

Somatic Chromosomes and Microsporogenesis
in Cobra or Snake Lily, *Arisæma murrayi*
(*Araceæ*).

VERY young plants of Cobra Lily begin to appear in large numbers in Mahabaleshwar, Western Ghats, Bombay Presidency, from about the beginning of the fourth week of May. Cytological observations show that in order to obtain for study all the stages in microsporogenesis it is necessary to fix very young stages of spadix from the plants which are almost underground, or which are still enclosed and whose tops only have just appeared above the subsoil.

The chromosomes are fairly large and the diploid number as seen in root tips is 28. Equatorial plates of the somatic chromosomes at the metaphase are more commonly found in the peripheral region of the root tip. But the most interesting feature is the behaviour of the nucleus in the course of pollen formation. In almost diagrammatic clearness and in an unmistakable sequence are presented all the various stages through which the nucleus of the pollen-mother-cell passes in its growth and development. And this may well serve as a good example in demonstrating a straightforward microsporogenesis to students of advanced classes. Regarding synizesis one finds it difficult to believe that it is merely an artefact when it presents the same aspect, a closely tangled mass of deeply stained chromatin threads engulfing the nucleolus and lying on one side of the nucleus adjacent to the nuclear membrane, under a variety of fixatives. For a considerable period of time during diakinesis bivalent chromosomes stand well apart from one another in a seemingly clear space bounded by a remarkable clear nuclear membrane, which persist long after the bivalents have undergone considerable condensation and shortening.

Fourteen bivalents in the equatorial plate form the haploid number of chromosomes in the heterotypic division. These have been counted in a large number of heterotypic metaphases and anaphases, and in an equally large number of the same phases

in homeotypic division. As the daughter nuclei are reconstructed distinct membranes or partitions appear in the equatorial regions of the spindles. And in this connection it may be remarked that during the quadripartite division of the parent cell leading to the formation of the pollen furrowing in the cell wall of the pollen-mother-cell is not in evidence.

A detailed account of the behaviour of the nucleus and its divisions studied will be presented in the near future.

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