stages of development is rather essential for wide crosses.

Usually the young embryos are cultured on artificial medium for about two weeks and later transplanted into pots. Cytological confirmation of the hybridity is done by harvesting the root tips when the plant is established in the pot. It has been possible to obtain good chromosome preparations from the root tips, harvested before transplanting the seedlings from embryo culture medium to pots.

The material was hexaploid wheat *Triticum aestivum* L., *Agropyron* species and *Agropyron*-wheat hybrids and backcrosses. The embryos were cultured 10–15 days after fertilization on Murashige and Skoog[1] medium supplemented with thiamine-HCl, L-arginine, glycine and L-tyrosine and Bactoagar. These were grown in an incubator at 26°C, and 12 hr light (6 a.m.–6 p.m.) and 85% relative humidity for 12–14 days when the root tips were harvested. The seedlings were then transplanted into pots.

The root tips were harvested around 11 a.m. The seedlings were pulled out of the medium and washed. The toot tips were pre-treated in 2% α-monobromonaphthalene for 6 hr at 2°C and fixed in glacial acetic acid for 20 min at 2°C. The root tips were then hydrolyzed in 1N HCl at 60°C for 11 min, stained in leuco-basic fuchsin for about 15 min and then squashed in 1% acetocarmine with the two cover glass technique.

Some of the cytological preparations are given in figures 1-2. The application of the method to embryo culture root tips has the advantage of an early confirmation of the hybrid nature of the seedlings.

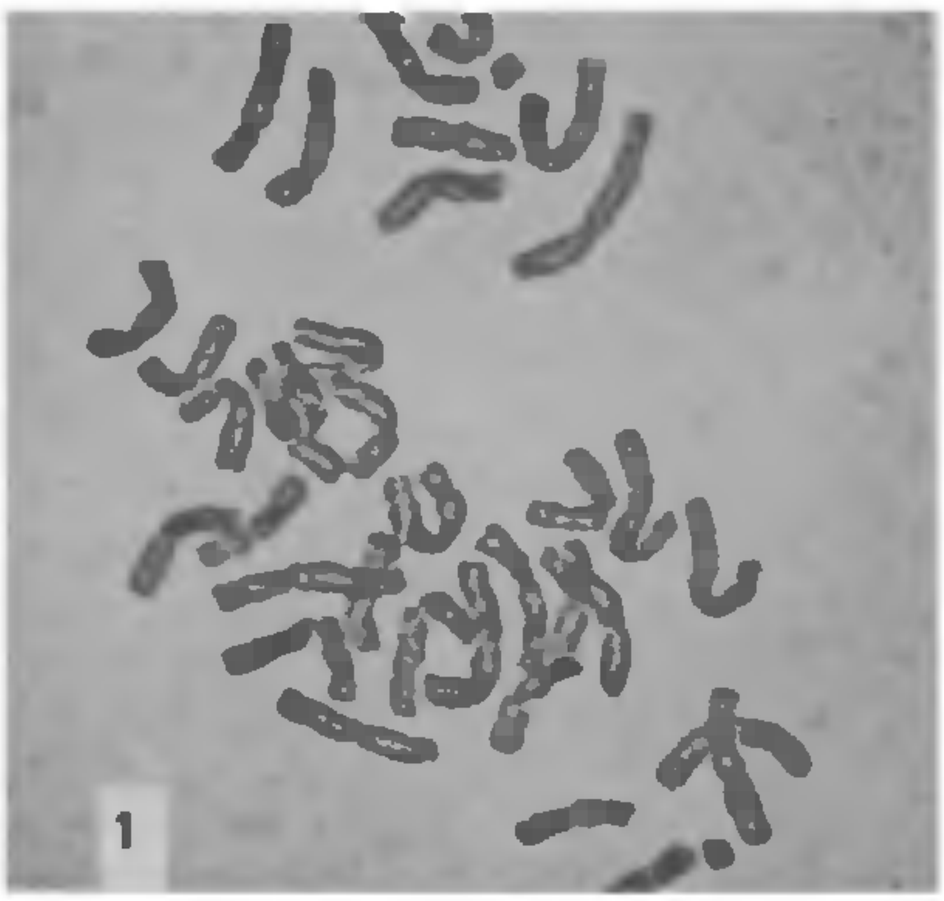

Figure 1. Somatic chromosomes spreads of *A. trachycaulum* TA 2015 × *T. aestivum* cv Chinese Spring F_1, $2n = 35$ (× 1700).

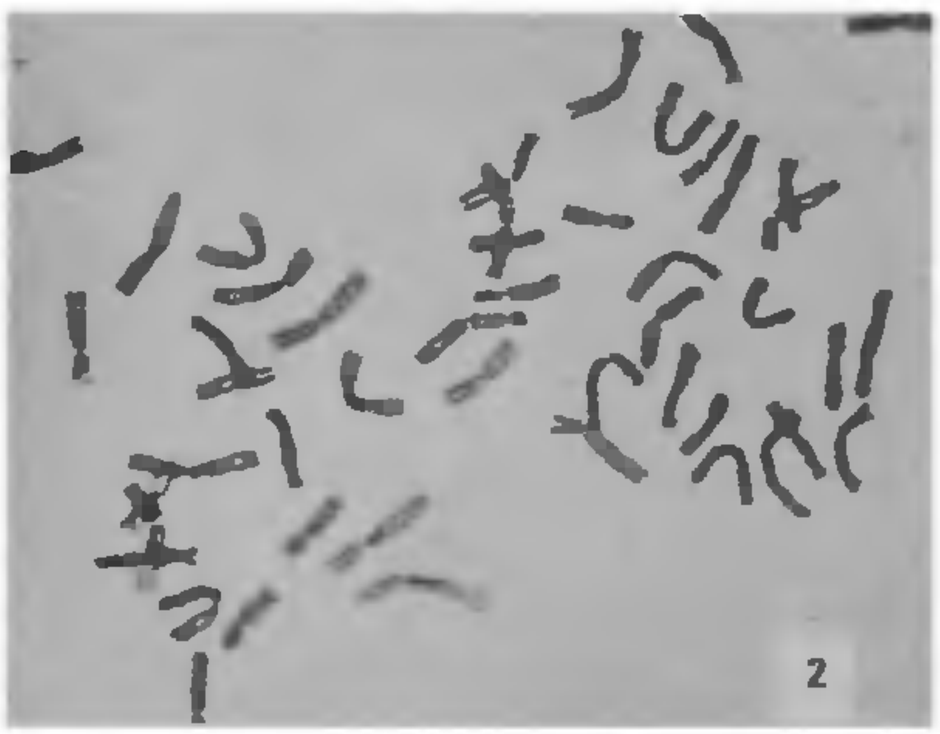

Figure 2. *A. smithii* TA 2052 × Chinese Spring BC_2, backcrosses were made to Chinese Spring, $2n = 49$ (one chromosome not in picture) (× 1000).

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Murashige, T. and Skoog, F., *Physiol. Plant.*, 1962, **15**, 473.

SEPTORIA CREPIDIS VESTERGREN : A NEW RECORD FROM INDIA

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DURING routine survey of fungi parasitizing Angiospermic flora of tarai belt of Gorakhpur region, a leaf-spotting fungus was collected on *Youngia japonica* (Linn) DC (Asteraceae). A brief description of this fungus is presented as follows.

The fungus was characterized with a scattered pycnidia, mostly epiphyllus, globose to subglobose, ostiolate, 60–95 μm in diam.; ostiole centrally placed, spherical, wide, margined with somewhat darker cells, 23–28 μm in diam.; conidiophores very small, more or less cylindrical, hyaline; conidia, simple, smooth, thin-walled hyaline, filiform, straight to sometimes slightly curved, 2–6 transversely septate, acute at both ends, 15–45 × 1–1·5 μm (26–33 × 1·2 μm most common).

On living leaves of *Youngia japonica* (Linn) DC (Asteraceae), February 1980, Gorakhpur, leg. A. K. Singh, KA–76 IMI 24896.

The morphological features of this collection clearly indicate that it is assignable to *Septoria crepidis* Vestergren[1]. Literature survey suggests that *Septoria crepidis* Vestergren is a new fungus record from India.

Authors are indebted to Dr. E. Punithalingam, CMI, Kew, UK, for confirming the identity of this fungus and to Prof. S. N. Mathur, for facilities.

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1. Vestergren, *Bihang till Kgl. Svenska Vetenskapsakdemiens Handlingar 22* : Afd III No. 6, 24, 1896.

EFFECT OF GA_3 AND GA_{4+7} ON THE TENDRIL FORMATION IN *CUCURBITA PEPO* L. cv. HS-1

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FORMATION of tendrils in cucurbita is reported to be under the control of gibberellins[1,2]. Its formation is suppressed by growth retardants[3].

Nontrailing bushy plants of *Cucurbita pepo* L. cv. HS-1, raised in earthenware pots were sprayed with aqueous solutions of GA_3 and GA_{4+7} to run off along with 0.001% of Tween 80. The treatments were repeated twice at weekly intervals. Observations were recorded 4 weeks later.

The height of plants increased with GA_3 and GA_{4+7}, the effect increasing with the concentrations of both and the latter being more effective. Control plants continued to grow bushy and erect without any tendrils not only in this experiment but in 6 other experiments as well. However when gibberellins were applied tendrils were initiated, one on each node (figure 1).

Figure 1. Plants of *Cucurbita pepo* L. Control on the left and plant treated with 10mg/L of GA_3 on the right.

The number of tendrils increased with the concentration of gibberellins, GA_{4+7} being more effective than GA_3 (table 1). First tendril appeared on a lower node with the higher concentration of gibberellins. The tendrils were branched, often bearing leaves and floral buds (figure 2). As the control plants did not form the tendrils, it appears that the right type of endogenous gibberellin is lacking in the plant or if it is present, it is rendered ineffective *in situ*. Further work is in progress to clarify this point.

TABLE 1
Effect of GA_3 and GA_{4+7} on stem growth and tendril formation in Cucurbita pepo L.

Concentration mg/L	Height of stem cm	Number of tendrils	Node bearing first tendril
0 (Control)	19·0 ± 0·8	0	0
GA_3 1	23·8 ± 1·4	0	0
10	55·6 ± 3·2	2·1 ± 1·1	12·8 ± 1·2
100	98·7 ± 4·1	7·4 ± 2·2	10·2 ± 2·1
GA_{4+7} 1	42·0 ± 2·5	3·0 ± 1·6	14·0 ± 2·7
10	70·0 ± 4·5	3·8 ± 2·2	8·3 ± 1·5
100	125·0 ± 7·5	13·6 ± 2·6	8·1 ± 1·3

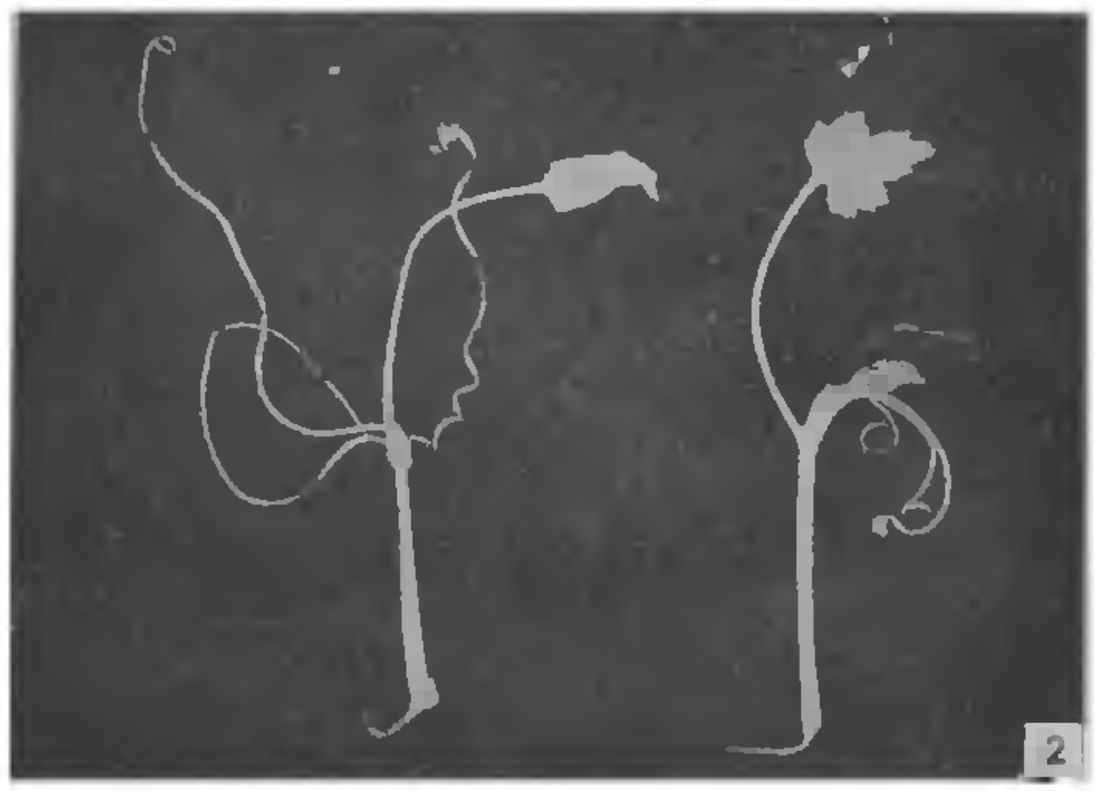

Figure 2. Tendrils formed on gibberellin-treated plants. Leaves and floral buds can be seen on the tendrils.

June 12, 1981.

1. Galun, E., *Phyton*, 1959, **13**, 1.
2. Denna, D. W., *Proc. Am. Soc., Hort. Sci.*, 1963, **83**, 657.
3. Halevy, A. H. and Rudich, Y., *Physiol. Plant.*, 1967, **20**, 1052.