

CHROMOSOME STUDIES IN THE GENUS *IPOMAEA*

THE genus *Ipomæa* includes several economic plants and many garden favourites. King and Bamford (1927) have published a list of chromosome numbers of several species in this genus. This list does not include some species of *Ipomæa*, for example, *I. pulchella* Roth., *I. carnea* Jacq., *I. reptans* Poir. Kano (1929) has reported the haploid number of *I. batatas* Lamk. as 42 and King and Bamford, however, estimate the diploid number to be 90.

Both mitosis and meiosis were studied. Roots were obtained from the cuttings. All the materials were fixed in CrAF and stained by iron-alum-hæmatoxylin. As the Figs. 1-3 show,

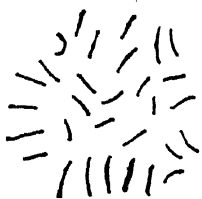


Fig. 1.



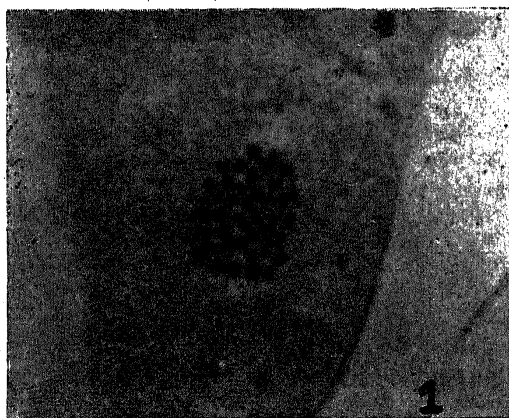
Fig. 2



Fig. 3

Mitotic metaphase plates 1. *I. carnea*. $2n=30$ 2. *I. reptans*. $2n=30$. 3. *I. pulchella*. $2n=30$

I. carnea, *I. pulchella*, *I. reptans* have $2n, 30$. The diploid number of *I. batatas* is 90. In *I. batatas* somatic pairing was found among the chromosomes in pairs in majority of plates.

PLATE I.—Meiotic II metaphase in *I. batatas*. $n=45$

In meiosis, stages from diplotene to anaphase were available for study. Fifteen bivalents were formed in both *I. carnea* and *I. pulchella*. The diplotene bivalents showed both terminal and interstitial chiasmata. In *I. carnea*, secondary association among the bivalents was noticed in majority of plates. The haploid number of *I. batatas* was found to be 45. (Plate I).

The plants under study showed some abnormal features. 'Syndiploid' cells or two- to three-nucleate p.m.c. were observed in *I. carnea* and *I. pulchella*. 'Syndiploidy' has been previously reported by several workers in *Lactuca* (Gates and Rees, 1921), *Prunus* (Darlington, 1928), *Brassica* (Karpechenko, 1927). Darlington (1937) considers this phenomenon as a racial or genetic character.

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STUDIES IN VITRO OF SOME SULPHANILAMIDE DERIVATIVES

TREFOUËL *et al.*¹ observed that N^4 -sulphanilamide acetic acid is a good bacteriostat *in vitro*. In view of this Bami, Iyer, and Guha²⁻⁵ synthesised a number of aliphatic esters and acids substituted at N^4 -position of sulphanilamide as well as certain alkylene bis-sulphanilamide and their N^1 - and N^4 -substituted derivatives.

The bacteriostatic activity of some of these compounds was determined both by the Oxford cup method with *Staphylococcus aureus* and by the turbidimetric method with both *Staphylococcus aureus* and *Streptococcus hemolyticus*.

All the compounds mentioned in the table were soluble in water and had a maximum pH of about 8.

Compounds No. 13 and 14 are a few of the antimalarial drugs of the sulphanilamide-biguanide type while compound No. 15 is a salt of Paludrine.⁶

The table shows that in general the compounds are equally effective against both types of organisms. Compounds No. 1, 11 and 14 however, inhibit *Streptococcus hemolyticus* at a concentration much less than is required for *Staphylococcus aureus*.

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