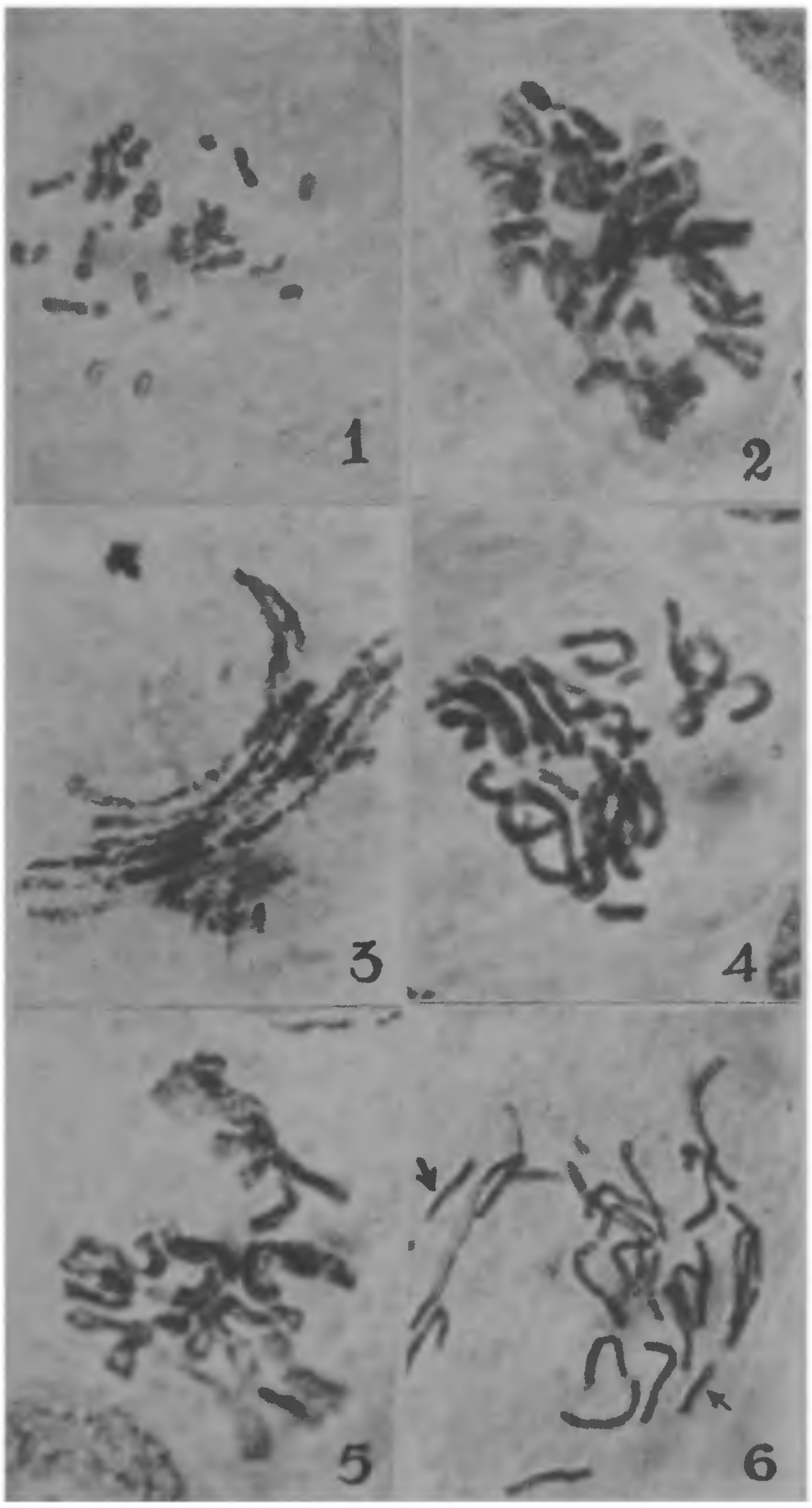

Figures 1–6. Showing various cytological aberrations in *Allium sativum* L. **1.** Extreme breakage and condensation of chromosomes (×2500). **2.** Diplochromosomes at metaphase (×2500). **3.** Meta-anaphase with breaks and gaps (×2050). **4.** Unoriented chromosomes at metaphase (×2390). **5.** Unequal segregation of diplochromosomes (×3100). **6.** C-metaphase with breaks (×1800).

at metaphase was observed frequently.

The other types of abnormalities, chromatin erosion, C-metaphase (figure 6), elimination of chromatid, precocious movement, diagonal pole and spindle, unequal distribution of chromatin material (figure 5) and unoriented chromosomes (figure 4) were also commonly observed.

Dimecron in the present study interfered with the spindle and cell plate formation giving rise to C-metaphases. However, after the recovery no tetraploid cells were recorded, indicating that impairment of spindle function may be partial as reported earlier for dexon[5] and topsin[10]. Dimecron also induced clastogenic effects after recovery period revealing its effect on G_2 phase of the cell cycle[11]. Similar clastogenic effects in plant cells have been recorded earlier[4,12].

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NEW REPORT ON THE NODULATION STATUS OF SOME TROPICAL WEED LEGUMES

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WITH a view to establishing a Rhizobial gene bank and also to make an exhaustive study of nodulation

in tropical leguminous weeds, an initial collection of 26 species of herbaceous weed legumes was made. Of these, the nodulation status of 22 species had been reported earlier[1] and the present authors could confirm the reports in all these cases. In the case of *Cassia occidentalis* L the reports on nodulation were conflicting[1-3]. The present study revealed only the absence of nodules in this species in the specimens collected from five different sites in and around the University campus. The soil at these sites was red loamy with pH 7.8 and 70–80 kg Nha^{-1}. Laboratory inoculation studies are in progress to test its nodulating ability. Our collection included three hitherto unreported species with regard to their nodulation status. They were *Cassia auriculata* L, *Crotalaria angulata* Miller and *Rhyncosia velutina* W and A. In *C. auriculata* L there were no nodules in the many specimens examined from the same locations and soil type mentioned previously for *C. occidentalis*. Further, *C. auriculata* as well as *C. occidentalis* showed coloured roots agreeing with an earlier observation that non-nodulated roots are generally coloured while nodulated ones are nearly white[4]. In nature fairly profuse nodulation was observed on the roots of *Crotalaria angulata* and *Rhyncosia velutina*. In *C. angulata* the nodules were elongated free or clustered while in *R. velutina* they were globose and single. Nodule frequency showed variation depending on the place of collection. Further work is in progress.

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CHROMOSOME STUDIES IN *CALATHEA*

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THE family Marantaceae of Scitamineae is distributed in both tropical and temperate zones in India. It has ornamental value as well as commercial importance of arrowroot. Ornamentation is confined to the colouring of leaves. The few reports[1-4], reveal a series of aneuploid chromosome numbers in this family[1, 3, 4]. In view of the scanty data on the cytology of this commercially important genus, the present investigation was undertaken.

For the present study on chromosome characteristics, 6 species of *Calathea* of Marantaceae were selected. They include : (i) *Calathea lietzei* E Morr, (ii) *C. undulata* Regel, (iii) *C. picturata* C Koch and Linden var *vandenheckii*, (iv) *C. kegeliana*, (v) *C. insignis* Petersen, and (vi) *C. ornata* Koern var *roseo-lineata*. Somatic chromosomes were studied from root tip cells following acetic-orcein (2%)

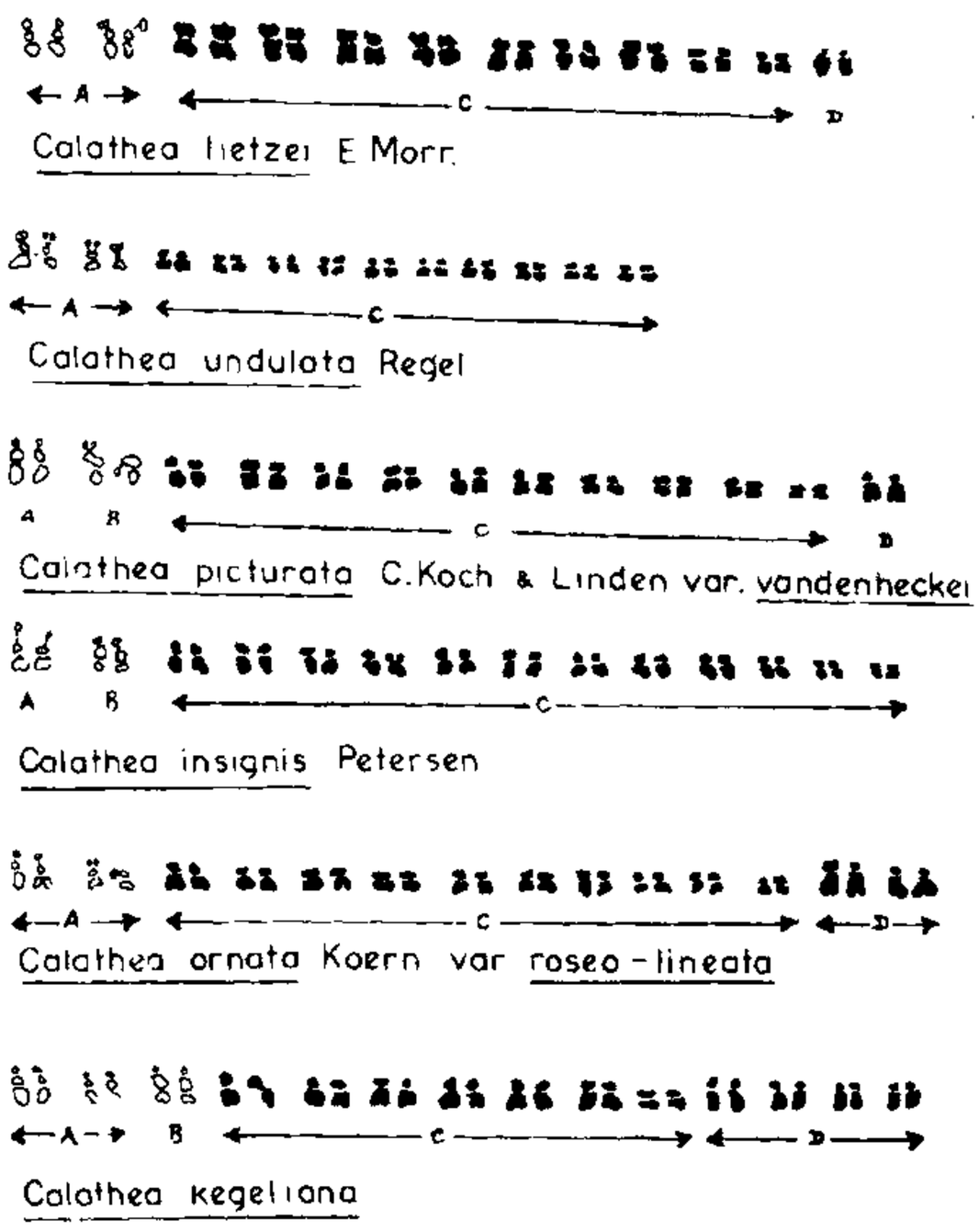

Figure 1. Comparative representation of karyograms in species of *Calathea* (ca × 1350).