegetative hyphae of Rhizopus nigricans Ehrl and reported the somatic (n) chromosome number to be 16. No report has as yet been made regarding the chromosome number of Rhizopus arrhizus Fisher which prompted the authors to undertake the present work.

Young mycelia were made to grow in pure culture. The fresh and growing mycelia were harvested and then fixed in a fixative of absolute alcohol, acetic acid and chloroform in a ratio of 6:2:1. After fixation of 24 hours small quantity of material was put in a freshly prepared fixative and was stained with aceto-carmine. A few threads of mycelia were investigated for their nuclear division by squash method.

The nuclei in the vegetative hyphae of the fungus were found to divide according to conventional mitosis, 16 chromosomes were observed during metaphase stage of mitosis which is the first report of the somatic chromosome number (n) of this species Rhizopus arrhizus Fisher.

FIG. 1. Photomicrograph showing nuclear division (Metaphase stage) of a vegetative hypha with 16 chromosomes, × 3,600.

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EFFECT OF MORPHACTIN ON LEAF MORPHOLOGY AND TENDRIL FORMATION IN MOMORDICA CHARANTIA LINN.

Recently, certain morphogenetically active derivatives of fluorine-9-carboxylic acid (morphactins) have evoked considerable interest, both for possible use in agriculture and as an aid in solving problems of morphogenesis in higher plants.1 The strong and multifarious action of morphactins on growth and development sort out these chemicals as novel growth regulators.2 In our studies on physiology of Indian cucurbits interesting observations were made on the effect of morphactin on tendrill growth and leaf morphology of Momordica plants; the results are summarized in this report.

As reported elsewhere,3 plants of Momordica were grown in earthenware pots in the garden,