

Additional file 2: Chromosomal landmarks along mitotic chromosomes support mostly hypothesis (II) but are not conclusive. The number of chromosomes with major, moderate, minor, and no signals was counted for *B. corolliflora*, *B. lomatogona* and *B. macrorhiza* (A). Depending on each hypothesis for *B. corolliflora*’s emergence, the expected counts were deduced (B) and the variance between observed and expected was calculated (C). The average variance between observed and expected for each hypothesis is given in (D).

	Species	Number of chromosomes with signals	18S rDNA	beetSat10/ pRN1	beetSat8/ BISat1			
A	Observation	<i>B. corolliflora</i> 2x = 36	strong moderate weak none	4 0 0 0	7 16 9 4	5 14 17 0		
		<i>B. lomatogona</i> 2x = 18	strong moderate weak none	2 0 0 0	2 3 10 3	2 4 12 0		
		<i>B. macrorhiza</i> 2x = 18	strong moderate weak none	2 0 0 0	3 8 5 2	3 7 8 0		
		Expected <i>B. corolliflora</i> counts for each hypothesis	<i>Hypothesis I</i> 2x <i>B. lomatogona</i>	strong moderate weak none	4 0 0 0	4 6 20 6	4 8 24 0	
			<i>Hypothesis II</i> 2x <i>B. macrorhiza</i>	strong moderate weak none	4 0 0 0	6 16 10 4	6 14 16 0	
			<i>Hypothesis III</i> 1x <i>B. lomatogona</i> & 1x <i>B. macrorhiza</i>	strong moderate weak none	4 0 0 0	5 11 15 5	5 11 20 0	
			Variance between hypothetic and observed <i>B. corolliflora</i> counts	<i>Hypothesis I</i> 2x <i>B. lomatogona</i>	strong moderate weak none	0% 0% 0% 0%	43% 63% 122% 50%	20% 43% 41% 0%
				<i>Hypothesis II</i> 2x <i>B. macrorhiza</i>	strong moderate weak none	0% 0% 0% 0%	14% 0% 11% 0%	20% 0% 6% 0%
				<i>Hypothesis III</i> 1x <i>B. lomatogona</i> & 1x <i>B. macrorhiza</i>	strong moderate weak none	0% 0% 0% 0%	29% 31% 67% 25%	0% 21% 18% 0%
		Average variance		<i>Hypothesis I</i>	32 % variance to observed signals.			
				<i>Hypothesis II</i>	4 % variance to observed signals.			
				<i>Hypothesis III</i>	16 % variance to observed signals.			
		Conclusion		Hypothesis II varies least from the observation. It has most support, but cytogenetic evidence is not conclusive.				