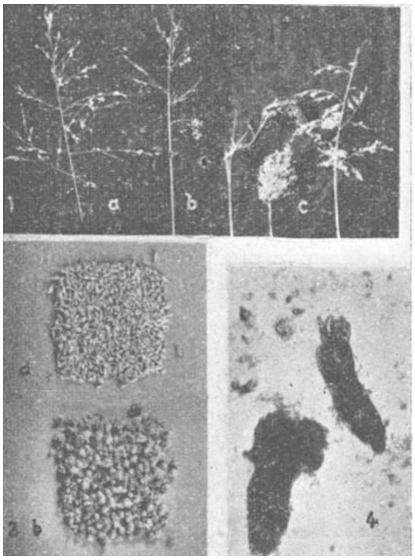

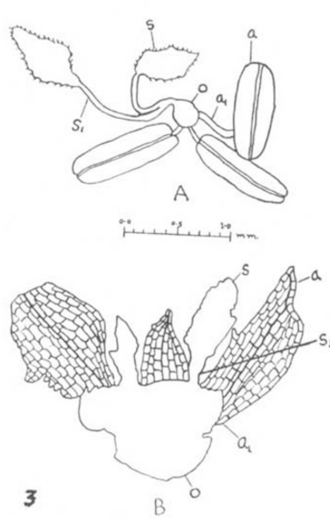

Fig. 1. (*a*) Healthy earhead of blue panic ; (*b*) part of the inflorescence is affected ; (*c*) almost whole inflorescence is malformed.
Fig. 2. (*a*) Healthy seeds of blue panic ; (*b*) malformed ovaries.
Fig. 3. (*A*) Essential whorls of a healthy flower ; (*B*) essential whorls of a malformed flower. (*a*) anther ; (a_1) filament of anther ; (*S*) stigma ; (S_1) style ; (*O*) ovary.
Fig. 4. Photomicrograph of a species of *Eriophyses*.
Figs. 1–4

Microscopic examination of the deformed flower revealed numerous disease-inciting *Eriophyses* sp. (Fig. 4) which is also considered to be the disease inciting mites in case of mango malformation[1]. Although the mites in mango are numerous in meristematic regions and tender portions of the peduncles, those in blue panic are restricted only in floral parts. Examination of healthy flowers and other portions of the inflorescence showed none of them. In later stages of malformed 'flowers' the various phases of the developing mite were observed. Furthermore, it was noticed that the enlargement was mainly responsible due to cell enlargement.

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A 40-Chromosome Variant in *Solanum nigrum* L.

The literature on *Solanum nigrum* L., indicates that it is a complex of several distinct species[1].

A plant from the small natural population of hexaploid *nigrum*, growing in the Botanical Gardens of the University of Allahabad, revealed more often $6_{IV} + 8_{II}$ ($n = 20$) as shown in Fig. 1, one bivalent remaining attached to the nucleolus. In one or two cases an octovalent was also observed. Such a plant can only originate from an haploid ($n = 36$) plant as is explained herewith.

The natural haploid *nigrum* ($n = 36$) with[2] $12_{II} + 12_{I}$ is poly-haploid in the true sense where the first meiotic division will separate 12_{II} into 12 + 12 chromosomes going to two poles and 12_{I} separating at random, the number being anywhere between 0 and 12. As a result of such separation, if a dyad with 12 + 8 (20) chromosomes undergoes a normal second division, which may or may not form a cell wall, then in the former case tetrad with 4 × 20 chromosomes, and in the latter case a polyploid dyad with 40 chromosomes, that is, 2 × (12 + 8), will form. Both cases may give rise to a progeny with 40 chromosomes : in the former case if a male nucleus having originated in the same fashion with 20 (12 + 8) chromosomes enters to fertilize an egg nucleus, and in the latter by the process of female parthenogenesis. These might hold good in the present observation where 8_{II} have been observed pairing perfectly and the remaining 24 chromosomes pair to form quadrivalents, and in few cases octovalents and quadrivalents. Though Love and Suneson[3] have shown in *Triticum-Agropyron* hybrids that regular meiosis is not essential for the production of viable gametes, the second case is more plausible because: (1) the egg can survive unbalance to a greater extent than the pollen grain (2) female parthenogenesis has been reported to occur in *Solanum* so that the haploid ($n = 36$) under consideration itself has been interpreted as originating parthenogenetically[4] from the auto-allohexaploid *nigrum*; and (3) the formation of perfect 8_{II} is easier to interpret on the basis of duplication of the same chromosomes rather than the pollen grain with the prototype chromosomes entering to fertilize the egg nucleus.

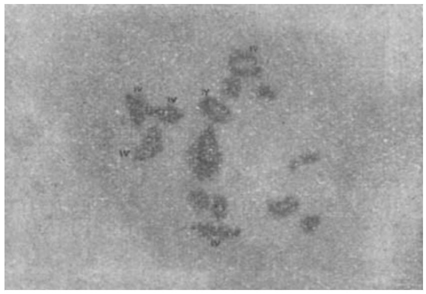

Fig. 1

The species status of the variant will be an interesting study.

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