growing in one region introgress some chromosomal segments and those of other regions may introgress other segments.

The fact is that the available data show that at least several chromosome segments are not introgressing in populations of maize and teosinte; whether other segments are introgressing or not is a question that is not possible to answer at the present time and further more critical investigations are needed in order to discriminate among different possibilities.

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Abnormal chromosome 10 — Two types of abnormal chromosome 10 are known in teosinte, but only one of these types has been found in maize populations. In the type that is common to both species chromosome 10 has an extra distal segment of chromatin which possesses a large subterminal knob. The second type, which is found only in teosinte populations, differs from the first type only in that the extra segment having the subterminal knob also has a small or medium terminal knob. In order to facilitate the discussion of these two types of abnormal chromosome 10, the first is designated type I and the second, type II.

The geographical distribution and frequencies of the two different types of abnormal chromosome 10 in populations of maize and teosinte from regions of central Mexico are given in Table 1. The frequency with which the abnormal chromosome 10 appears in populations of maize and teosinte is very low; however, the type I abnormal chromosome 10 is scattered in maize populations throughout the whole region concerned. These data also show not only that the type I abnormal chromosome 10 is found in both species and the type II only in teosinte, but also indicates that the two types occur separately in populations of teosinte from different regions. Type I was found only in teosinte plants from eastern and southeastern Michoacan and the western part of the state of Mexico, while type II was found in one collection from southern Guanajuato, in collections from Guerrero and in the Chalco region in southeastern Mexico state. This differential distribution of these chromosome types in teosinte might indicate that they possess genetic constitutions which make each of them become better co-adapted to gene complexes of different populations growing under different environments.

When the data from maize and teosinte are compared, especially those from Chalco in the state of Mexico and from Mazatlán in central Guerrero, it becomes clear that these chromosomal segments are not introgressing from maize to teosinte or vice versa. Therefore, the fact that both types of abnormal

chromosome 10 are present in teosinte indicates that the ancestral teosinte population complex had them and they later segregated into the populations of different regions because of changes in the selective forces acting on them. An alternative view would be that type I is derived from type II by loss of the distal knob.

Table 1. Geographical distribution of the two types of abnormal chromosome 10 in collections of maize and teosinte from various regions of central Mexico.

	Collections			Chromosomes		
	With	Without	Total	Type I	Type II	Total
MAIZE						
Guanajuato	2	15	17	4	0	196
Guerrero	4	25	29	9	0	366
Hidalgo	2	9	11	4	0	108
Mexico	7	20	27	15	0	384
Michoacan	4	10	14	9	0	144
Morelos	1	12	13	9	0	108
Puebla	2	4	6	2	0	42
Gueretaro	1	11	12	3	0	120
San Luis Potosi	1	14	5	1	0	52
Tlaxcala	1	2	3	1	0	34
Veracruz	0	1	1	0	0	1
TEOSINTE						
Nobogame, Chihuahua	0	2	2	0	0	32
Guanajuato-N.Michoacan	1	11	12	0	2	118
Guerendaro-Cd.Hidalgo, Michoacan	0	3	3	0	0	28
E.Michoacan-W.Mexico	3	6	9	4	0	98
Huetamo, Michoacan	2	2	4	2	0	50
Iguala-Arcelia, Guerrero	5	0	5	0	5	76
Mazatlán, Guerrero	2	3	5	0	5	52
Chalco, Mexico	6	8	14	0	11	166

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