

**Table S11.** Neutrality tests and mismatch distribution analysis. Statistical significance: \*\*\*,  $P < 0.001$ , \*\*,  $P < 0.01$ . a, all chloroplast datasets; b, all chloroplast datasets without single mutation.

Parameter	Neutrality tests			Mismatch distribution	
	Tajima's $D$	Fu and Li's $D$	Fu and Li's $F$	SSD (P)	H <sub>Rag</sub> (P)
a	-2.813***	-14.364**	-9.632**	0.05 (0.36)	0.13 (0.49)
b	-2.424**	-6.609**	-5.595**	0.11 (0.54)	0.15 (0.32)