Supposing like ÖSTERGREN does (1949) that the spindle figure is a tactoid, and does not exist of fibres but of particles in dynamic equilibrium, continuously exchanging position with one another as in a liquid, but still preserving their characteristic parallel orientation it is possible to imagine that the working on the nuclear plasm is in such a way that may be by change of viscosity, no orientation of the particles occurs.

An important field of research still lies open: it seems more and more necessary not only to look at the final result, but to study the colchicine action much more in detail as a cytological, and not a purely karyological, process.

## SUMMARY

1) Native materials, obtained through the courtesy of Professor Dr A. C. BOERGER, Uruguay, and considered to be *Solanum commersonii*, have a somatic number of chromosomes of 2n = 24. Therefore it seems probable that the plants having a somatic number of 2n = 36 as studied by other writers, donot belong to this species.
2) On the strength of the results obtained from crosses between different species it was tried to establish a relationship between the genomes.
3) The cytological assumption that the basic number of chromosomes in the genus *Solanum* is 6, was strengthened by genetical data.
4) It was demonstrated that the action of colchicine is primarily cytological, and secondarily karyological.
5) Three new species are mentioned, viz. *Solanum antipophureja* (2n = 72), *S. antipochacoense* (2n = 72) and *S. demissorosum* (2n = 120).

## SAMENVATTING

1) In het wild groeiend materiaal, ontvangen van Prof. Dr. A. C. BOERGER, Uruguay, dat door hem als *Solanum commersonii* beschouwd wordt, heeft een somatisch chromosomenaantal van 2n = 24. In verband hiermede lijkt het waarschijnlijk, dat de