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1. Maize and teosinte relationship.

Reeves and Mangelsdorf (Reeves and Mangelsdorf, 1942) first proposed that maize and teosinte should be congeneric. During the last decade, I have studied the relationship between these two species and have found additional evidence to support their proposal (Ting, 1964; Ting, 1967). However, the controversy on the relationship between these species has recently arisen again. It seems to me that this is completely unwarranted.

For the past two years, I have employed new techniques, such as electron microscopy and DNA-binding fluorochrome staining, to investigate further the relationship between these species at a subchromosomal level. The data obtained through these studies also agree with the previous conclusion that maize and teosinte should be congeneric. I think that this should be accepted.

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2. Additional studies on the synaptonemal complex of haploid maize.

During the last year, studies on the synaptonemal complex of haploid maize have continued. It was observed that the lateral elements of the complex are undoubtedly bipartite in structure. Based on four randomly chosen samples, the average width of the central element was  $499 \text{ \AA}$ , while that of the lateral elements was  $524 \text{ \AA}$ . Flanking both sides of the central element, the space between the central and lateral elements was  $419 \text{ \AA}$  crosswise (Table 1). Hence, the average width of a single complex is about  $2385 \text{ \AA}$ , which is close to that of single complex in diploid maize.

In certain thin sections, it was shown that the component fibrils of the central elements were clearly two in number. However, central elements with three longitudinal components, as reported in Gryllus, were never found, nor were the ladder-like central elements as in Philaenus. Unfortunately, great difficulties were encountered in trying to definitely identify transverse fibers between the central and the lateral elements