KARYOLOGICAL STUDIES IN CROCUS IV

by

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I have obtained from van Tubergen two Crocus new to me, viz. C. Cartwrightianus albus and C. Suterianus. This paper deals with the chromosomes of these two Crocus, together with those of some other Crocus, although most of their somatic chromosomes have already been studied (Karasawa 1943, 1951). The expenses of this study were defrayed by a grant from the Ministry of Education, to which I wish to express my best thanks.

1. Crocus Suterianus

Since this species belongs to the so-called “aureus group”, so six somatic chromosomes were observed, as expected (Fig. 1). The karyotype was very similar to those of the other six chromosomal species. Thus the genus Crocus comprises as many as six species that contain six somatic chromosomes. At the metaphase of the meiosis, three bivalents were observed (Fig. 2). The meiosis proceeded quite regularly (Fig. 3). The mature pollen grains were normal.

2. Crocus aerius “Grey Lady”

As described in my paper (Karasawa 1943), the species aerius had eight somatic chromosomes, and four bivalents were observed at the metaphase of the meiosis (Fig. 4). Reduction division occurred normally (Fig. 5).

3. Crocus biflorus Barrii

As reported already (Karasawa 1943), the variety Barrii had
seven somatic chromosomes, and three bivalents and one univalent were observed in meiosis (Fig. 6). The meiosis was very irregular. The mature pollen grains were quite deformed.


Figs. 4–5. Crocus aerius "Grey Lady". 4. Four bivalents at the metaphase of the first division. 5. First division, showing four chromosomes in each pole. × 600.

Fig. 6. Crocus biflorus Barrii. 6. Three bivalents and one univalent (shown in outline) at the first metaphase. × 600.


4. Crocus Kittiwake

As this species contains fifteen somatic chromosomes (KARASAWA 1943), five trivalents were observed in diakinesis as well as in metaphase (Figs. 7, 8). Being triploid, the meiosis was very irregular (Fig. 9).