

Table S6

| Species | Length (bp) | Total no. genes | No. bp/genes duplicated in IR | No. unique protein-coding genes | No. unique rDNA genes | No. unique tRNA genes | Missing genes | Partial genes in IR ² |
|--|-------------|-----------------|-------------------------------|---------------------------------|-----------------------|-----------------------|--------------------|----------------------------------|
| Cyclanthaceae | | | | | | | | |
| <i>Carludovica palmata</i> | 158,545 | 132 | 26,569/19 | 79 | 4 | 30 | - | <i>ycf1</i> |
| Pandanaceae | | | | | | | | |
| <i>Benstonea copelandii</i> ¹ | 157,929 | 131 | 26,887/18 | 79 | 4 | 30 | - | <i>ycf1</i> , <i>rps19</i> |
| Stemonaceae | | | | | | | | |
| <i>Croomia heterosepala</i> | 154,407 | 133 | 27,210/20 | 79 | 4 | 30 | - | <i>ycf1</i> |
| <i>Croomia japonica</i> ¹ | 155,075 | 133 | 26,217/20 | 79 | 4 | 30 | - | <i>ycf1</i> |
| <i>Croomia japonica</i> | 154,672 | 133 | 27,210/20 | 79 | 4 | 30 | - | <i>ycf1</i> |
| <i>Croomia pauciflora</i> | 155,261 | 133 | 27,243/20 | 79 | 4 | 30 | - | <i>ycf1</i> |
| <i>Stemona japonica</i> | 154,224 | 133 | 27,082/20 | 79 | 4 | 30 | - | <i>ycf1</i> |
| <i>Stemona mairei</i> | 154,307 | 133 | 27,082/20 | 79 | 4 | 30 | - | <i>ycf1</i> |
| Triuridaceae | | | | | | | | |
| <i>Sciaphila densiflora</i> | 21,485 | 28 | - | 18 | 4 | 6 | 85 | - |
| <i>Sciaphila thaidanica</i> | 12,780 | 20 | - | 14 | 4 | 2 | 93 | - |
| Velloziaceae | | | | | | | | |
| <i>Acanthochlamys bracteata</i> ¹ | 153,842 | 130 | 27,015/18 | 78 | 4 | 30 | 1 (<i>rps16</i>) | <i>ycf1</i> |

¹Plastomes generated for this study; additional plastomes were obtained from Lam et al. (2015; *C. palmata*, *S. densiflora*), Lu et al. (2018; *C. heterosepala*, *C. japonica*, *C. pauciflora*, *S. japonica*, *S. mairei*) and Petersen et al. (2018; *S. thaidanica*).

²These are short partial gene copies in the IR_B; a full copy of each gene is present in the IR_A junction with the LSC.