

Length and arm ratios of the pachytene chromosomes of  
Elyonurus tripsacoides (2n=20).

Chromosome No.	Short arm (microns)	Long arm (microns)	Total length (microns)	Arm ratio
1	24.3	27.5	53.5	1.1
2	18.0	25.2	44.6	1.4
3	14.0	24.9	40.0	1.8
4	14.0	20.6	35.8	1.5
5	12.6	17.2	30.9	1.4
6	4.0	24.6	29.5	6.2
7	12.6	13.7	27.5	1.1
8	9.7	15.4	26.3	1.6
9	11.2	13.7*	26.3	1.3
10	8.9	10.6	20.6	1.2

\*Nucleolus organizing body terminal on this arm.

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20. Rate of pollen tube growth.

Because the apparent transmission rate of a tripsacum chromosome marked by the Su locus varied with the quantity of pollen applied to the styles, an attempt was made to determine if a differential rate in Su vs su tube growth was involved. Equality in transmission between the sugary pollen with 10 chromosomes and the pollen with 10+1 chromosomes, in which the extra chromosome was marked by the starchy gene, should yield a 1 su to 1 Su ratio on homozygous sugary styles. Although cutting the styles back by one inch at 4, 5 and 6 hours after pollination did not change the set of Su to su kernels, the data on rate of tube growth are of interest in regard to the safe time for cutting back exposed styles (Table 1).

Table 1  
Seed set after cutting styles by one inch at various times  
after pollination.

Hours after pollination for cut:	4 hrs.	5 hrs.	6 hrs.	Control
Total ears pollinated	22	11	12	12
Ears with seed	0	4	10	12
Ears with 25 or more seed	0	2	4	12
Ears with seed lower half	0	2	3	12

No attempt was made to experiment with the physiological conditions.

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21. Supernumerary chromosomes in the Bussey clone of *T. dactyloides*.

According to Tantravahi (1968) presence of B chromosomes has not been previously established for any of the tripsacums, other than those reported by him for *T. floridanum*, *T. maizar* and *T. zopilotense*. In each of these species, a single B chromosome was recognized by him at pachytene and later stages of meiosis I.

In the course of studies to prepare the cytological map of *T. dactyloides*, it was found that one of our cultures contained variable numbers of chromosomes in excess of the expected 18 pairs for the species. These supernumerary chromosomes were either organized as bivalents or occurred as univalents. At pachytene, it was difficult to distinguish them from the A chromosomes because of heavy clumping. But, where discernible, some of them were darkly stained while others were nearly normal. Distinction between a paired bivalent or a univalent with a fold back, and the position of the centromeres were also uncertain. Often they were attached to the terminal knobs of the A chromosomes. The range of variation in their number and behaviour scored from PMC's at diakinesis is summarized below: