

The Toronui which the main road crosses at the H.Q. turn off well repays the wading one has to do. Hebe diosmaefolia, Gnaphalium keriense, Pimelia prostrata and Ackama rosaefolia (a lovely sight in December), Loxosoma Cunninghamii, Sphaerocionium ferrugineum and others make it worth while.

- J.W. Jessop.

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SOMETHING ABOUT CHROMOSOMES

- E.J. Godley

There is a very frail connection between one generation and the next in living organisms. Two tiny cells, the male and female gametes, bridge the gap, and carry within them all the vast potentialities of development which will make a new organism. The pattern of development is determined by genes aggregated in a linear order to form chromosomes, and these are found in the nucleus of both the male and female gametes. Offspring resemble parents because they have received their chromosomes from the parents. Genes cause certain characteristics in the parents and the descendants of these genes cause the same characteristics in the offspring.

Any pollen grain of a potato plant has 24 chromosomes in its nucleus, and the same number is found in the egg cells or ovules of the flower. On fertilisation the nucleus of the pollen grain fuses with the nucleus of ovule and the chromosomes added together give a fertilised egg with 48. From this cell all the cells of the body are derived. Cells increase in number by mitotic division, which ensures that such daughter cell resulting from a division has chromosomes identical with those of the parent cell. When the time comes for reproduction a special division called meiosis produces gametes with half the normal chromosome number. The normal number is restored on fertilisation.

Chromosomes in plants are best seen in regions where cells are actively dividing, i.e. root tips, or at pollen formation in the young flower. Here are some chromosome