Morphology of the pachytene chromosomes of Manisuris cylindrica (2n = 18)

Chromosome No.	Long arm (microns)	Short arm (microns)	Total length (microns)	Arm ratio
1	26.3	19.8	47.9	1.4
2	21.6	16.6	39.6	1.3
3	23.4	9.4	38.6	2.5
4	18.4	13.0	33.1	1.4
5	17.3	9.4	28.1	1.9
6	15.1	10.8	27.4	1.5
7	14.4	10.8	27.0	1.4
8*	15.8	10.8	21.9	3.5
9	10.1	7.2	18.4	1.4

*Nucleolus organizing chromosome.

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11. Comparative studies of American Maydeae and the Andropogoneae: IV Morphology of the pachytene chromosomes of Coelorachis racemosa (2n = 36).

The basic chromosome number in Coelorachis is 18, the same as the genus Tripsacum. Meiosis has been found to be regular, 18 bivalents being formed in almost all cells. Occasionally there are cells with 17 bivalents and 2 univalents. Extensive studies of chromosomes at the pachytene stage of meiosis in pollen mother cells have been made.

Most of the Coelorachis chromosomes can be identified by their relative lengths and differences in arm ratios (see Table 1). In cases where their lengths and arm ratios are similar, they could be distinguished by comparing them together in the same cell.

The general range in chromosome lengths and arm ratios is similar to that of some species of Tripsacum.

Table 1. Pachytene chromosomes of Coelorachis racemosa (2n = 36)

Chromosome No.	Long arm (microns)	Short arm (microns)	Total length (microns)	Arm ratio
1	50.4	23.4	74.9	2.2
2	37.4	24.1	63.0	1.6
3	48.6	11.5	61.9	4.3
4	26.6	22.7	51.1	1.2
5	28.4	14.0	44.3	2.1
6	22.7	17.6	41.8	1.3
7	22.3	12.6	37.1	1.8
8	18.4	15.8	36.0	1.2
9	25.9	6.8	34.2	3.9
10	42.3	9.0	33.1	2.5
11	17.6	12.6	32.0	1.4
12*	22.7	6.5	30.2	3.6
13	14.0	12.2	27.7	1.2
14	19.8	6.5	27.7	3.2
15	16.6	8.6	26.6	2.0
16	12.6	10.8	24.8	1.2
17	10.4	8.6	20.9	1.2
18	10.1	4.7	16.2	2.2

*Nucleolus organizing chromosome.

All 18 Coelorachis chromosomes are uniformly marked by heterochromatic regions on either side of the centromere as in Tripsacum. There are no distinctive features as knobs or chromomeres that distinguish one chromosome from the other except for the nucleolus organizing chromosome. Its nucleolus organizing body is located subterminally on the short arm of chromosome 12 in contrast to Tripsacum where it is on the 10th or the 16th chromosome. The nucleolus organizing body is also subterminal in maize although it is internal in the Tripsacum species reported on so far.

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