**Table S8.** Likelihood ratio test statistics G for observed site frequency spectra of Ckma and expectation according to different coalescent models.

Model	G	Comparison	$2\Delta G$	$\overline{df}$
I. Kingman	149.26			
II. Beta $(2-\alpha,\alpha)$	116.21	l vs II	66.10	1
III. point-mass	114.42	l vs III	69.69	1