Whiting². They have a ticked coat similar to that of a wild rabbit, with a blackish vertebral stripe and tail, and black pads. In the yellow variety, all black in the coat is replaced by yellow and the pads are pink.

A number of breeders of pedigree Abyssinian cats have kindly made available to me details of those litters in which yellow cats have been produced. These records show that yellow Abyssinian cats have been produced in two ways. A few yellow males have resulted from matings between normal Abyssinian males and tortoiseshell females. These are readily explained by the operation of the known sex-linked gene. The majority, however, have been produced from matings between normal Abyssinian cats all of which had normal Abyssinian parents. At least 16 yellow Abyssinians have been produced in this way (7 males, 7 females, 2 sex unrecorded). The proportion of yellow and normal offspring in the different fraternities and a study of the relevant pedigrees suggest that the yellow colour is determined by a single recessive gene, but the data so far available are insufficient to demonstrate this conclusively. It is clear, however, that the yellow colour is inherited autosomally. Two matings between these yellow cats have yielded six kittens, all yellow.

As yet, autosomally determined yellow colouring is known only in the Abyssinian breed, but it appears that the phenotype is indistinguishable from *yy* and *y-* cats. This may limit the suitability of the *y* locus for tests confirming that populations are mating at random with respect to colour³.

It is hoped that further crosses will be made to confirm the mode of inheritance, and to produce other genotypes. In particular, it will be of interest to combine autosomal yellow with the Siamese (*c^{Hc^H}*) coat pattern. Little⁴ has suggested that the action of the *c^H* gene in cats may differ from that of the *c^H* (Himalayan) gene in rabbits and guinea pigs, because rodents homozygous for *c^H* and *e* (yellow) are pure white, whereas *c^{Hc^Hyy}* cats have well-marked yellow extremities. It now seems possible that this difference relates to the genes determining the yellow coat colour, and that the sex-linked yellow of the cat is not the homologue of recessive yellow in the rabbit and guinea pig as has previously been assumed^{4,5}.

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A Polyploid Form of *Fragaria orientalis* Los.

THE somatic chromosome number of *Fragaria orientalis* Los. is 28 (refs. 1 and 2). According to some authors^{3,4} the duplication of the chromosome number by means of colchicine in plants such as *Fragaria*, though difficult, is possible. For the purpose of obtaining a polyploid form in *Fragaria orientalis* we treated the germinated seeds of this species with the following concentrations of water solutions of colchicine (per cent): 0.05; 0.1; 0.2; 0.4 and 1. Most of the germinated seeds thus treated died (about 300 seeds were used in the test) because of their inability to form a normal root system.

Ten seedlings survived under different conditions of treatment. Among them was one distinguished by

Fig. 1. Octoploid plant *Fragaria orientalis*

Fig. 2. Metaphase in the root of an octoploid *Fragaria orientalis* with 56 chromosomes. ($\times 2,600$)

the roughness of its leaves; the teeth of the leaves were large and their leaflets seemed not to be normally orientated but overlapping each other (Fig. 1).

To produce such a plant the germinated seeds of *Fragaria orientalis* were treated with the 1 per cent water solution of colchicine for 46 hr. The rootlets on the runners of this seedling were fixed by Navashin 10-4-1 fixation. Permanent preparations were made of sections of these rootlets. While examining these preparations, in many cases we found 56 chromosomes per cell (Fig. 2). From the rooted runners several dozens of rosettes were produced all of which showed specific changes of the leaves, characteristic of the original plant. Up to the present time neither the original plants nor those produced from the runners have blossomed.

When these 56-chromosome plants have begun to blossom we intend to cross them with a number of large-fruited kinds of strawberry in order to transfer some of the valuable properties of *Fragaria orientalis* to *Fragaria grandiflora*.

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