

either when supplemented to pulse protein or rice protein.

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USE OF GROWTH SUBSTANCES IN THE INDUCTION OF PARTHENO-CARPY IN *LYCOPERSICUM ESCULENTUM* AND *CAPSICUM ANNUUM*

Two growth substances, phenoxy-acetic-acid (PAA) and indole-acetic-acid (IAA), have been used in this investigation, the former at a concentration of 10 p.p.m. and the latter at two concentrations, 10 p.p.m. and 1 p.p.m. The method of study consisted in emasculating the buds at the pre-anthesis stage in 5 plants under each treatment. The emasculations have been made on 3 dates on all the unopened buds present at each date. In the beginning after emasculating, spraying with the hormone concerned was done thrice a week, but as experience showed that all the sprayed buds dropped off without opening into flowers and forming fruits, showing shrivelling before dropping off, at the later dates after emasculating only one spray application of the hormone concerned was given per week, with better results. A greater percentage of the emasculated and hormone-sprayed buds developed into flowers and fruits by such reduction in the frequency of spraying.

TABLE I

Percentage of parthenocarpic fruits produced under different hormone treatments

Plant material	PAA 10 p.p.m.	IAA 10 p.p.m.	IAA 1 p.p.m.
Tomato	30	48	50
Chillies	43.8	47	64.7

There is a higher induction of parthenocarpy in the weaker dose of IAA (1 p.p.m.) both in the case of tomatoes and chillies. IAA seems to be relatively more effective than PAA. However, in fruit size PAA and IAA at 10 p.p.m.

on chillies yield distinctly bigger fruits than the control. In tomato PAA (10 p.p.m.) yielded smaller fruits than the control, but IAA (10 p.p.m.) treatment gave bigger fruits. In IAA (10 p.p.m.) treatment fruit size is of the same order as in the control.

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CHROMOSOMES OF *SCILLA HOHENACKERI* FISCH. & MEY.

DURING the course of a karyological study of the genus *Scilla*, one of the two Indian species, *S. Hohenackeri*, showed certain hitherto unrecorded facts, which are thought to have a bearing on the evolutionary tendencies within the genus.

Fig. 1 represents the somatic metaphase of *S. Hohenackeri* showing 10 chromosomes. The

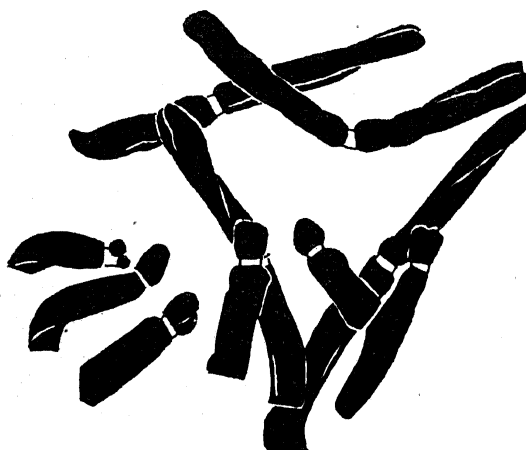


FIG. 1. *Scilla Hohenackeri*. Somatic metaphase, showing 10 chromosomes (from an aceto-carminic smear preparation of a root-tip material prefixed in 0.2% colchicine and fixed in acetic-alcohol, 1 : 3).

chromosome number of the species is not known and such a low diploid number has never been recorded for any other species of *Scilla*.² The chromosomes are fairly large with a distinct morphology. The diploid complement consists of two pairs of chromosomes with either median or submedian constrictions and three pairs of chromosomes with subterminal constrictions.

It is indeed remarkable that such a karyotype with the lowest chromosome number so far reported in the genus is asymmetrical. This fact becomes more evident when the chromosome complement of this species is compared with that of *S. siberica* ($2n = 12^1$), which is characterised by medianly or submedianly constricted chromosomes, and never with subterminal constrictions. This raises the problem of