

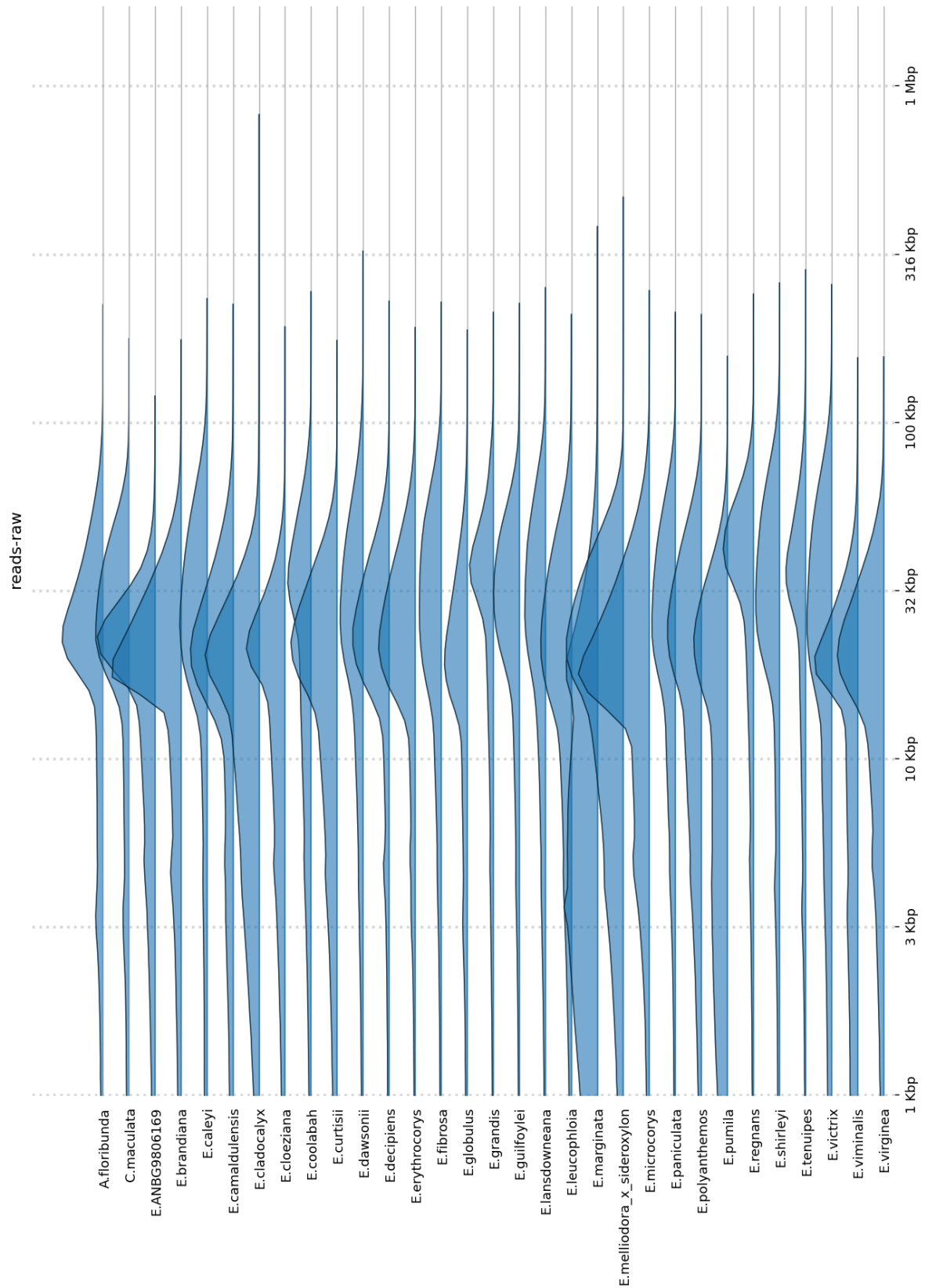
# Supplementary Figures and Tables

| Species                               | DNA extraction method | Size selection (kbp) | Actual Coverage | N50 (kbp) | Number of reads | Total size (Mbp) | Longest read (kbp) |
|---------------------------------------|-----------------------|----------------------|-----------------|-----------|-----------------|------------------|--------------------|
| <i>A. floribunda</i>                  | Nuclei                | 20                   | 68.5            | 30,913    | 1,165,378       | 26,218.73        | 234.42             |
| <i>C. maculata</i>                    | Nuclei                | 20                   | 62.0            | 32,785    | 1,068,357       | 24,727.52        | 186.19             |
| <i>E. brandiana</i>                   | Nuclei                | 20                   | 59.0            | 25,064    | 1,572,473       | 29,661.57        | 185.11             |
| <i>E. caleyi</i>                      | Sorbitol              | 20                   | 44.2            | 38,986    | 981,871         | 25,568.27        | 245.74             |
| <i>E. camaldulensis</i>               | Nuclei                | 20                   | 43.1            | 26,925    | 1,246,437       | 23,709.64        | 236.32             |
| <i>E. cladocalyx</i>                  | Nuclei                | 20                   | 44.3            | 22,608    | 1,603,737       | 23,813.99        | 871.14             |
| <i>E. cloeziana</i>                   | Nuclei                | 20                   | 35.8            | 23,441    | 1,106,171       | 16,977.71        | 202.46             |
| <i>E. coolabah</i>                    | Nuclei                | 40                   | 33.5            | 38,840    | 843,066         | 19,942.69        | 258.17             |
| <i>E. curtisii</i>                    | Nuclei                | 20                   | 61.2            | 26,200    | 1,482,403       | 26,364.96        | 184.51             |
| <i>E. dawsonii</i>                    | Sorbitol              | 20                   | 31.4            | 39,210    | 833,846         | 21,893.54        | 340.53             |
| <i>E. decipiens</i>                   | Nuclei                | 20                   | 36.9            | 29,788    | 937,250         | 21,488.84        | 241.66             |
| <i>E. erythrocorys</i>                | Nuclei                | 20                   | 43.4            | 30,515    | 994,422         | 23,167.70        | 201.42             |
| <i>E. fibrosa</i>                     | Sorbitol              | 20                   | 39.1            | 40,269    | 808,634         | 22,664.55        | 239.76             |
| <i>E. globulus</i>                    | Nuclei                | 20                   | 27.5            | 26,580    | 789,684         | 14,775.47        | 196.77             |
| <i>E. grandis</i>                     | Nuclei                | 40                   | 26.6            | 40,622    | 566,332         | 16,120.84        | 223.69             |
| <i>E. guilfoylei</i>                  | Sorbitol              | 20                   | 44.9            | 37,750    | 748,484         | 21,030.20        | 238.04             |
| <i>E. lansdowneana</i>                | Sorbitol              | 20                   | 33.5            | 40,454    | 766,963         | 20,885.35        | 264.89             |
| <i>E. leucophloia</i>                 | Nuclei                | 20                   | 42.3            | 31,376    | 1,112,561       | 23,719.81        | 220.51             |
| <i>E. marginata</i>                   | Nuclei                | 20                   | 37.6            | 19,330    | 2,030,612       | 18,996.49        | 403.50             |
| <i>E. melliodora x E. sideroxylon</i> | Sorbitol              | 20                   | 63.5            | 28,218    | 2,096,002       | 38,010.87        | 493.59             |
| <i>E. microcorys</i>                  | Nuclei                | 20                   | 83.8            | 26,233    | 1,891,415       | 36,501.91        | 259.59             |
| <i>E. ANBG9806169</i>                 | Nuclei                | 20                   | 45.0            | 23,768    | 1,361,586       | 22,622.88        | 125.92             |
| <i>E. paniculata</i>                  | Sorbitol              | 20                   | 37.5            | 36,669    | 878,971         | 21,750.73        | 223.73             |
| <i>E. pauciflora</i>                  | NA                    | NA                   | 72.3            | 26.93     | 2,583,680       | 35,691.93        | 537.11             |
| <i>E. polyanthemos</i>                | Sorbitol              | 20                   | 43.8            | 30,700    | 1,317,377       | 26,018.59        | 220.24             |
| <i>E. pumila</i>                      | Nuclei                | 20                   | 40.7            | 25,051    | 1,632,628       | 21,358.64        | 165.40             |
| <i>E. regnans</i>                     | Sorbitol              | 40                   | 47.9            | 46,297    | 718,316         | 23,254.44        | 253.70             |
| <i>E. shirleyi</i>                    | Sorbitol              | 20                   | 44.3            | 44,993    | 862,028         | 26,095.39        | 273.96             |
| <i>E. tenuipes</i>                    | Nuclei                | 40                   | 48.7            | 41,950    | 663,327         | 19,070.76        | 296.92             |
| <i>E. victrix</i>                     | Sorbitol              | 20                   | 50.6            | 41,561    | 1,149,096       | 27,764.76        | 270.78             |
| <i>E. viminalis</i>                   | Nuclei                | 20                   | 32.0            | 22,308    | 1,535,956       | 17,640.60        | 163.61             |
| <i>E. virginea</i>                    | Nuclei                | 20                   | 47.7            | 25,319    | 1,406,739       | 25,089.92        | 164.74             |

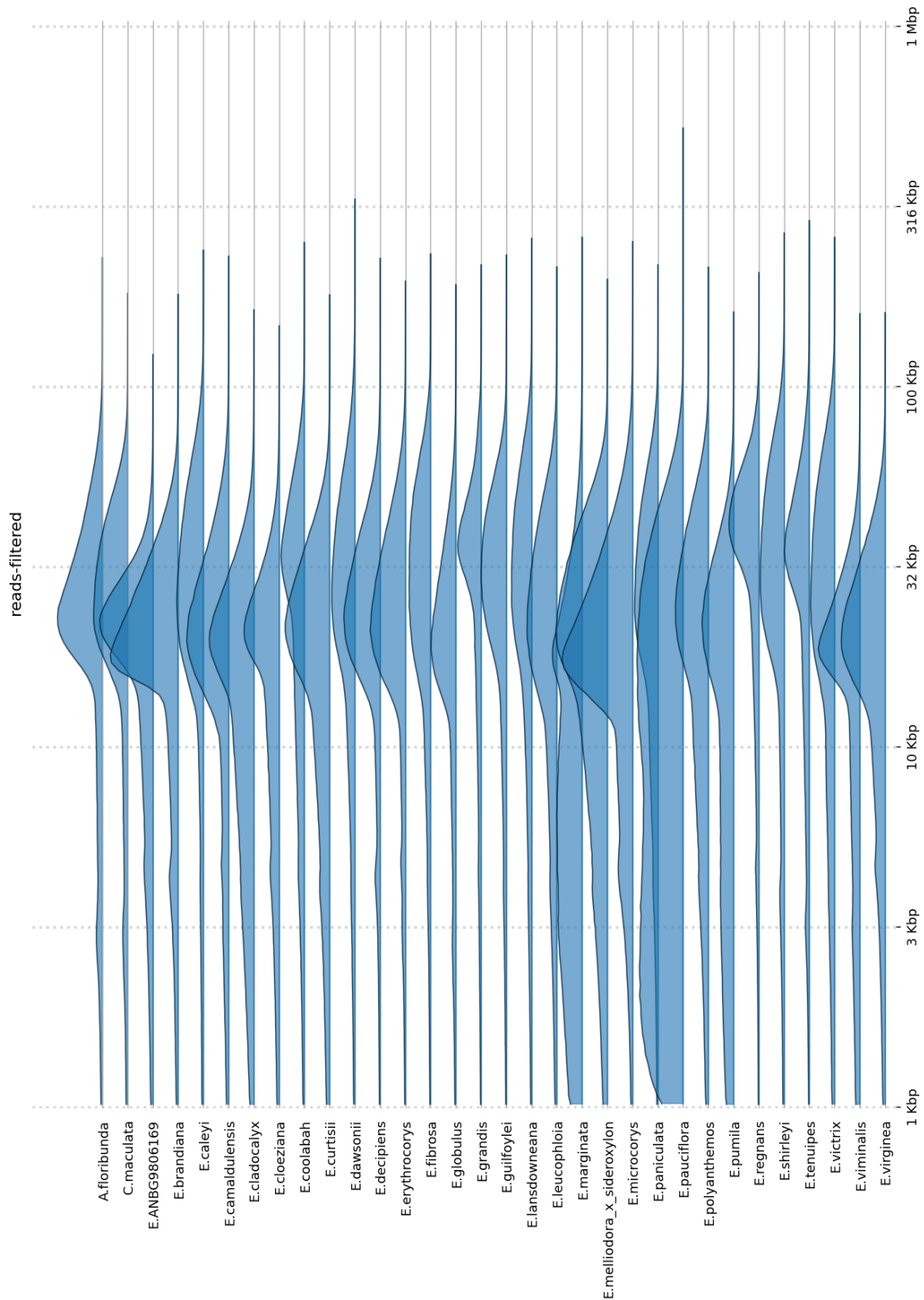
**Supplementary Table S1.** Raw read library statistics. Actual coverage is calculated after assembly from the final genome size.

| Species                               | Coverage | Coverage lost | N50 (kbp) | Number of reads | Total size (Mbp) | Longest read (kbp) |
|---------------------------------------|----------|---------------|-----------|-----------------|------------------|--------------------|
| <i>A. floribunda</i>                  | 62.9     | 5.6           | 30,973    | 961,453         | 24,080.30        | 234.02             |
| <i>C. maculata</i>                    | 58.0     | 4             | 32,784    | 902,490         | 23,154.27        | 185.79             |
| <i>E. brandiana</i>                   | 54.7     | 4.3           | 24,964    | 1,318,778       | 27,465.22        | 184.71             |
| <i>E. caleyi</i>                      | 41.1     | 3.1           | 39,257    | 797,371         | 23,780.80        | 245.34             |
| <i>E. camaldulensis</i>               | 39.8     | 3.3           | 26,890    | 1,036,444       | 21,912.23        | 235.92             |
| <i>E. cladocalyx</i>                  | 40.3     | 4             | 22,553    | 1,357,574       | 21,658.32        | 167.28             |
| <i>E. cloeziana</i>                   | 32.4     | 3.4           | 23,421    | 891,520         | 15,359.12        | 150.84             |
| <i>E. coolabah</i>                    | 31.1     | 2.4           | 39,047    | 696,864         | 18,498.71        | 257.77             |
| <i>E. curtisii</i>                    | 56.8     | 4.4           | 26,212    | 1,260,701       | 24,482.11        | 184.11             |
| <i>E. dawsonii</i>                    | 29.1     | 2.3           | 39,530    | 705,446         | 20,309.35        | 340.13             |
| <i>E. decipiens</i>                   | 34.8     | 2.1           | 29,702    | 818,918         | 20,220.97        | 232.70             |
| <i>E. erythrocorys</i>                | 40.1     | 3.3           | 30,501    | 854,347         | 21,394.22        | 201.02             |
| <i>E. fibrosa</i>                     | 36.7     | 2.4           | 40,481    | 710,154         | 21,285.37        | 239.36             |
| <i>E. globulus</i>                    | 24.7     | 2.8           | 26,783    | 625,059         | 13,252.63        | 196.37             |
| <i>E. grandis</i>                     | 24.7     | 1.9           | 40,618    | 478,371         | 14,946.13        | 223.29             |
| <i>E. guilfoylei</i>                  | 41.8     | 3.1           | 37,759    | 663,545         | 19,576.72        | 237.64             |
| <i>E. lansdowneana</i>                | 31.1     | 2.4           | 40,677    | 662,726         | 19,393.64        | 264.49             |
| <i>E. leucophloia</i>                 | 39.4     | 2.9           | 31,506    | 966,679         | 22,088.48        | 220.11             |
| <i>E. marginata</i>                   | 32.6     | 5             | 19,997    | 1,441,634       | 16,472.64        | 266.42             |
| <i>E. melliodora x E. sideroxylon</i> | 58.3     | 5.2           | 28,356    | 1,760,405       | 34,919.15        | 203.52             |
| <i>E. microcorys</i>                  | 78.0     | 5.8           | 26,255    | 1,628,396       | 33,963.49        | 259.19             |
| <i>E. ANBG9806169</i>                 | 41.3     | 3.7           | 23,609    | 1,134,657       | 20,769.73        | 125.52             |
| <i>E. paniculata</i>                  | 35.3     | 2.2           | 36,846    | 769,367         | 20,476.85        | 223.33             |
| <i>E. pauciflora</i>                  | 73.3     | 0             | 26,926    | 2,583,680       | 35,691.93        | 537.11             |
| <i>E. polyanthemos</i>                | 40.4     | 3.4           | 30,888    | 1,121,971       | 24,048.44        | 219.84             |
| <i>E. pumila</i>                      | 36.8     | 3.9           | 25,254    | 1,217,779       | 19,269.00        | 165.00             |
| <i>E. regnans</i>                     | 45.6     | 2.3           | 46,254    | 611,946         | 22,142.04        | 212.45             |
| <i>E. shirleyi</i>                    | 41.7     | 2.6           | 45,127    | 740,464         | 24,593.44        | 273.56             |
| <i>E. tenuipes</i>                    | 46.0     | 2.7           | 41,997    | 574,526         | 18,007.59        | 296.52             |
| <i>E. victrix</i>                     | 46.9     | 3.7           | 42,005    | 923,073         | 25,731.32        | 266.30             |
| <i>E. viminalis</i>                   | 28.8     | 3.2           | 22,386    | 955,619         | 15,865.49        | 163.21             |
| <i>E. virginea</i>                    | 44.4     | 3.3           | 25,299    | 1,196,234       | 23,361.01        | 164.34             |

**Supplementary Table S2.** Filtered read library statistics. Statistics describing read libraries after trimming, length filtering, and quality filtering. Note: *E. pauciflora* reads were filtered and trimmed before being randomly down sampled, hence no loss of sequence.



**Supplementary Figures S1.** Distribution of read lengths of raw read libraries

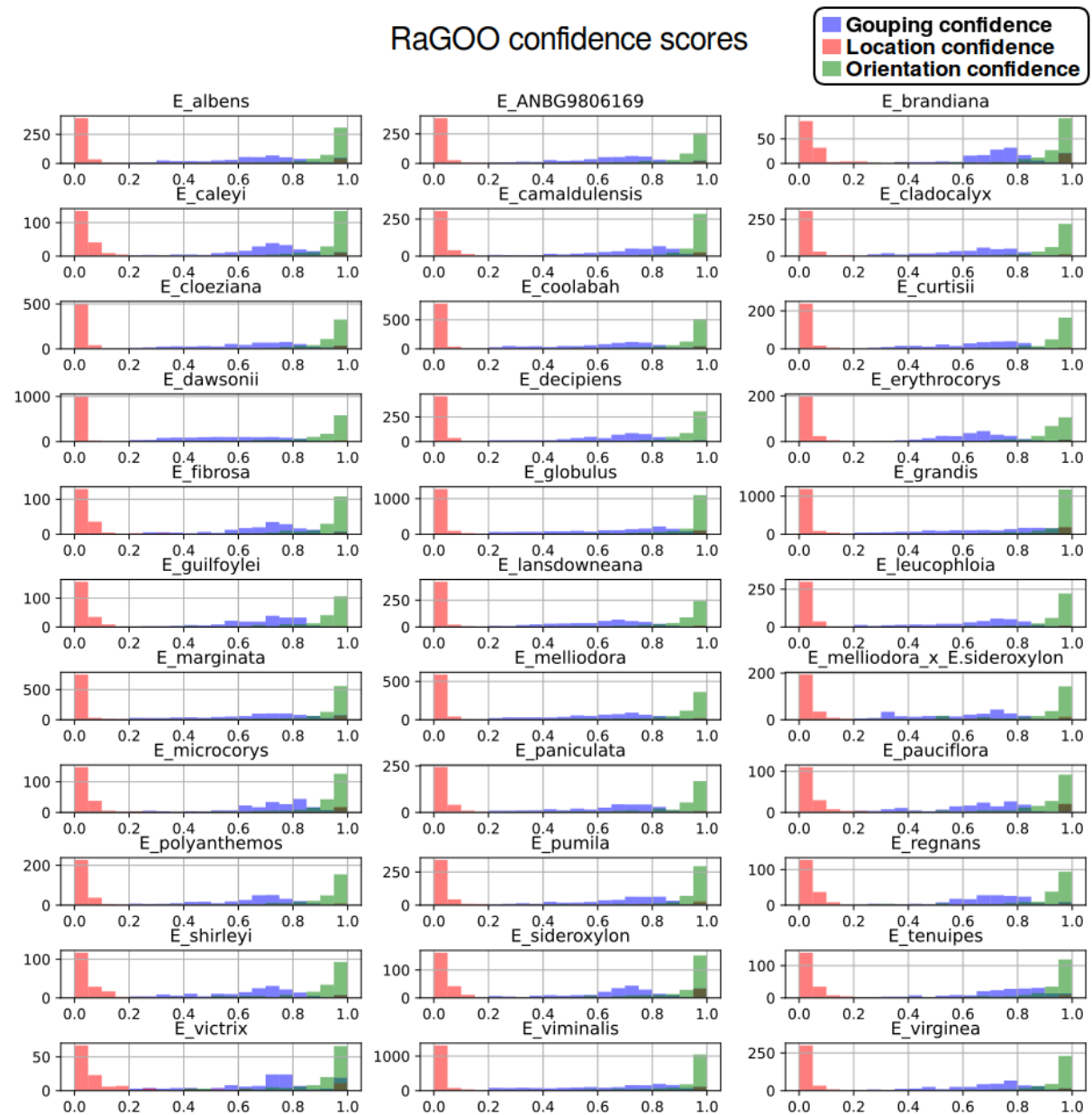


**Supplementary Figures S2.** Distribution of read lengths of read libraries aftering trimming, length filtering, and quality filtering.



|  | Contamination    | Haplotigs        |             | Assembly artifacts |             |
|--|------------------|------------------|-------------|--------------------|-------------|
| Species                                      | Total Size (kbp) | Total Size (Mbp) | % of Genome | Total Size (Mbp)   | % of Genome |
| <i>A. floribunda</i>                         | None             | 253.37           | 36.74%      | 53.73              | 7.79%       |
| <i>C. maculata</i>                           | None             | 265.09           | 36.74%      | 57.48              | 7.97%       |
| <i>E. brandiana</i>                          | 161.18           | 38.62            | 7.01%       | 10.05              | 1.82%       |
| <i>E. caleyi</i>                             | 3,448.47         | 458.40           | 42.15%      | 46.71              | 4.29%       |
| <i>E. camaldulensis</i>                      | None             | 394.82           | 39.70%      | 49.34              | 4.96%       |
| <i>E. cladocalyx</i>                         | 33.10            | 383.48           | 41.54%      | 1.86               | 0.20%       |
| <i>E. cloeziana</i>                          | None             | 188.67           | 27.07%      | 33.94              | 4.87%       |
| <i>E. coolabah</i>                           | None             | 381.48           | 38.25%      | 21.07              | 2.11%       |
| <i>E. curtisii</i>                           | None             | 234.46           | 35.06%      | 3.51               | 0.53%       |
| <i>E. dawsonii</i>                           | 18,227.31        | 426.59           | 37.01%      | 9.88               | 0.86%       |
| <i>E. decipiens</i>                          | 40.93            | 384.89           | 37.82%      | 51.03              | 5.02%       |
| <i>E. erythrocorys</i>                       | None             | 115.73           | 16.78%      | 40.38              | 5.86%       |
| <i>E. fibrosa</i>                            | 1.38             | 553.42           | 48.66%      | 3.49               | 0.31%       |
| <i>E. globulus</i>                           | None             | 228.73           | 29.17%      | 18.52              | 2.36%       |
| <i>E. grandis</i>                            | None             | 280.46           | 30.84%      | 23.47              | 2.58%       |
| <i>E. guilfoylei</i>                         | None             | 93.14            | 16.44%      | 4.66               | 0.82%       |
| <i>E. lansdowneana</i>                       | 7.00             | 463.32           | 42.41%      | 5.02               | 0.46%       |
| <i>E. leucophloia</i>                        | 241.53           | 446.00           | 44.08%      | 4.61               | 0.46%       |
| <i>E. marginata</i>                          | 34.66            | 290.90           | 35.09%      | 32.13              | 3.88%       |
| <i>E. melliodora</i> x <i>E. sideroxylon</i> | 133.04           | 507.89           | 45.74%      | 3.94               | 0.36%       |
| <i>E. microcorys</i>                         | 133.10           | 228.43           | 30.66%      | 81.15              | 10.89%      |
| <i>E. ANBG9806169</i>                        | None             | 231.78           | 30.09%      | 36.05              | 4.68%       |
| <i>E. paniculata</i>                         | 249.95           | 501.04           | 46.14%      | 4.47               | 0.41%       |
| <i>E. pauciflora</i>                         | 107.77           | 441.32           | 47.36%      | 3.62               | 0.39%       |
| <i>E. polyanthemos</i>                       | None             | 552.62           | 48.03%      | 3.35               | 0.29%       |
| <i>E. pumila</i>                             | 42.45            | 272.67           | 34.07%      | 3.18               | 0.40%       |
| <i>E. regnans</i>                            | 267.24           | 370.84           | 40.60%      | 56.32              | 6.17%       |
| <i>E. shirleyi</i>                           | None             | 442.43           | 42.74%      | 3.67               | 0.35%       |
| <i>E. tenuipes</i>                           | None             | 204.32           | 31.75%      | 47.28              | 7.35%       |
| <i>E. victrix</i>                            | None             | 482.44           | 46.63%      | 3.68               | 0.36%       |
| <i>E. viminalis</i>                          | 43.43            | 296.85           | 34.18%      | 20.42              | 2.35%       |
| <i>E. virginea</i>                           | None             | 281.01           | 32.69%      | 52.26              | 6.08%       |
| <b>Average</b>                               | 724.14           | 334.23           | 36.15%      | 24.70              | 3.04%       |

**Supplementary Table S3.** Amount and proportion of sequence removed from genomes during contamination filtering, haplotig purging, and artifact filtering.



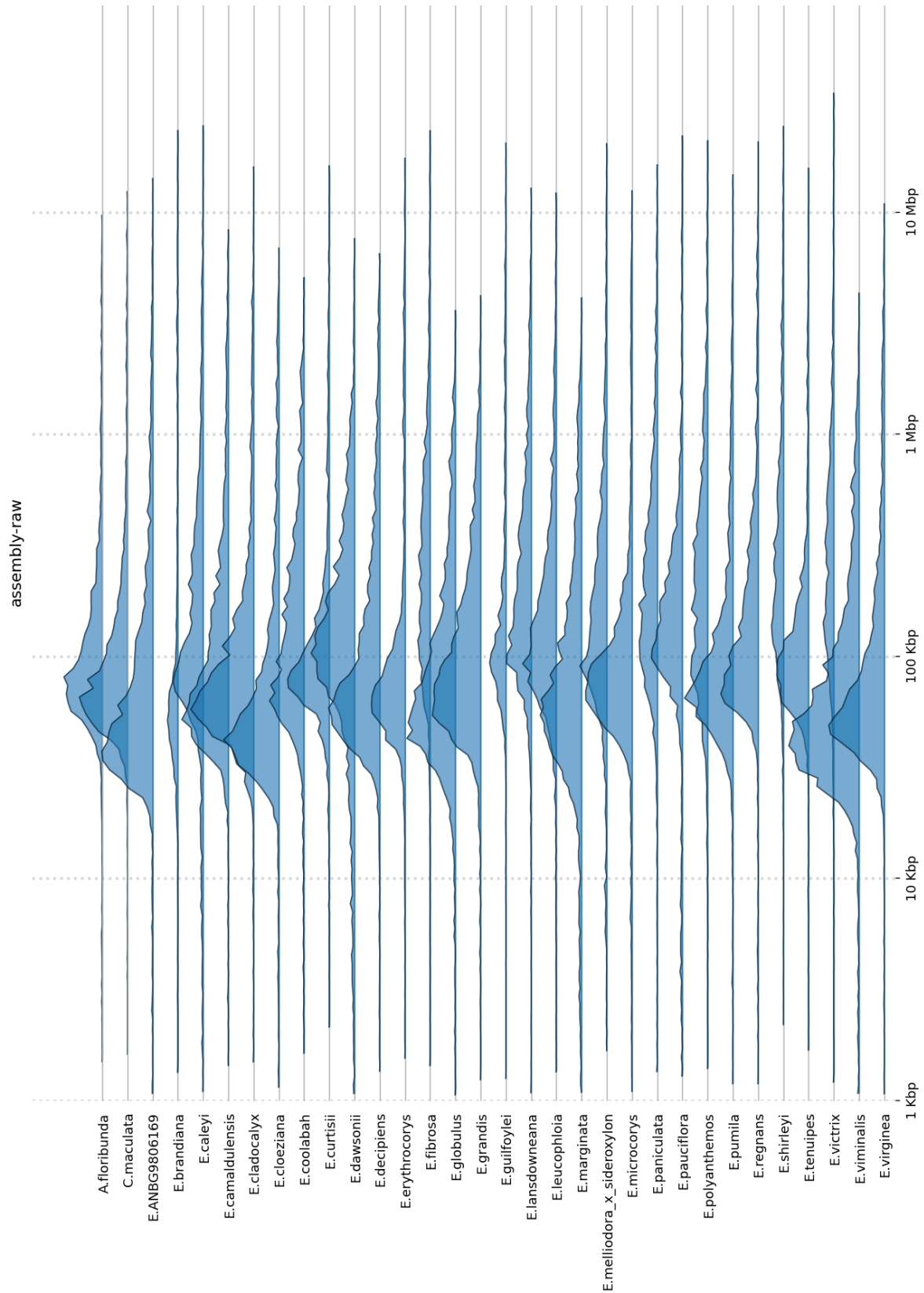
**Supplementary Figure S3.** Confidence scores reported by RaGOO during scaffolding of genomes. Grouping confidence = assigning contigs to a chromosome; location confidence = ordering contigs relative to each other along the scaffold; orientation confidence = orienting contigs within scaffolds.

| species                                      | Complete<br>(single-copy<br>+ duplicated) | single-copy | duplicated | fragmented | missing | LAI   |
|--|---|-------------|------------|------------|---------|-------|
| <i>A. floribunda</i>                         | 96.82%                                    | 92.78%      | 4.04%      | 1.33%      | 1.85%   | 14.5  |
| <i>C. maculata</i>                           | 97.25%                                    | 94.93%      | 2.32%      | 1.12%      | 1.63%   | 15.92 |
| <i>E. brandiana</i>                          | 98.11%                                    | 95.06%      | 3.05%      | 1.03%      | 0.86%   | 23.85 |
| <i>E. caleyi</i>                             | 96.47%                                    | 90.80%      | 5.67%      | 1.59%      | 1.93%   | 18.24 |
| <i>E. camaldulensis</i>                      | 96.73%                                    | 92.09%      | 4.64%      | 1.33%      | 1.93%   | 16.99 |
| <i>E. cladocalyx</i>                         | 97.59%                                    | 93.29%      | 4.30%      | 1.12%      | 1.29%   | 18.53 |
| <i>E. cloeziana</i>                          | 97.12%                                    | 93.55%      | 3.57%      | 1.59%      | 1.29%   | 19.06 |
| <i>E. coolabah</i>                           | 95.44%                                    | 88.52%      | 6.92%      | 2.15%      | 2.41%   | 15.9  |
| <i>E. curtisii</i>                           | 97.29%                                    | 93.21%      | 4.08%      | 1.42%      | 1.29%   | 18.34 |
| <i>E. dawsonii</i>                           | 97.51%                                    | 83.10%      | 14.40%     | 0.95%      | 1.55%   | 17.01 |
| <i>E. decipiens</i>                          | 96.99%                                    | 91.49%      | 5.50%      | 1.33%      | 1.68%   | 18.87 |
| <i>E. erythrocorys</i>                       | 97.55%                                    | 94.41%      | 3.14%      | 0.95%      | 1.50%   | 20.18 |
| <i>E. fibrosa</i>                            | 96.73%                                    | 87.96%      | 8.77%      | 1.63%      | 1.63%   | 17.49 |
| <i>E. globulus</i>                           | 96.69%                                    | 91.87%      | 4.82%      | 1.25%      | 2.06%   | 17.46 |
| <i>E. grandis</i>                            | 96.09%                                    | 90.11%      | 5.98%      | 1.59%      | 2.32%   | 17.11 |
| <i>E. guilfoylei</i>                         | 98.02%                                    | 94.84%      | 3.18%      | 0.90%      | 1.07%   | 16.39 |
| <i>E. lansdowneana</i>                       | 97.12%                                    | 86.76%      | 10.36%     | 1.12%      | 1.76%   | 19.46 |
| <i>E. leucophloia</i>                        | 96.99%                                    | 90.58%      | 6.41%      | 1.29%      | 1.72%   | 17.91 |
| <i>E. marginata</i>                          | 96.17%                                    | 90.93%      | 5.25%      | 1.72%      | 2.11%   | 19.58 |
| <i>E. melliodora</i> x <i>E. sideroxylon</i> | 97.72%                                    | 91.70%      | 6.02%      | 1.03%      | 1.25%   | 17.96 |
| <i>E. microcorys</i>                         | 97.21%                                    | 93.90%      | 3.31%      | 1.25%      | 1.55%   | 16.2  |
| <i>E. ANBG9806169</i>                        | 96.86%                                    | 93.29%      | 3.57%      | 1.29%      | 1.85%   | 22.16 |
| <i>E. paniculata</i>                         | 97.12%                                    | 90.58%      | 6.53%      | 1.20%      | 1.68%   | 18.58 |
| <i>E. pauciflora</i>                         | 97.25%                                    | 93.29%      | 3.96%      | 1.25%      | 1.50%   | 20.29 |
| <i>E. polyanthemos</i>                       | 96.82%                                    | 89.85%      | 6.96%      | 1.55%      | 1.63%   | 17.52 |
| <i>E. pumila</i>                             | 97.38%                                    | 93.29%      | 4.08%      | 1.42%      | 1.20%   | 17.74 |
| <i>E. regnans</i>                            | 97.25%                                    | 93.47%      | 3.78%      | 1.25%      | 1.50%   | 20.18 |
| <i>E. shirleyi</i>                           | 97.29%                                    | 88.99%      | 8.30%      | 1.16%      | 1.55%   | 19.89 |
| <i>E. tenuipes</i>                           | 96.39%                                    | 92.56%      | 3.83%      | 1.81%      | 1.81%   | 15.07 |
| <i>E. victrix</i>                            | 96.65%                                    | 91.32%      | 5.33%      | 1.46%      | 1.89%   | 18.71 |
| <i>E. viminalis</i>                          | 96.47%                                    | 91.83%      | 4.64%      | 1.29%      | 2.24%   | 16.5  |
| <i>E. virginea</i>                           | 97.08%                                    | 92.30%      | 4.77%      | 1.16%      | 1.76%   | 17.69 |

**Supplementary Table S4.** BUSCO and LAI scores for all genomes.

|  | N50 (kbp) | Number of contigs | Size (Mbp) | Longest contig (Mbp) |
|--|-----------|-------------------|------------|----------------------|
| <i>A. floribunda</i>                         | 1,139.19  | 2,857             | 689.71     | 10.21                |
| <i>C. maculata</i>                           | 1,540.02  | 3,174             | 721.55     | 12.94                |
| <i>E. brandiana</i>                          | 6,578.56  | 802               | 551.18     | 24.53                |
| <i>E. caleyi</i>                             | 1,805.12  | 2,810             | 1,087.60   | 25.88                |
| <i>E. camaldulensis</i>                      | 939.69    | 4,219             | 994.59     | 8.75                 |
| <i>E. cladocalyx</i>                         | 953.07    | 4,591             | 923.15     | 16.82                |
| <i>E. cloeziana</i>                          | 855.51    | 4,172             | 697.06     | 7.22                 |
| <i>E. coolabah</i>                           | 552.28    | 4,066             | 997.21     | 5.38                 |
| <i>E. curtisii</i>                           | 1,332.99  | 2,628             | 668.67     | 16.95                |
| <i>E. dawsonii</i>                           | 474.20    | 4,951             | 1,152.64   | 8.02                 |
| <i>E. decipiens</i>                          | 747.03    | 4,718             | 1,017.59   | 6.82                 |
| <i>E. erythrocorys</i>                       | 2,931.08  | 2,208             | 689.47     | 18.40                |
| <i>E. fibrosa</i>                            | 1,730.72  | 1,790             | 1,137.28   | 24.72                |
| <i>E. globulus</i>                           | 317.08    | 5,378             | 784.04     | 3.78                 |
| <i>E. grandis</i>                            | 321.42    | 5,311             | 909.45     | 4.43                 |
| <i>E. guilfoylei</i>                         | 3,303.65  | 1,041             | 566.64     | 21.44                |
| <i>E. lansdowneana</i>                       | 1,031.71  | 2,572             | 1,092.36   | 13.56                |
| <i>E. leucophloia</i>                        | 1,038.45  | 3,108             | 1,011.89   | 12.88                |
| <i>E. marginata</i>                          | 458.19    | 5,121             | 828.93     | 4.33                 |
| <i>E. melliodora</i> x <i>E. sideroxylon</i> | 1,719.77  | 2,555             | 1,110.47   | 21.42                |
| <i>E. microcorys</i>                         | 1,549.62  | 3,462             | 745.17     | 13.19                |
| <i>E. ANBG9806169</i>                        | 1,006.91  | 4,115             | 770.36     | 14.88                |
| <i>E. paniculata</i>                         | 1,259.10  | 2,337             | 1,085.95   | 17.29                |
| <i>E. pauciflora</i>                         | 1,379.37  | 2,654             | 931.94     | 23.39                |
| <i>E. polyanthemos</i>                       | 1,287.56  | 2,369             | 1,150.67   | 22.17                |
| <i>E. pumila</i>                             | 1,064.83  | 3,313             | 800.22     | 15.45                |
| <i>E. regnans</i>                            | 1,571.93  | 2,834             | 913.33     | 22.03                |
| <i>E. shirleyi</i>                           | 2,635.00  | 1,462             | 1,035.28   | 25.64                |
| <i>E. tenuipes</i>                           | 1,548.79  | 2,406             | 643.48     | 16.67                |
| <i>E. victrix</i>                            | 3,210.46  | 1,298             | 1,034.58   | 36.56                |
| <i>E. viminalis</i>                          | 289.36    | 7,315             | 868.55     | 4.50                 |
| <i>E. virginea</i>                           | 1,222.18  | 3,963             | 859.54     | 11.49                |

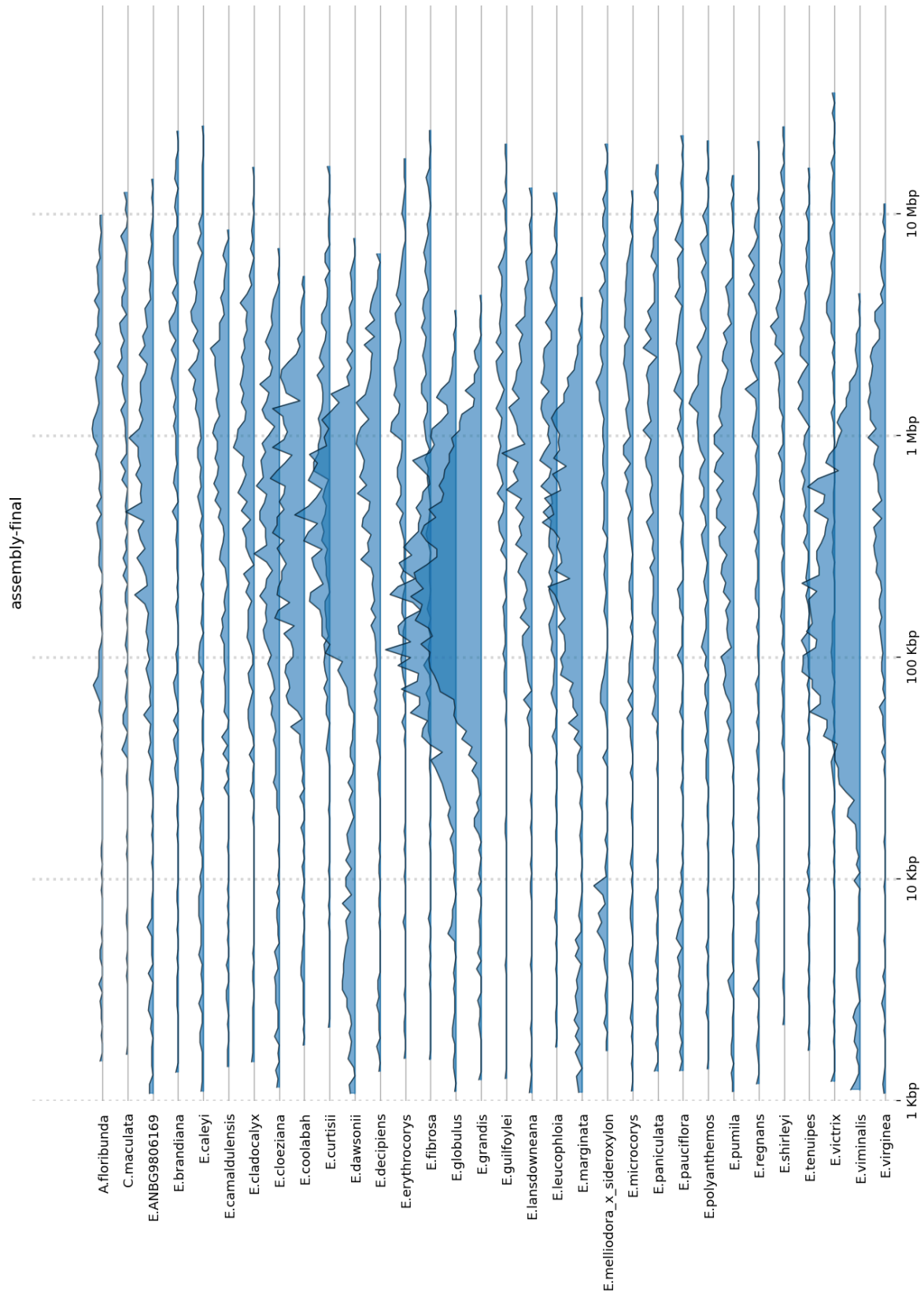
**Supplementary Table S5.** Raw genome statistics. Genomes have not been curated in any way.



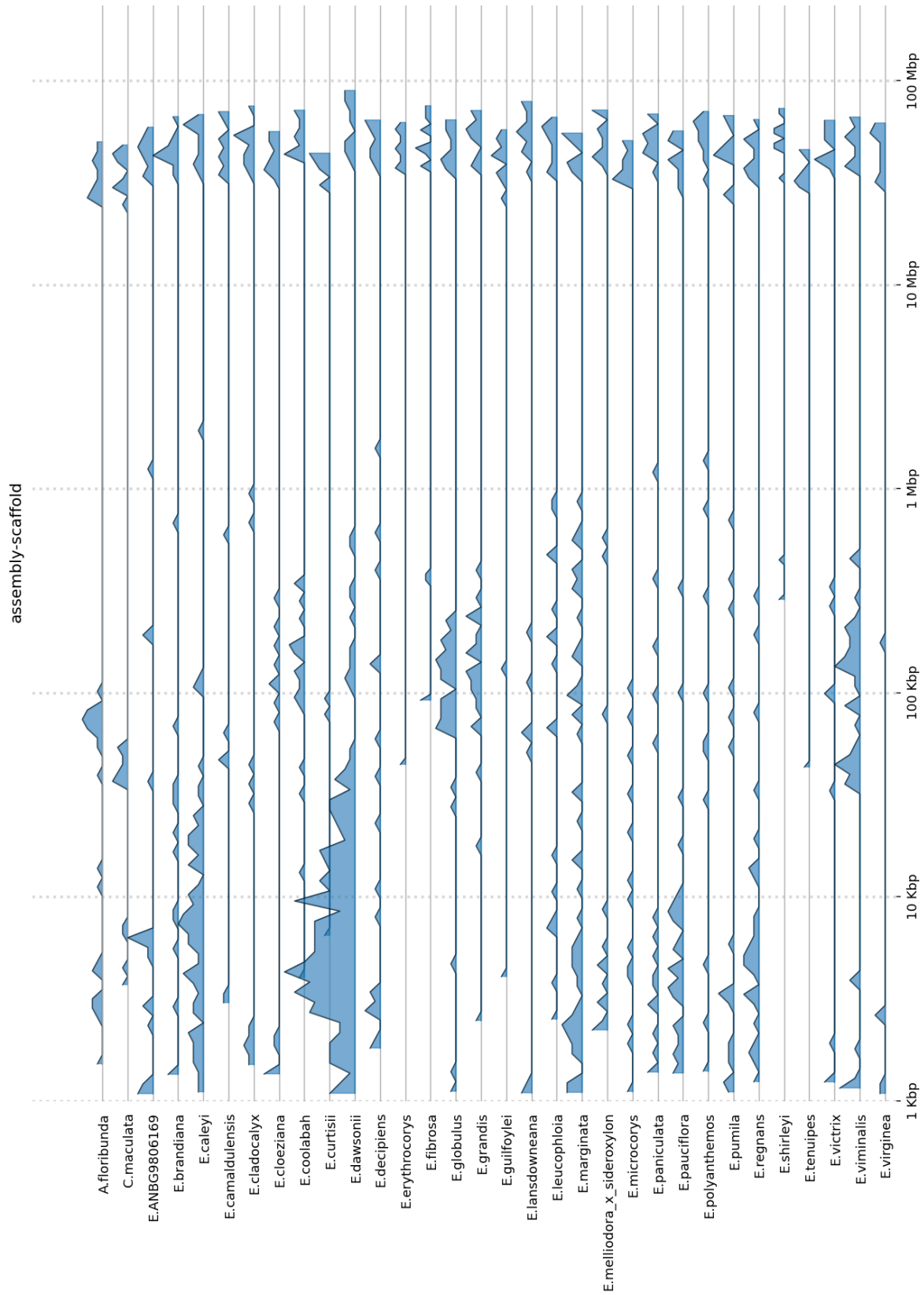
**Supplementary Figure S4.** Raw genome contig distributions. Genomes have not been curated in any way.

|                                       | N50 (kbp) | Number of contigs | Size (Mbp) | Longest contig (Mbp) |
|---------------------------------------|-----------|-------------------|------------|----------------------|
| <i>A. floribunda</i>                  | 4,011.83  | 225               | 388.67     | 10.21                |
| <i>C. maculata</i>                    | 4,690.14  | 176               | 404.38     | 12.94                |
| <i>E. brandiana</i>                   | 7,278.40  | 170               | 507.20     | 24.53                |
| <i>E. caleyi</i>                      | 4,769.92  | 276               | 589.30     | 25.88                |
| <i>E. camaldulensis</i>               | 2,481.60  | 420               | 558.53     | 8.75                 |
| <i>E. cladocalyx</i>                  | 2,796.55  | 390               | 544.04     | 16.82                |
| <i>E. cloeziana</i>                   | 1,739.94  | 626               | 480.25     | 7.22                 |
| <i>E. coolabah</i>                    | 1,289.21  | 937               | 606.36     | 5.38                 |
| <i>E. curtisii</i>                    | 2,961.00  | 288               | 435.23     | 16.95                |
| <i>E. dawsonii</i>                    | 985.62    | 1,343             | 706.79     | 8.02                 |
| <i>E. decipiens</i>                   | 1,985.74  | 553               | 590.96     | 6.82                 |
| <i>E. erythrocorys</i>                | 4,024.36  | 253               | 539.36     | 18.40                |
| <i>E. fibrosa</i>                     | 6,447.41  | 192               | 589.89     | 24.72                |
| <i>E. globulus</i>                    | 636.15    | 1,750             | 545.00     | 3.78                 |
| <i>E. grandis</i>                     | 613.64    | 1,749             | 616.23     | 4.43                 |
| <i>E. guilfoylei</i>                  | 4,251.44  | 209               | 472.34     | 21.44                |
| <i>E. lansdowneana</i>                | 2,352.90  | 489               | 633.47     | 13.56                |
| <i>E. leucophloia</i>                 | 2,659.36  | 382               | 568.44     | 12.88                |
| <i>E. marginata</i>                   | 1,011.74  | 991               | 513.33     | 4.33                 |
| <i>E. melliodora x E. sideroxylon</i> | 6,217.05  | 282               | 603.80     | 21.42                |
| <i>E. microcorys</i>                  | 4,004.79  | 234               | 440.96     | 13.19                |
| <i>E. ANBG9806169</i>                 | 2,396.19  | 477               | 507.94     | 14.88                |
| <i>E. paniculata</i>                  | 3,699.06  | 330               | 588.82     | 17.29                |
| <i>E. pauciflora</i>                  | 6,583.95  | 216               | 494.01     | 23.39                |
| <i>E. polyanthemos</i>                | 4,657.75  | 300               | 603.25     | 22.17                |
| <i>E. pumila</i>                      | 2,492.89  | 473               | 529.71     | 15.45                |
| <i>E. regnans</i>                     | 5,259.26  | 206               | 495.05     | 22.03                |
| <i>E. shirleyi</i>                    | 6,912.49  | 181               | 597.16     | 25.64                |
| <i>E. tenuipes</i>                    | 3,433.87  | 211               | 398.08     | 16.67                |
| <i>E. victrix</i>                     | 11,095.62 | 120               | 557.15     | 36.56                |
| <i>E. viminalis</i>                   | 652.95    | 1,759             | 558.84     | 4.50                 |
| <i>E. virginea</i>                    | 2,391.64  | 379               | 532.97     | 11.49                |

**Supplementary Table S6.** Final genome statistics. Genomes have been fully curated, i.e. all contaminate, haplotig, plastid, and artifact contigs have been removed. Genomes have also been polished.



**Supplementary Figure S5.** Final genome contig distributions. Genomes have been fully curated, i.e. all contaminate, haplotig, plastid, and artifact contigs have been removed. Genomes have also been polished.



**Supplementary Figure S6.** Scaffolded genome contig distributions.



|  | Proportion of TE | Proportion of simple repeats | Total repeat proportion |
|--|------------------|------------------------------|-------------------------|
| <i>A. floribunda</i>                         | 34.55%           | 1.26%                        | 35.81%                  |
| <i>C. calophylla</i>                         | 34.79%           | 1.14%                        | 35.93%                  |
| <i>E. brandiana</i>                          | 44.21%           | 1.24%                        | 45.45%                  |
| <i>E. caleyi</i>                             | 46.00%           | 1.19%                        | 47.19%                  |
| <i>E. camaldulensis</i>                      | 45.31%           | 1.25%                        | 46.56%                  |
| <i>E. cladocalyx</i>                         | 45.85%           | 1.28%                        | 47.13%                  |
| <i>E. cloeziana</i>                          | 42.57%           | 1.25%                        | 43.82%                  |
| <i>E. coolabah</i>                           | 45.89%           | 1.27%                        | 47.16%                  |
| <i>E. curtisii</i>                           | 41.66%           | 1.31%                        | 42.97%                  |
| <i>E. dawsonii</i>                           | 45.88%           | 1.17%                        | 47.05%                  |
| <i>E. decipiens</i>                          | 46.95%           | 1.19%                        | 48.14%                  |
| <i>E. erythrocorys</i>                       | 47.07%           | 1.30%                        | 48.37%                  |
| <i>E. fibrosa</i>                            | 45.10%           | 1.22%                        | 46.32%                  |
| <i>E. globulus</i>                           | 44.29%           | 1.23%                        | 45.52%                  |
| <i>E. grandis</i>                            | 46.53%           | 1.17%                        | 47.70%                  |
| <i>E. guilfoylei</i>                         | 41.22%           | 1.20%                        | 42.42%                  |
| <i>E. lansdowneana</i>                       | 46.10%           | 1.27%                        | 47.37%                  |
| <i>E. leucophloia</i>                        | 44.37%           | 1.28%                        | 45.65%                  |
| <i>E. marginata</i>                          | 43.43%           | 1.21%                        | 44.64%                  |
| <i>E. melliodora</i> x <i>E. sideroxylon</i> | 46.71%           | 1.19%                        | 47.90%                  |
| <i>E. microcorys</i>                         | 41.39%           | 1.31%                        | 42.70%                  |
| <i>E. ANBG9806169</i>                        | 44.00%           | 1.21%                        | 45.21%                  |
| <i>E. paniculata</i>                         | 44.92%           | 1.32%                        | 46.24%                  |
| <i>E. pauciflora</i>                         | 43.10%           | 1.23%                        | 44.33%                  |
| <i>E. polyanthemos</i>                       | 45.55%           | 1.23%                        | 46.78%                  |
| <i>E. pumila</i>                             | 44.17%           | 1.28%                        | 45.45%                  |
| <i>E. regnans</i>                            | 43.06%           | 1.20%                        | 44.26%                  |
| <i>E. shirleyi</i>                           | 45.85%           | 1.25%                        | 47.10%                  |
| <i>E. tenuipes</i>                           | 37.82%           | 1.34%                        | 39.16%                  |
| <i>E. victrix</i>                            | 44.34%           | 1.39%                        | 45.73%                  |
| <i>E. viminalis</i>                          | 44.57%           | 1.19%                        | 45.76%                  |
| <i>E. virginea</i>                           | 43.78%           | 1.29%                        | 45.07%                  |

**Supplementary Table S7.** Repeat content of all genomes.

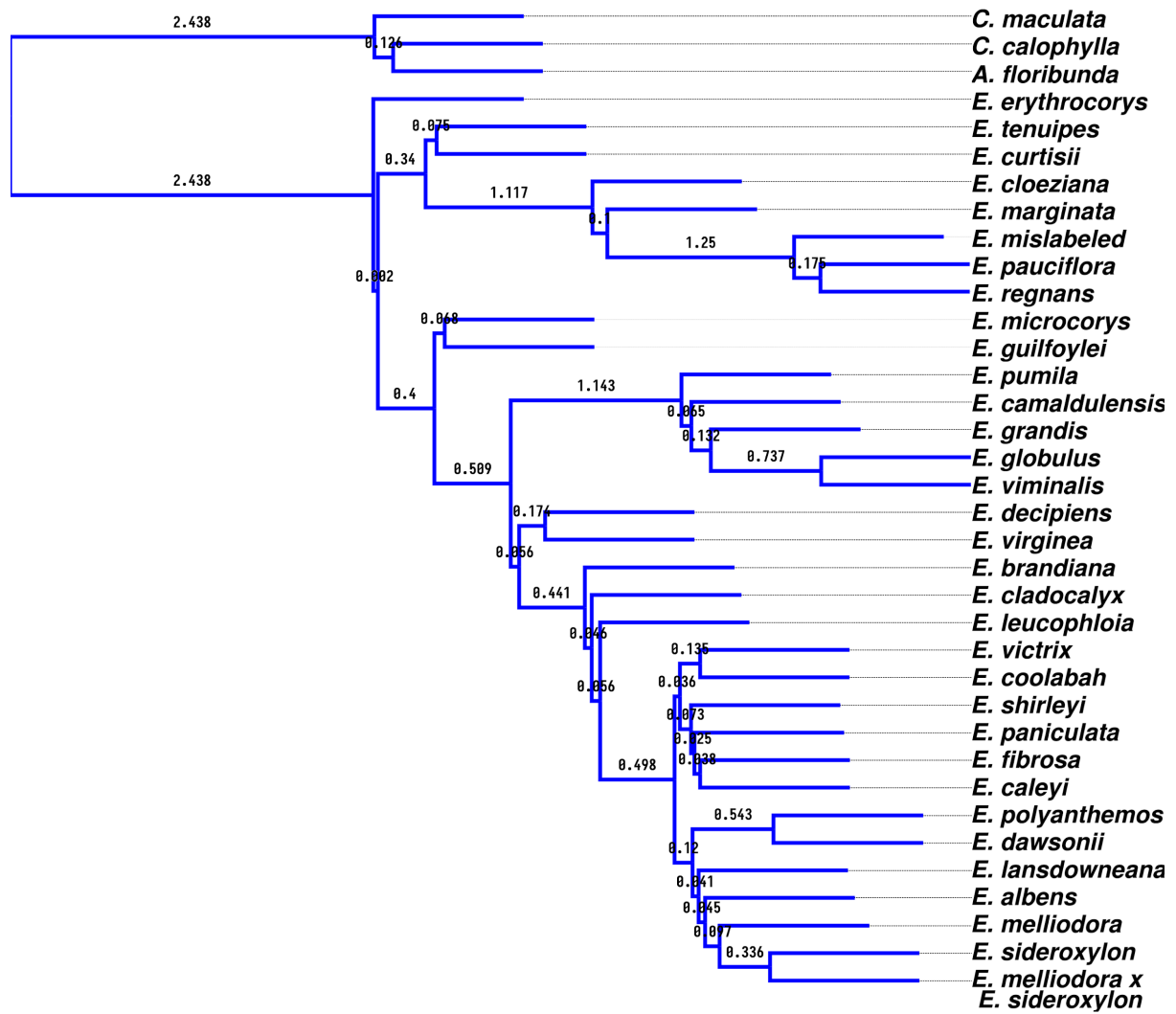
| Species                               | Number of genes | Genes in orthogroup | Unassigned genes | Paralogue groups | Genes in paralogues |
|---------------------------------------|-----------------|---------------------|------------------|------------------|---------------------|
| <i>E. albens</i>                      | 65,121          | 63,903<br>(98.13%)  | 1,218<br>(1.87%) | 43               | 94<br>(0.14%)       |
| <i>E. brandiana</i>                   | 46,176          | 45,632<br>(98.82%)  | 544<br>(1.18%)   | 20               | 44<br>(0.1%)        |
| <i>E. caleyi</i>                      | 62,000          | 60,606<br>(97.75%)  | 1,394<br>(2.25%) | 59               | 143<br>(0.23%)      |
| <i>E. camaldulensis</i>               | 51,855          | 50,949<br>(98.25%)  | 906<br>(1.75%)   | 33               | 80<br>(0.15%)       |
| <i>E. cladocalyx</i>                  | 48,487          | 47,797<br>(98.58%)  | 690<br>(1.42%)   | 30               | 68<br>(0.14%)       |
| <i>E. cloeziana</i>                   | 43,093          | 42,349<br>(98.27%)  | 744<br>(1.73%)   | 26               | 61<br>(0.14%)       |
| <i>E. coolabah</i>                    | 51,879          | 50,855<br>(98.03%)  | 1,024<br>(1.97%) | 29               | 62<br>(0.12%)       |
| <i>E. curtisii</i>                    | 43,242          | 42,182<br>(97.55%)  | 1,060<br>(2.45%) | 79               | 194<br>(0.45%)      |
| <i>E. dawsonii</i>                    | 77,763          | 73,579<br>(94.62%)  | 4,184<br>(5.38%) | 207              | 481<br>(0.62%)      |
| <i>E. decipiens</i>                   | 49,909          | 49,012<br>(98.2%)   | 897<br>(1.8%)    | 43               | 101<br>(0.2%)       |
| <i>E. erythrocorys</i>                | 47,392          | 45,659<br>(96.34%)  | 1,733<br>(3.66%) | 299              | 966<br>(2.04%)      |
| <i>E. fibrosa</i>                     | 53,954          | 53,276<br>(98.74%)  | 678<br>(1.26%)   | 18               | 40<br>(0.07%)       |
| <i>E. globulus</i>                    | 51,735          | 50,781<br>(98.16%)  | 954<br>(1.84%)   | 23               | 47<br>(0.09%)       |
| <i>E. grandis</i>                     | 55,224          | 53,939<br>(97.67%)  | 1,285<br>(2.33%) | 50               | 114<br>(0.21%)      |
| <i>E. guilfoylei</i>                  | 54,024          | 52,853<br>(97.83%)  | 1,171<br>(2.17%) | 95               | 236<br>(0.44%)      |
| <i>E. lansdowneana</i>                | 59,574          | 58,536<br>(98.26%)  | 1,038<br>(1.74%) | 42               | 93<br>(0.16%)       |
| <i>E. leucophloia</i>                 | 53,950          | 52,869<br>(98%)     | 1,081<br>(2%)    | 43               | 101<br>(0.19%)      |
| <i>E. marginata</i>                   | 48,255          | 47,059<br>(97.52%)  | 1,196<br>(2.48%) | 61               | 151<br>(0.31%)      |
| <i>E. melliodora</i>                  | 63,907          | 62,839<br>(98.33%)  | 1,068<br>(1.67%) | 88               | 224<br>(0.35%)      |
| <i>E. melliodora x E. sideroxylon</i> | 64,299          | 63,447<br>(98.67%)  | 852<br>(1.33%)   | 35               | 73<br>(0.11%)       |
| <i>E. microcorys</i>                  | 44,367          | 43,578<br>(98.22%)  | 789<br>(1.78%)   | 34               | 88<br>(0.2%)        |
| <i>E. ANBG9806169</i>                 | 48,845          | 47,891<br>(98.05%)  | 954<br>(1.95%)   | 55               | 134<br>(0.27%)      |
| <i>E. paniculata</i>                  | 55,821          | 55,011<br>(98.55%)  | 810<br>(1.45%)   | 25               | 57<br>(0.1%)        |
| <i>E. pauciflora</i>                  | 47,634          | 46,796<br>(98.24%)  | 838<br>(1.76%)   | 59               | 156<br>(0.33%)      |
| <i>E. polyanthemus</i>                | 56,111          | 55,253<br>(98.47%)  | 858<br>(1.53%)   | 21               | 44<br>(0.08%)       |
| <i>E. pumila</i>                      | 59,604          | 58,260<br>(97.75%)  | 1,344<br>(2.25%) | 63               | 142<br>(0.24%)      |

|                       |        |                    |                  |    |                |
|-----------------------|--------|--------------------|------------------|----|----------------|
| <i>E. regnans</i>     | 45,608 | 44,753<br>(98.13%) | 855<br>(1.87%)   | 49 | 120<br>(0.26%) |
| <i>E. shirleyi</i>    | 55,816 | 55,022<br>(98.58%) | 794<br>(1.42%)   | 34 | 81<br>(0.15%)  |
| <i>E. sideroxylon</i> | 60,360 | 59,278<br>(98.21%) | 1,082<br>(1.79%) | 27 | 59<br>(0.1%)   |
| <i>E. tenuipes</i>    | 41,622 | 40,587<br>(97.51%) | 1,035<br>(2.49%) | 50 | 123<br>(0.3%)  |
| <i>E. victrix</i>     | 51,710 | 51,070<br>(98.76%) | 640<br>(1.24%)   | 21 | 44<br>(0.09%)  |
| <i>E. viminalis</i>   | 50,955 | 50,223<br>(98.56%) | 732<br>(1.44%)   | 26 | 56<br>(0.11%)  |
| <i>E. virginea</i>    | 51,559 | 50,667<br>(98.27%) | 892<br>(1.73%)   | 35 | 74<br>(0.14%)  |

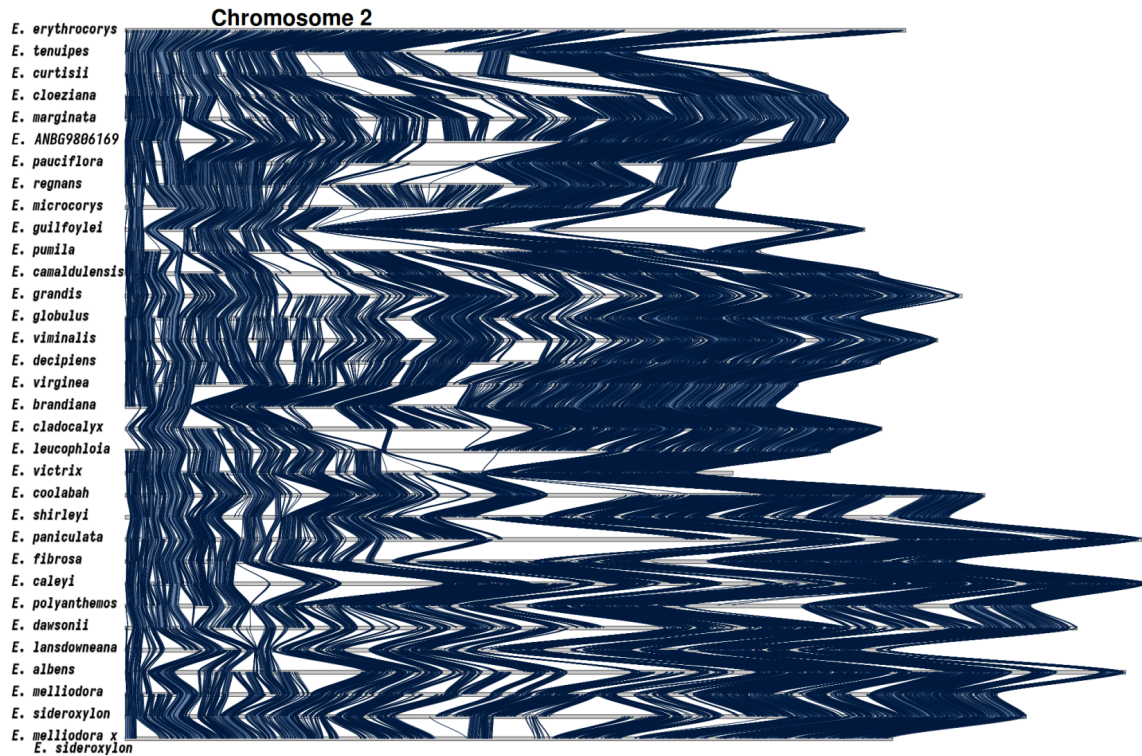
**Supplementary Table S8.** Genome orthogrouping statistics. For each genome lists the number of annotated genes, the number and proportion of genes placed within an orthogroup, the number and proportion of genes not placed within an orthogroup, the number and proportion of genes placed within a species-specific orthogroup, and the number of paralogues for each species.

|   |           |
|---|-----------|
| Number of species                                   | 33        |
| Number of genes                                     | 1,761,851 |
| Number of genes in orthogroups                      | 1,726,511 |
| Number of unassigned genes                          | 35,340    |
| Percentage of genes in orthogroups                  | 97.99%    |
| Percentage of unassigned genes                      | 2.01%     |
| Number of orthogroups                               | 68,245    |
| Number of species-specific orthogroups              | 1,822     |
| Number of genes in species-specific orthogroups     | 4,551     |
| Percentage of genes in species-specific orthogroups | 0.26%     |
| Mean orthogroup size                                | 25.3      |

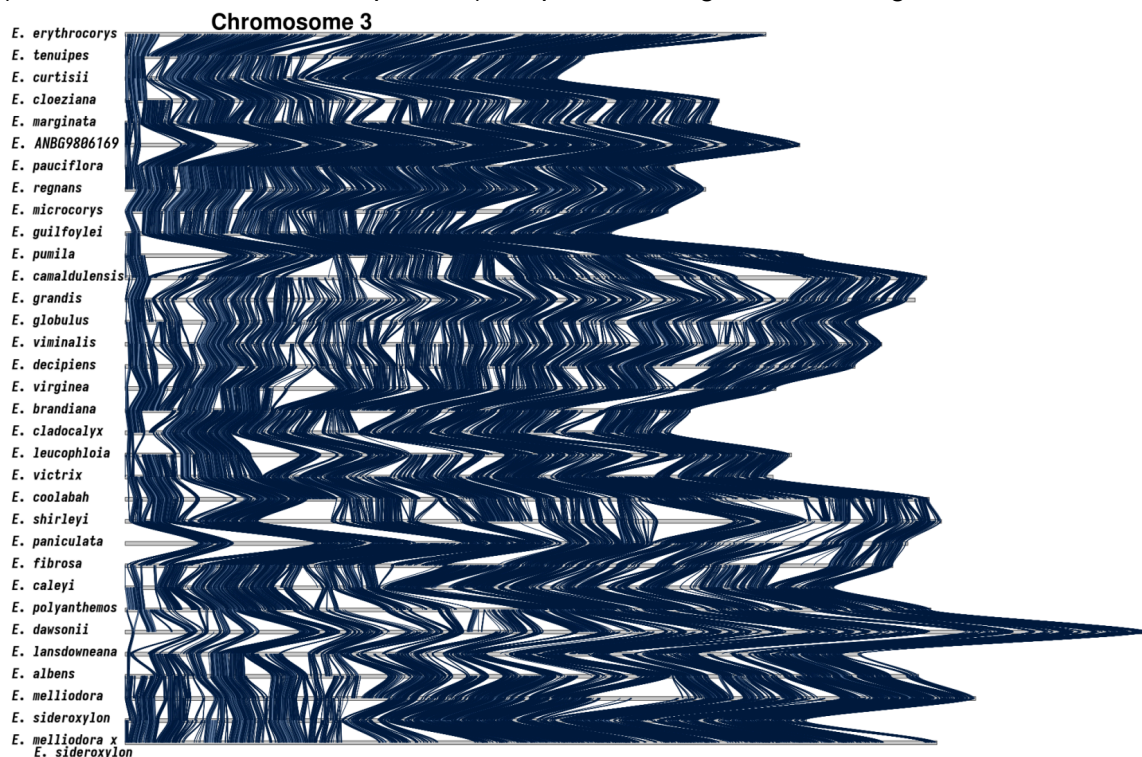
**Supplementary Table S9.** Orthogrouping summary statistics.



**Supplementary Figure S7.** Maximum likelihood species phylogeny estimated from 1,674 BUSCO genes. Branch lengths are in coalescent units, as calculated by Astral III. Astral doesn't calculate branch lengths for tips, as tips are a single genome.

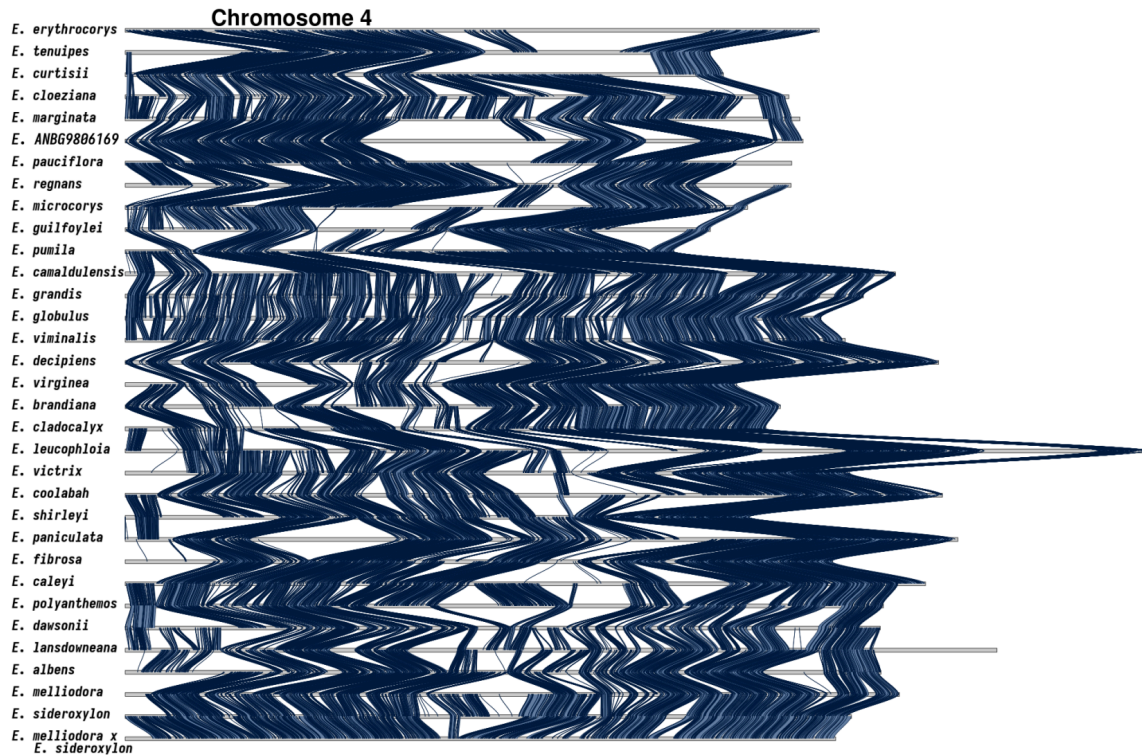


**Supplementary Figure S8. Synteny karyotype of chromosome 2.** The blue ribbons between karyotypes indicate the presence of syntenic sequences between species pairs. In all other regions synteny has become lost. Synteny is lost to either rearrangements (inverted, translocated, or duplicated), sequence divergence, loss or gain.

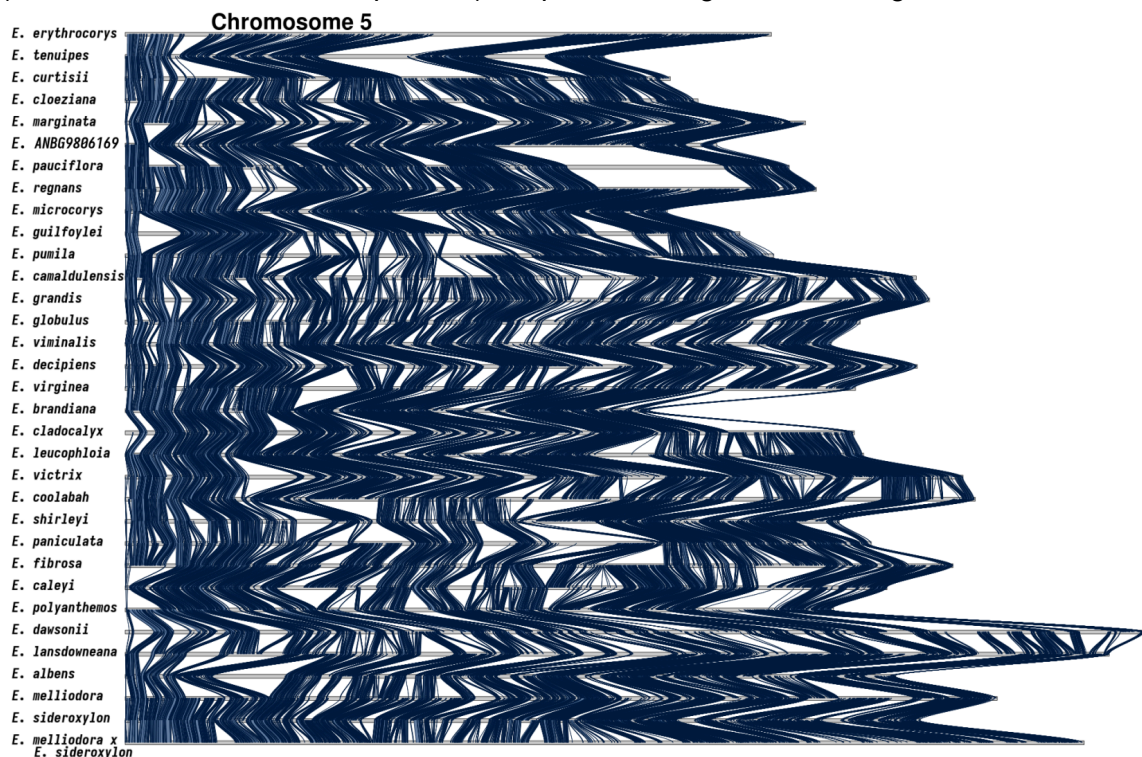


**Supplementary Figure S9. Synteny karyotype of chromosome 3.** The blue ribbons between karyotypes indicate the presence of syntenic sequences between species pairs. In all other regions synteny has become lost. Synteny is lost to either rearrangements (inverted, translocated, or duplicated), sequence divergence, loss or gain.



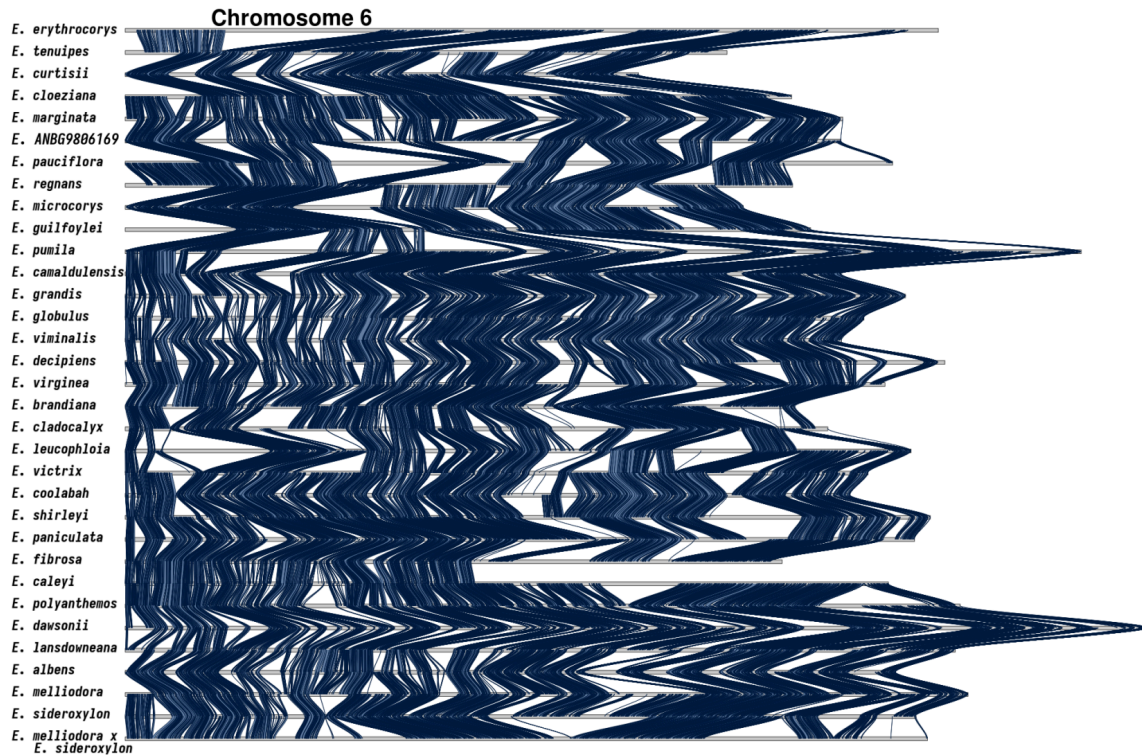


**Supplementary Figure S10. Synteny karyotype of chromosome 4.** The blue ribbons between karyotypes indicate the presence of syntenic sequences between species pairs. In all other regions synteny has become lost. Synteny is lost to either rearrangements (inverted, translocated, or duplicated), sequence divergence, loss or gain.

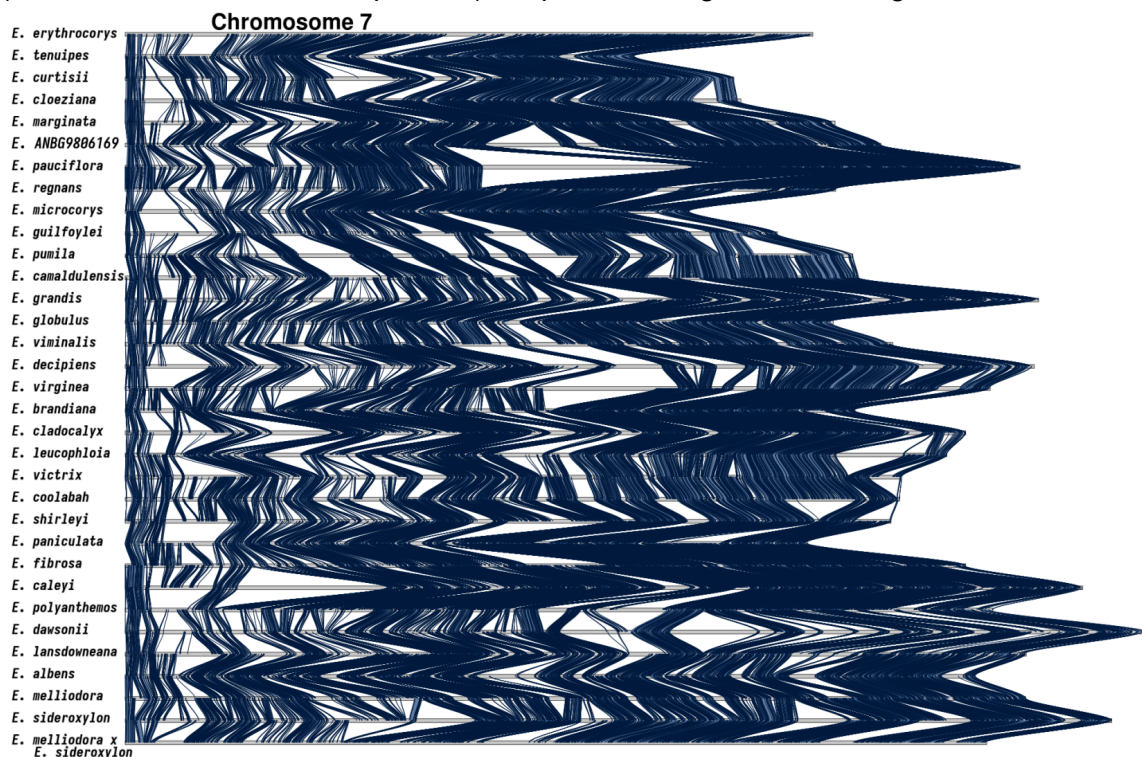


**Supplementary Figure S11. Synteny karyotype of chromosome 5.** The blue ribbons between karyotypes indicate the presence of syntenic sequences between species pairs. In all other regions synteny has become lost. Synteny is lost to either rearrangements (inverted, translocated, or duplicated), sequence divergence, loss or gain.



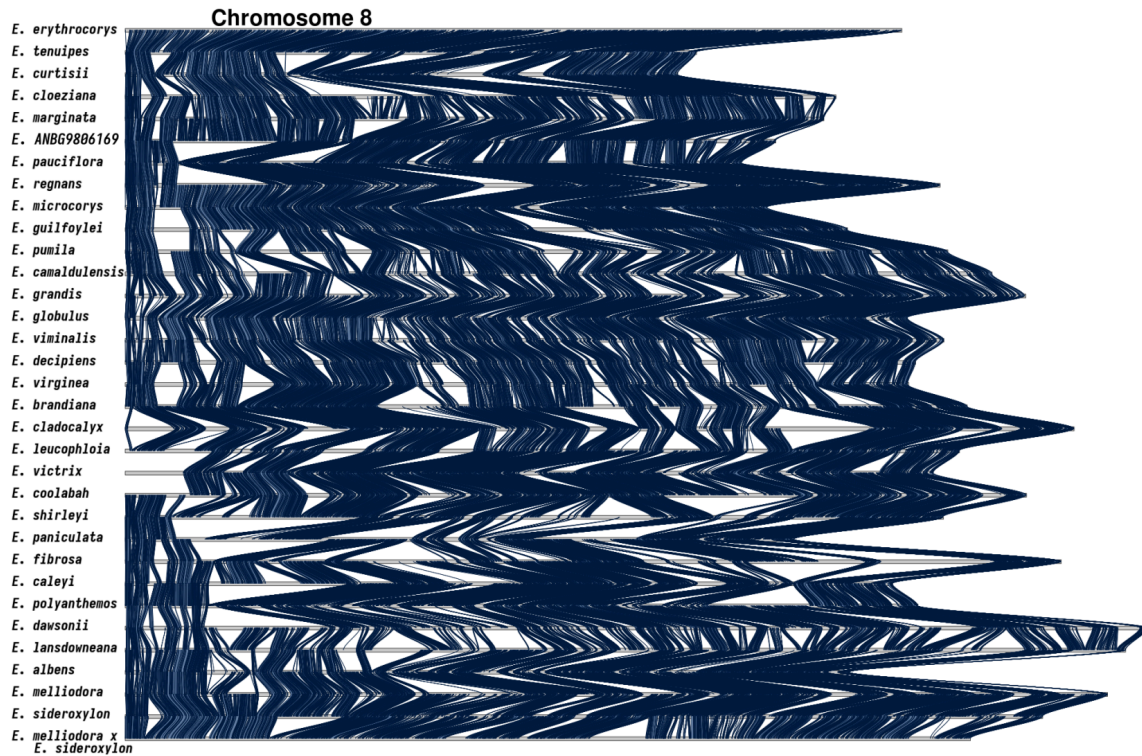


**Supplementary Figure S12. Synteny karyotype of chromosome 6.** The blue ribbons between karyotypes indicate the presence of syntenic sequences between species pairs. In all other regions synteny has become lost. Synteny is lost to either rearrangements (inverted, translocated, or duplicated), sequence divergence, loss or gain.

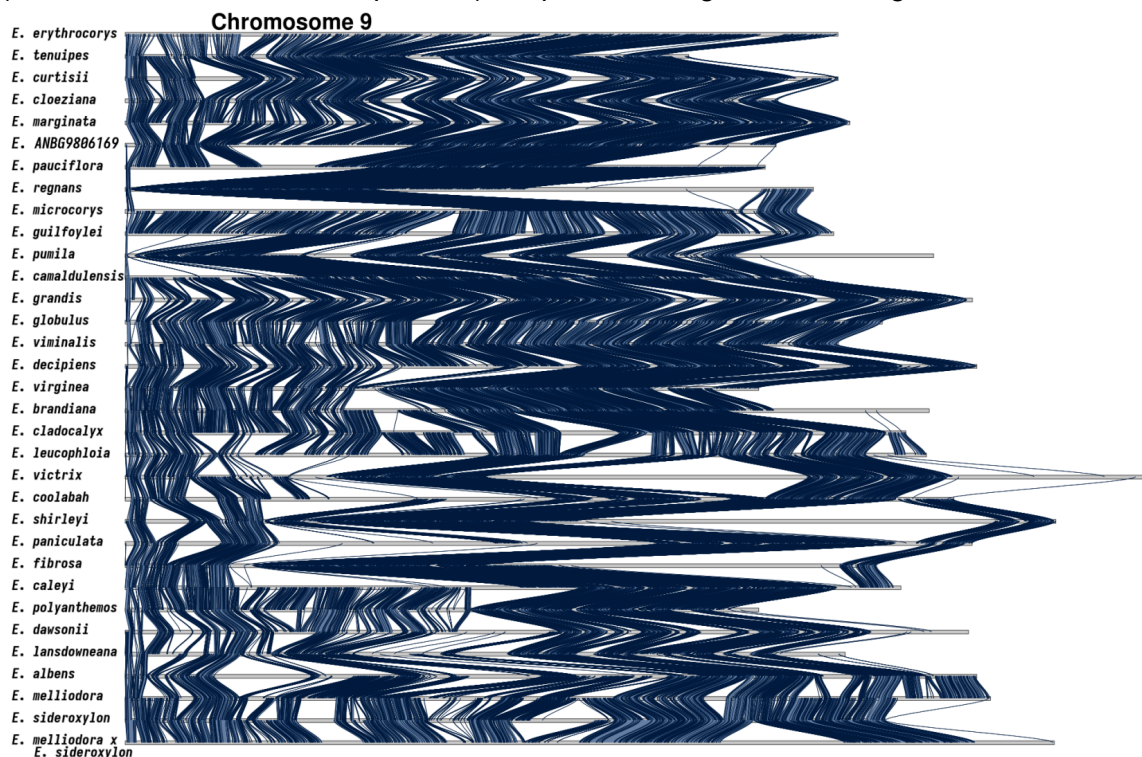


**Supplementary Figure S13. Synteny karyotype of chromosome 7.** The blue ribbons between karyotypes indicate the presence of syntenic sequences between species pairs. In all other regions synteny has become lost. Synteny is lost to either rearrangements (inverted, translocated, or duplicated), sequence divergence, loss or gain.



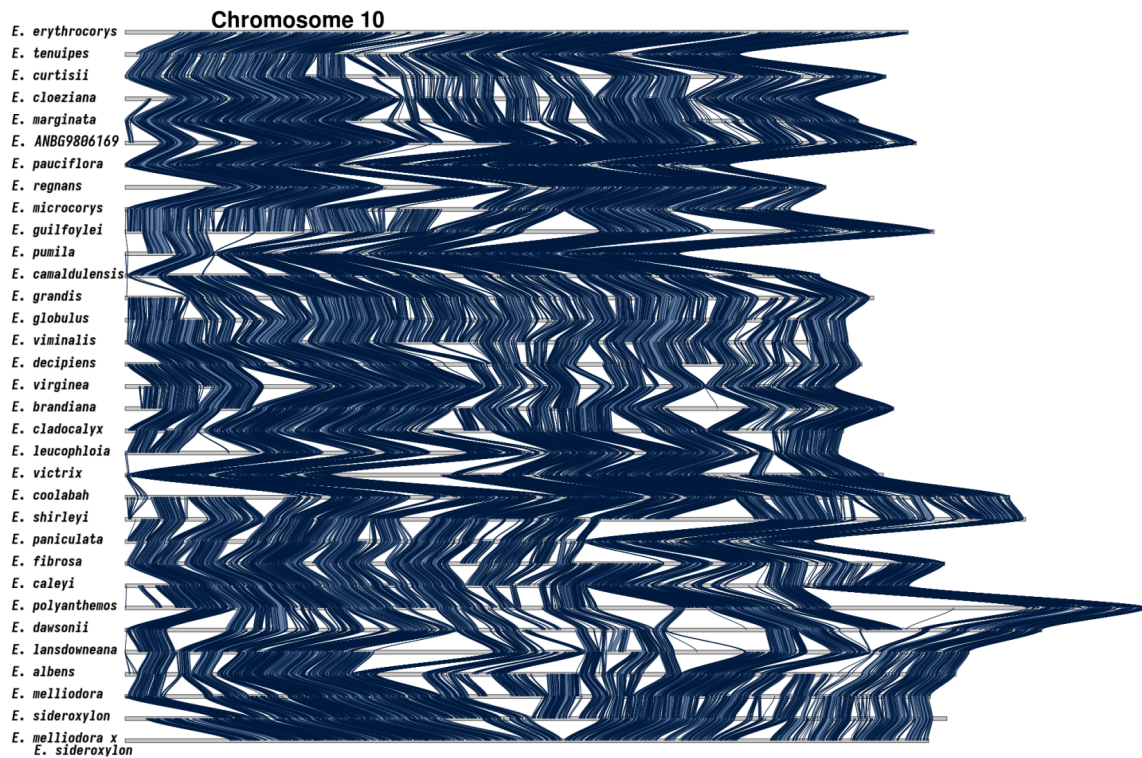


**Supplementary Figure S14. Synteny karyotype of chromosome 8.** The blue ribbons between karyotypes indicate the presence of syntenic sequences between species pairs. In all other regions synteny has become lost. Synteny is lost to either rearrangements (inverted, translocated, or duplicated), sequence divergence, loss or gain.

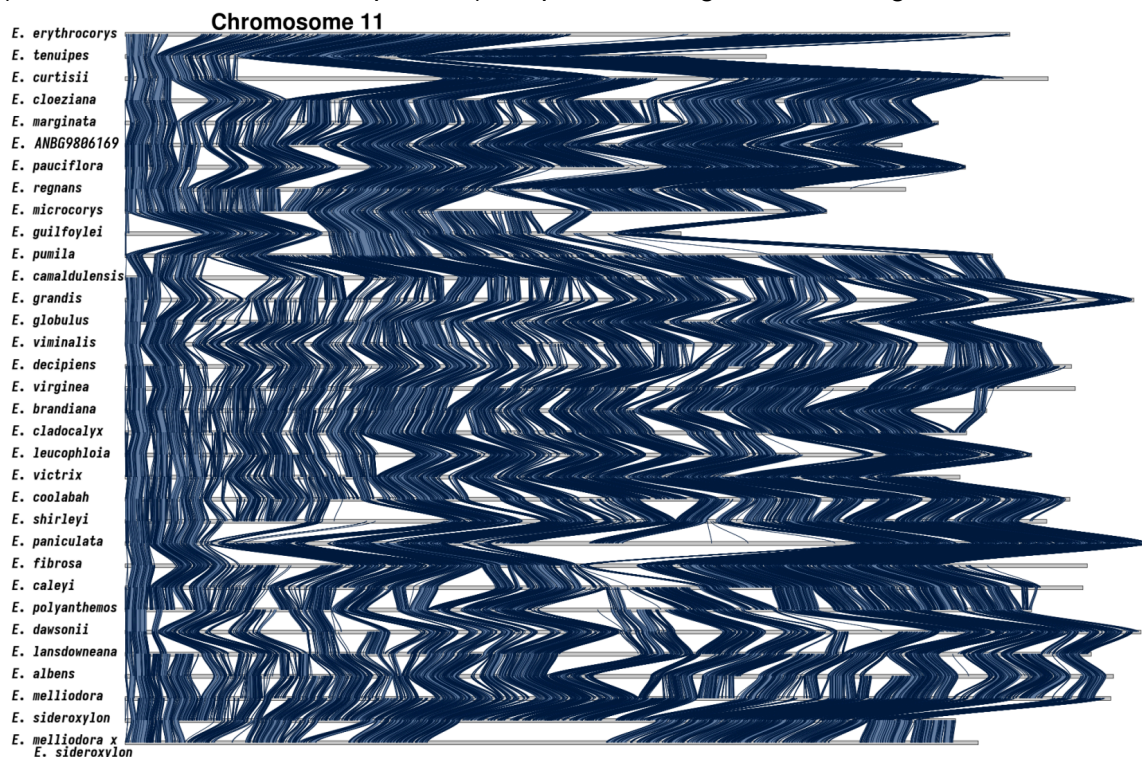


**Supplementary Figure S15. Synteny karyotype of chromosome 9.** The blue ribbons between karyotypes indicate the presence of syntenic sequences between species pairs. In all other regions synteny has become lost. Synteny is lost to either rearrangements (inverted, translocated, or duplicated), sequence divergence, loss or gain.





**Supplementary Figure S16. Synteny karyotype of chromosome 10.** The blue ribbons between karyotypes indicate the presence of syntenic sequences between species pairs. In all other regions synteny has become lost. Synteny is lost to either rearrangements (inverted, translocated, or duplicated), sequence divergence, loss or gain.



**Supplementary Figure S17. Synteny karyotype of chromosome 11.** The blue ribbons between karyotypes indicate the presence of syntenic sequences between species pairs. In all other regions synteny has become lost. Synteny is lost to either rearrangements (inverted, translocated, or duplicated), sequence divergence, loss or gain.

|                                 | <i>albens</i> | <i>brandiana</i> | <i>caleyi</i> | <i>camaldulensis</i> | <i>cladocalyx</i> | <i>cloeziana</i> | <i>coolabah</i> | <i>curtisii</i> | <i>dawsonii</i> | <i>decipiens</i> | <i>erythrocorys</i> |
|---------------------------------|---------------|------------------|---------------|----------------------|-------------------|------------------|-----------------|-----------------|-----------------|------------------|---------------------|
| <i>albens</i>                   |               | 39.2%            | 43.1%         | 35.8%                | 36.8%             | 32.0%            | 43.8%           | 28.9%           | 37.5%           | 36.9%            | 28.4%               |
| <i>brandiana</i>                | 46.7%         |                  | 49.2%         | 45.5%                | 46.9%             | 41.8%            | 50.2%           | 36.6%           | 42.5%           | 48.2%            | 36.5%               |
| <i>caleyi</i>                   | 44.6%         | 42.6%            |               | 38.6%                | 40.5%             | 35.0%            | 47.5%           | 29.5%           | 40.3%           | 39.9%            | 29.3%               |
| <i>camaldulensis</i>            | 38.7%         | 41.5%            | 40.6%         |                      | 39.1%             | 38.4%            | 42.1%           | 32.9%           | 35.3%           | 42.3%            | 32.1%               |
| <i>cladocalyx</i>               | 41.3%         | 44.0%            | 43.8%         | 40.3%                |                   | 36.7%            | 44.2%           | 31.4%           | 37.9%           | 41.5%            | 30.9%               |
| <i>cloeziana</i>                | 39.7%         | 43.8%            | 42.1%         | 43.8%                | 40.6%             |                  | 44.1%           | 40.5%           | 36.5%           | 43.6%            | 37.2%               |
| <i>coolabah</i>                 | 44.0%         | 42.4%            | 46.3%         | 39.1%                | 39.7%             | 35.9%            |                 | 31.0%           | 40.1%           | 40.2%            | 30.4%               |
| <i>curtisii</i>                 | 39.0%         | 41.6%            | 38.9%         | 41.3%                | 38.5%             | 44.4%            | 41.8%           |                 | 34.7%           | 41.3%            | 37.8%               |
| <i>dawsonii</i>                 | 32.3%         | 30.7%            | 33.7%         | 28.0%                | 29.2%             | 25.7%            | 34.4%           | 22.1%           |                 | 28.8%            | 21.3%               |
| <i>decipiens</i>                | 38.1%         | 41.9%            | 40.1%         | 40.3%                | 38.4%             | 36.5%            | 41.3%           | 31.3%           | 34.7%           |                  | 31.7%               |
| <i>erythrocorys</i>             | 32.9%         | 36.1%            | 33.1%         | 34.7%                | 32.5%             | 35.3%            | 35.2%           | 32.8%           | 28.7%           | 35.8%            |                     |
| <i>fibrosa</i>                  | 43.9%         | 42.7%            | 45.2%         | 38.2%                | 38.5%             | 34.2%            | 47.0%           | 30.3%           | 39.2%           | 39.2%            | 29.5%               |
| <i>globulus</i>                 | 41.2%         | 44.1%            | 43.0%         | 53.3%                | 41.6%             | 40.2%            | 44.7%           | 34.5%           | 37.7%           | 44.8%            | 33.9%               |
| <i>grandis</i>                  | 34.6%         | 36.9%            | 35.8%         | 45.4%                | 34.6%             | 34.0%            | 37.6%           | 29.0%           | 32.0%           | 37.8%            | 28.4%               |
| <i>guilfoylei</i>               | 38.0%         | 41.2%            | 40.5%         | 40.8%                | 38.7%             | 39.8%            | 41.8%           | 36.2%           | 34.9%           | 41.9%            | 35.3%               |
| <i>lansdowneana</i>             | 40.9%         | 38.8%            | 40.7%         | 34.1%                | 36.6%             | 31.1%            | 42.1%           | 27.1%           | 36.7%           | 35.5%            | 26.4%               |
| <i>leucophloia</i>              | 40.5%         | 41.6%            | 42.0%         | 38.1%                | 39.0%             | 34.5%            | 44.2%           | 30.9%           | 36.0%           | 39.4%            | 29.5%               |
| <i>marginata</i>                | 37.8%         | 41.6%            | 40.0%         | 40.9%                | 37.9%             | 50.8%            | 41.6%           | 38.6%           | 34.1%           | 41.5%            | 35.9%               |
| <i>melliodora</i>               | 45.5%         | 41.5%            | 46.2%         | 38.1%                | 39.0%             | 34.5%            | 46.9%           | 30.0%           | 40.2%           | 39.3%            | 29.1%               |
| <i>melliodora x sideroxylon</i> | 40.7%         | 40.7%            | 40.7%         | 40.7%                | 40.7%             | 40.7%            | 40.7%           | 40.7%           | 40.7%           | 40.7%            | 40.7%               |
| <i>microcorys</i>               | 46.6%         | 50.5%            | 49.7%         | 49.7%                | 46.9%             | 48.6%            | 50.4%           | 42.6%           | 42.4%           | 50.5%            | 41.9%               |
| <b>ANBG9806169</b>              | 35.1%         | 38.0%            | 36.5%         | 38.1%                | 35.0%             | 48.9%            | 38.4%           | 36.4%           | 31.4%           | 38.0%            | 33.6%               |
| <i>paniculata</i>               | 42.0%         | 39.8%            | 44.2%         | 36.5%                | 37.5%             | 33.2%            | 44.6%           | 29.0%           | 38.2%           | 37.9%            | 28.2%               |
| <i>pauciflora</i>               | 34.2%         | 38.9%            | 34.9%         | 36.4%                | 34.1%             | 46.5%            | 36.8%           | 34.7%           | 30.3%           | 37.3%            | 32.7%               |
| <i>polyanthemos</i>             | 43.1%         | 40.8%            | 45.4%         | 36.6%                | 38.1%             | 32.9%            | 45.0%           | 29.1%           | 45.1%           | 38.2%            | 28.3%               |
| <i>pumila</i>                   | 37.2%         | 40.0%            | 38.3%         | 47.9%                | 37.8%             | 36.6%            | 40.2%           | 30.9%           | 34.4%           | 40.4%            | 30.5%               |
| <i>regnans</i>                  | 34.8%         | 39.2%            | 37.2%         | 37.8%                | 35.8%             | 46.7%            | 38.2%           | 36.6%           | 31.8%           | 37.9%            | 34.1%               |
| <i>shirleyi</i>                 | 40.8%         | 39.7%            | 44.2%         | 35.8%                | 37.3%             | 33.0%            | 44.8%           | 28.5%           | 37.2%           | 37.4%            | 28.1%               |
| <i>sideroxylon</i>              | 45.9%         | 43.1%            | 47.6%         | 38.6%                | 41.3%             | 35.4%            | 47.7%           | 30.9%           | 41.6%           | 40.3%            | 30.5%               |
| <i>tenuipes</i>                 | 45.6%         | 49.7%            | 48.0%         | 49.0%                | 46.0%             | 52.5%            | 49.3%           | 48.0%           | 40.8%           | 50.2%            | 46.0%               |
| <i>victrix</i>                  | 45.6%         | 45.6%            | 47.2%         | 40.7%                | 41.6%             | 36.9%            | 52.5%           | 32.8%           | 40.6%           | 41.6%            | 32.3%               |
| <i>viminalis</i>                | 39.9%         | 42.5%            | 41.5%         | 51.4%                | 39.9%             | 39.1%            | 43.4%           | 33.8%           | 36.6%           | 43.2%            | 32.8%               |
| <i>virginea</i>                 | 41.4%         | 45.5%            | 43.4%         | 43.7%                | 41.0%             | 38.5%            | 44.7%           | 34.1%           | 37.2%           | 48.0%            | 32.6%               |

|                                 | <i>fibrosa</i> | <i>globulus</i> | <i>grandis</i> | <i>guilfoylei</i> | <i>lansdowneana</i> | <i>leucophloia</i> | <i>marginata</i> | <i>meliiodora</i> | <i>meliiodora x sideroxylon</i> | <i>microcorys</i> | <b>ANBG98061<br/>69</b> |
|---------------------------------|----------------|-----------------|----------------|-------------------|---------------------|--------------------|------------------|-------------------|---------------------------------|-------------------|-------------------------|
| <i>albens</i>                   | 42.7%          | 37.0%           | 34.9%          | 30.5%             | 42.6%               | 37.6%              | 32.5%            | 47.5%             | 43.7%                           | 34.9%             | 30.1%                   |
| <i>brandiana</i>                | 49.7%          | 47.3%           | 44.6%          | 39.0%             | 48.3%               | 46.4%              | 42.5%            | 51.7%             | 48.3%                           | 44.8%             | 38.8%                   |
| <i>caleyi</i>                   | 45.4%          | 39.8%           | 37.4%          | 33.4%             | 43.7%               | 40.3%              | 35.5%            | 49.9%             | 45.3%                           | 38.2%             | 32.3%                   |
| <i>camaldulensis</i>            | 40.3%          | 51.9%           | 49.8%          | 35.4%             | 38.6%               | 38.6%              | 38.4%            | 43.2%             | 40.0%                           | 40.4%             | 35.5%                   |
| <i>cladocalyx</i>               | 41.9%          | 41.8%           | 39.2%          | 34.6%             | 42.7%               | 40.7%              | 36.5%            | 45.6%             | 42.7%                           | 39.2%             | 33.6%                   |
| <i>cloeziana</i>                | 41.1%          | 45.1%           | 42.7%          | 39.4%             | 40.0%               | 39.9%              | 54.1%            | 44.4%             | 40.9%                           | 45.2%             | 52.1%                   |
| <i>coolabah</i>                 | 45.9%          | 40.2%           | 38.2%          | 33.9%             | 44.1%               | 41.4%              | 36.2%            | 49.2%             | 44.7%                           | 37.9%             | 33.2%                   |
| <i>curtisii</i>                 | 39.9%          | 42.3%           | 39.9%          | 39.4%             | 38.0%               | 38.9%              | 45.3%            | 42.4%             | 40.7%                           | 43.5%             | 42.2%                   |
| <i>dawsonii</i>                 | 32.8%          | 29.2%           | 27.9%          | 24.2%             | 33.0%               | 28.9%              | 25.1%            | 36.2%             | 33.7%                           | 27.4%             | 23.3%                   |
| <i>decipiens</i>                | 39.4%          | 41.5%           | 39.5%          | 34.4%             | 38.2%               | 37.9%              | 36.7%            | 42.4%             | 39.9%                           | 38.6%             | 33.5%                   |
| <i>erythrocorys</i>             | 33.3%          | 36.0%           | 33.7%          | 33.3%             | 32.0%               | 32.4%              | 36.3%            | 35.3%             | 33.5%                           | 36.7%             | 33.3%                   |
| <i>fibrosa</i>                  |                | 39.3%           | 37.2%          | 32.7%             | 44.2%               | 39.2%              | 34.4%            | 48.6%             | 45.3%                           | 36.9%             | 32.5%                   |
| <i>globulus</i>                 | 42.6%          |                 | 53.7%          | 37.2%             | 41.1%               | 41.1%              | 40.5%            | 45.4%             | 42.1%                           | 42.5%             | 37.0%                   |
| <i>grandis</i>                  | 35.7%          | 47.7%           |                | 31.4%             | 34.1%               | 34.0%              | 33.6%            | 38.3%             | 35.5%                           | 35.9%             | 31.0%                   |
| <i>guilfoylei</i>               | 39.9%          | 41.9%           | 39.9%          |                   | 38.0%               | 38.0%              | 40.6%            | 42.0%             | 39.8%                           | 45.6%             | 38.0%                   |
| <i>lansdowneana</i>             | 41.4%          | 35.5%           | 33.1%          | 29.4%             |                     | 36.2%              | 31.3%            | 44.5%             | 41.8%                           | 33.3%             | 28.7%                   |
| <i>leucophloia</i>              | 40.9%          | 39.6%           | 37.1%          | 32.7%             | 40.7%               |                    | 35.0%            | 44.7%             | 41.6%                           | 37.1%             | 31.9%                   |
| <i>marginata</i>                | 39.0%          | 42.4%           | 39.8%          | 37.8%             | 37.8%               | 38.0%              |                  | 41.9%             | 39.2%                           | 42.6%             | 49.0%                   |
| <i>meliiodora</i>               | 45.2%          | 39.0%           | 37.1%          | 32.3%             | 44.5%               | 39.9%              | 34.7%            |                   | 35.9%                           | 35.9%             | 35.9%                   |
| <i>meliiodora x sideroxylon</i> | 40.7%          | 40.7%           | 40.7%          | 40.7%             | 40.7%               | 40.7%              | 40.7%            | 40.7%             |                                 | 40.7%             | 40.7%                   |
| <i>microcorys</i>               | 48.2%          | 51.7%           | 48.9%          | 48.9%             | 46.5%               | 46.5%              | 49.0%            | 51.5%             | 47.7%                           |                   | 45.0%                   |
| <b>ANBG9806169</b>              | 37.2%          | 39.1%           | 36.8%          | 35.6%             | 35.1%               | 34.8%              | 49.2%            | 38.9%             | 36.5%                           | 39.5%             |                         |
| <i>paniculata</i>               | 44.5%          | 37.6%           | 35.5%          | 30.4%             | 41.9%               | 38.4%              | 33.0%            | 46.8%             | 43.2%                           | 34.7%             | 30.1%                   |
| <i>pauciflora</i>               | 37.6%          | 37.6%           | 35.3%          | 35.7%             | 34.5%               | 33.9%              | 47.0%            | 37.7%             | 36.1%                           | 38.7%             | 50.7%                   |
| <i>polyanthemos</i>             | 43.7%          | 37.8%           | 36.0%          | 31.7%             | 43.7%               | 38.4%              | 33.3%            | 48.5%             | 44.9%                           | 36.5%             | 30.4%                   |
| <i>pumila</i>                   | 38.4%          | 48.7%           | 46.1%          | 33.2%             | 38.0%               | 37.0%              | 36.4%            | 41.2%             | 37.7%                           | 38.3%             | 33.9%                   |
| <i>regnans</i>                  | 39.3%          | 39.4%           | 36.3%          | 36.5%             | 35.3%               | 35.4%              | 47.2%            | 38.5%             | 36.9%                           | 39.8%             | 52.0%                   |
| <i>shirleyi</i>                 | 45.1%          | 37.2%           | 35.3%          | 32.1%             | 41.3%               | 38.3%              | 33.2%            | 45.4%             | 42.3%                           | 35.4%             | 30.6%                   |
| <i>sideroxylon</i>              | 46.8%          | 40.1%           | 37.7%          | 33.9%             | 46.6%               | 40.8%              | 35.8%            | 53.1%             | 53.4%                           | 38.3%             | 32.6%                   |
| <i>tenuipes</i>                 | 49.1%          | 50.7%           | 47.6%          | 45.9%             | 44.8%               | 45.0%              | 53.1%            | 50.6%             | 47.7%                           | 51.2%             | 49.3%                   |
| <i>victrix</i>                  | 50.6%          | 41.9%           | 39.4%          | 36.2%             | 46.2%               | 42.6%              | 37.5%            | 50.2%             | 46.1%                           | 40.1%             | 34.5%                   |
| <i>viminalis</i>                | 41.1%          | 59.0%           | 52.2%          | 36.3%             | 39.6%               | 39.7%              | 39.2%            | 43.8%             | 40.8%                           | 41.4%             | 36.2%                   |
| <i>virginea</i>                 | 43.6%          | 44.8%           | 42.2%          | 37.3%             | 41.7%               | 41.4%              | 39.1%            | 45.8%             | 42.6%                           | 41.8%             | 35.8%                   |

|                                 | <i>paniculata</i> | <i>pauciflora</i> | <i>polyanthemos</i> | <i>pumila</i> | <i>regnans</i> | <i>shirleyi</i> | <i>sideroxylon</i> | <i>tenuipes</i> | <i>victrix</i> | <i>viminalis</i> | <i>virginea</i> |
|---------------------------------|-------------------|-------------------|---------------------|---------------|----------------|-----------------|--------------------|-----------------|----------------|------------------|-----------------|
| <i>albens</i>                   | 40.6%             | 28.7%             | 42.7%               | 32.6%         | 29.2%          | 40.1%           | 44.8%              | 31.4%           | 41.8%          | 36.7%            | 36.6%           |
| <i>brandiana</i>                | 46.1%             | 38.6%             | 48.2%               | 41.9%         | 39.0%          | 46.6%           | 50.2%              | 40.3%           | 49.8%          | 46.5%            | 47.9%           |
| <i>caleyi</i>                   | 44.2%             | 30.1%             | 46.5%               | 34.6%         | 32.2%          | 44.9%           | 47.9%              | 34.0%           | 44.7%          | 39.3%            | 39.5%           |
| <i>camaldulensis</i>            | 38.3%             | 33.1%             | 39.3%               | 45.6%         | 34.5%          | 38.2%           | 40.9%              | 36.6%           | 40.4%          | 51.2%            | 41.9%           |
| <i>cladocalyx</i>               | 40.5%             | 31.9%             | 42.2%               | 37.0%         | 33.6%          | 41.0%           | 45.0%              | 35.1%           | 42.6%          | 41.0%            | 40.5%           |
| <i>cloeziana</i>                | 39.8%             | 48.4%             | 40.4%               | 39.9%         | 48.6%          | 40.2%           | 42.4%              | 44.3%           | 42.0%          | 45.0%            | 43.0%           |
| <i>coolabah</i>                 | 43.3%             | 31.1%             | 44.8%               | 35.4%         | 32.5%          | 44.3%           | 46.7%              | 34.2%           | 48.4%          | 40.0%            | 39.7%           |
| <i>curtisii</i>                 | 38.3%             | 39.4%             | 38.9%               | 37.0%         | 41.5%          | 37.9%           | 40.8%              | 44.4%           | 40.9%          | 42.4%            | 41.5%           |
| <i>dawsonii</i>                 | 31.8%             | 21.8%             | 38.6%               | 26.0%         | 23.1%          | 31.5%           | 34.9%              | 24.2%           | 32.0%          | 28.9%            | 28.3%           |
| <i>decipiens</i>                | 38.1%             | 32.2%             | 39.1%               | 36.6%         | 32.8%          | 38.2%           | 40.6%              | 35.4%           | 39.3%          | 40.9%            | 43.6%           |
| <i>erythrocorys</i>             | 31.5%             | 31.9%             | 32.4%               | 31.3%         | 33.2%          | 32.2%           | 34.4%              | 36.8%           | 34.2%          | 35.5%            | 34.0%           |
| <i>fibrosa</i>                  | 44.4%             | 32.2%             | 44.4%               | 34.7%         | 33.6%          | 45.7%           | 46.8%              | 34.5%           | 47.6%          | 38.7%            | 39.6%           |
| <i>globulus</i>                 | 40.5%             | 34.8%             | 41.7%               | 47.4%         | 36.4%          | 40.7%           | 43.5%              | 38.1%           | 42.7%          | 60.4%            | 44.1%           |
| <i>grandis</i>                  | 33.9%             | 28.9%             | 35.1%               | 39.8%         | 29.8%          | 34.3%           | 36.3%              | 32.1%           | 35.7%          | 47.5%            | 36.9%           |
| <i>guilfoylei</i>               | 36.7%             | 37.3%             | 39.2%               | 36.5%         | 38.0%          | 39.3%           | 40.9%              | 39.1%           | 41.3%          | 41.8%            | 41.7%           |
| <i>lansdowneana</i>             | 38.8%             | 27.8%             | 41.6%               | 31.9%         | 28.4%          | 39.1%           | 43.5%              | 29.4%           | 40.5%          | 34.9%            | 35.3%           |
| <i>leucophloia</i>              | 39.8%             | 30.4%             | 40.7%               | 34.7%         | 31.9%          | 40.5%           | 42.7%              | 33.1%           | 41.9%          | 39.0%            | 39.1%           |
| <i>marginata</i>                | 37.2%             | 45.8%             | 38.4%               | 37.2%         | 46.2%          | 38.1%           | 40.5%              | 41.8%           | 39.6%          | 42.1%            | 40.7%           |
| <i>melliodora</i>               | 35.9%             | 35.9%             | 35.9%               | 35.9%         | 35.9%          | 35.9%           | 35.9%              | 35.9%           | 35.9%          | 35.9%            | 35.9%           |
| <i>melliodora x sideroxylon</i> | 40.7%             | 40.7%             | 40.7%               | 40.7%         | 40.7%          | 40.7%           | 40.7%              | 40.7%           | 40.7%          | 40.7%            | 40.7%           |
| <i>microcorys</i>               | 44.8%             | 43.1%             | 48.2%               | 45.3%         | 44.6%          | 46.7%           | 49.6%              | 46.7%           | 49.1%          | 51.2%            | 49.9%           |
| <b>ANBG9806169</b>              | 34.1%             | 49.6%             | 35.0%               | 35.0%         | 50.9%          | 35.3%           | 37.0%              | 39.4%           | 36.9%          | 39.2%            | 37.5%           |
| <i>paniculata</i>               |                   | 29.8%             | 43.5%               | 32.8%         | 28.4%          | 41.7%           | 44.2%              | 31.6%           | 40.5%          | 37.3%            | 37.2%           |
| <i>pauciflora</i>               | 34.5%             |                   | 35.9%               | 33.3%         | 54.0%          | 34.9%           | 36.7%              | 38.5%           | 38.4%          | 37.0%            | 37.2%           |
| <i>polyanthemos</i>             | 42.5%             | 30.5%             |                     | 33.5%         | 30.6%          | 41.9%           | 46.5%              | 32.1%           | 43.2%          | 37.7%            | 37.9%           |
| <i>pumila</i>                   | 36.4%             | 31.4%             | 37.9%               |               | 33.4%          | 36.9%           | 39.2%              | 34.3%           | 38.2%          | 48.3%            | 39.3%           |
| <i>regnans</i>                  | 32.8%             | 54.0%             | 36.1%               | 35.4%         |                | 36.7%           | 37.6%              | 40.9%           | 38.7%          | 38.6%            | 38.2%           |
| <i>shirleyi</i>                 | 41.1%             | 29.5%             | 42.2%               | 32.8%         | 31.1%          |                 | 43.1%              | 32.9%           | 44.3%          | 36.7%            | 37.1%           |
| <i>sideroxylon</i>              | 43.8%             | 31.8%             | 47.3%               | 35.4%         | 32.5%          | 43.6%           |                    | 34.4%           | 45.6%          | 39.3%            | 39.5%           |
| <i>tenuipes</i>                 | 44.8%             | 47.2%             | 46.1%               | 44.2%         | 50.2%          | 47.3%           | 48.7%              |                 | 48.9%          | 50.1%            | 48.0%           |
| <i>victrix</i>                  | 42.8%             | 35.1%             | 46.8%               | 36.7%         | 35.6%          | 47.6%           | 48.6%              | 36.9%           |                | 41.1%            | 41.6%           |
| <i>viminalis</i>                | 39.3%             | 33.6%             | 40.6%               | 46.1%         | 34.9%          | 39.5%           | 41.7%              | 36.9%           | 41.0%          |                  | 42.6%           |
| <i>virginea</i>                 | 40.9%             | 34.6%             | 42.5%               | 39.2%         | 35.6%          | 41.5%           | 43.7%              | 36.8%           | 43.1%          | 44.4%            |                 |

**Supplementary Tables S10. Matrix of pairwise shared synteny.** Shows the proportion of the genome that is syntenic for all genome pairs. Read down the genome list (far left column) and extend across until the comparison genome is found. As genomes are different lengths the proportion that species X has syntenic to species Y is different to the proportion that species Y has syntenic to species X.

|                                 | <i>albens</i> | <i>brandiana</i> | <i>caleyi</i> | <i>camaldulensis</i> | <i>cladocalyx</i> | <i>cloeziana</i> | <i>coolabah</i> | <i>curtisii</i> | <i>dawsonii</i> | <i>decipiens</i> | <i>erythrocorys</i> |
|---------------------------------|---------------|------------------|---------------|----------------------|-------------------|------------------|-----------------|-----------------|-----------------|------------------|---------------------|
| <i>albens</i>                   |               | 35.2%            | 39.5%         | 34.5%                | 40.0%             | 22.9%            | 36.3%           | 26.8%           | 45.8%           | 34.5%            | 20.9%               |
| <i>brandiana</i>                | 33.1%         |                  | 31.6%         | 28.2%                | 32.3%             | 18.5%            | 28.3%           | 24.9%           | 38.8%           | 29.1%            | 19.1%               |
| <i>caleyi</i>                   | 37.9%         | 32.1%            |               | 33.4%                | 36.6%             | 21.4%            | 34.1%           | 28.0%           | 43.5%           | 33.5%            | 22.6%               |
| <i>camaldulensis</i>            | 32.6%         | 27.6%            | 31.3%         |                      | 31.3%             | 18.3%            | 27.1%           | 24.1%           | 36.9%           | 27.7%            | 20.4%               |
| <i>cladocalyx</i>               | 39.2%         | 33.1%            | 36.7%         | 32.0%                |                   | 21.4%            | 33.9%           | 27.9%           | 43.1%           | 33.6%            | 22.6%               |
| <i>cloeziana</i>                | 23.2%         | 18.4%            | 21.7%         | 18.4%                | 21.3%             |                  | 18.3%           | 27.4%           | 26.1%           | 19.9%            | 20.6%               |
| <i>coolabah</i>                 | 36.6%         | 30.6%            | 35.5%         | 29.1%                | 34.9%             | 18.7%            |                 | 23.7%           | 40.9%           | 30.2%            | 19.5%               |
| <i>curtisii</i>                 | 28.2%         | 25.4%            | 29.6%         | 25.7%                | 28.8%             | 27.7%            | 24.6%           |                 | 32.0%           | 26.9%            | 24.5%               |
| <i>dawsonii</i>                 | 48.3%         | 42.0%            | 46.9%         | 40.2%                | 45.1%             | 27.5%            | 43.4%           | 30.3%           |                 | 40.8%            | 25.3%               |
| <i>decipiens</i>                | 34.2%         | 29.9%            | 32.3%         | 29.0%                | 32.7%             | 20.2%            | 28.7%           | 26.1%           | 37.6%           |                  | 18.6%               |
| <i>erythrocorys</i>             | 22.6%         | 19.2%            | 22.7%         | 20.2%                | 22.1%             | 20.2%            | 18.9%           | 22.2%           | 24.3%           | 18.7%            |                     |
| <i>fibrosa</i>                  | 40.3%         | 33.6%            | 40.1%         | 34.6%                | 39.9%             | 22.8%            | 36.0%           | 27.4%           | 44.9%           | 35.1%            | 21.8%               |
| <i>globulus</i>                 | 30.9%         | 26.3%            | 30.0%         | 28.6%                | 29.2%             | 17.6%            | 25.1%           | 23.6%           | 34.8%           | 26.7%            | 18.3%               |
| <i>grandis</i>                  | 36.1%         | 31.6%            | 35.8%         | 35.2%                | 34.8%             | 21.6%            | 30.8%           | 26.3%           | 38.3%           | 32.4%            | 21.0%               |
| <i>guilfoylei</i>               | 32.4%         | 30.1%            | 30.8%         | 29.4%                | 31.5%             | 27.8%            | 27.6%           | 32.5%           | 35.5%           | 30.1%            | 26.4%               |
| <i>lansdowneana</i>             | 43.4%         | 36.6%            | 42.9%         | 36.9%                | 40.6%             | 24.3%            | 39.2%           | 28.4%           | 47.0%           | 37.5%            | 23.7%               |
| <i>leucophloia</i>              | 39.8%         | 34.9%            | 38.9%         | 33.5%                | 37.3%             | 23.2%            | 34.9%           | 27.1%           | 43.3%           | 33.3%            | 23.1%               |
| <i>marginata</i>                | 23.8%         | 19.6%            | 22.7%         | 20.2%                | 23.2%             | 30.4%            | 19.3%           | 28.1%           | 27.2%           | 20.3%            | 20.6%               |
| <i>melliodora</i>               | 37.9%         | 32.3%            | 35.5%         | 31.1%                | 36.0%             | 18.9%            | 32.4%           | 24.6%           | 42.6%           | 31.7%            | 20.0%               |
| <i>melliodora x sideroxylon</i> | 22.9%         | 22.9%            | 22.9%         | 22.9%                | 22.9%             | 22.9%            | 22.9%           | 22.9%           | 22.9%           | 22.9%            | 22.9%               |
| <i>microcorys</i>               | 25.9%         | 21.5%            | 22.8%         | 21.6%                | 25.0%             | 19.4%            | 20.9%           | 27.4%           | 30.2%           | 23.1%            | 21.6%               |
| <b>ANBG9806169</b>              | 25.2%         | 22.7%            | 25.4%         | 23.0%                | 25.2%             | 35.0%            | 21.7%           | 29.9%           | 28.1%           | 23.2%            | 23.4%               |
| <i>paniculata</i>               | 42.2%         | 36.9%            | 41.4%         | 36.3%                | 41.6%             | 25.0%            | 37.8%           | 29.2%           | 46.0%           | 35.8%            | 22.9%               |
| <i>pauciflora</i>               | 28.4%         | 22.3%            | 28.5%         | 26.2%                | 28.3%             | 40.3%            | 24.8%           | 33.1%           | 31.7%           | 26.0%            | 24.9%               |
| <i>polyanthemos</i>             | 40.1%         | 34.2%            | 37.8%         | 34.2%                | 39.1%             | 22.9%            | 35.9%           | 26.6%           | 42.7%           | 33.8%            | 22.3%               |
| <i>pumila</i>                   | 36.4%         | 32.1%            | 35.8%         | 35.1%                | 35.1%             | 22.7%            | 31.0%           | 28.5%           | 39.0%           | 33.2%            | 23.6%               |
| <i>regnans</i>                  | 26.9%         | 22.9%            | 24.9%         | 23.4%                | 24.6%             | 39.2%            | 22.1%           | 29.9%           | 28.6%           | 24.5%            | 21.9%               |
| <i>shirleyi</i>                 | 42.8%         | 35.8%            | 40.4%         | 35.8%                | 39.9%             | 23.6%            | 37.7%           | 29.1%           | 45.7%           | 35.3%            | 24.4%               |
| <i>sideroxylon</i>              | 38.1%         | 31.7%            | 35.5%         | 32.4%                | 34.8%             | 20.3%            | 33.2%           | 24.7%           | 42.2%           | 32.0%            | 19.6%               |
| <i>tenuipes</i>                 | 24.3%         | 19.0%            | 22.7%         | 20.4%                | 23.0%             | 22.1%            | 19.0%           | 30.4%           | 27.7%           | 19.7%            | 19.7%               |
| <i>victrix</i>                  | 37.1%         | 29.9%            | 36.2%         | 31.1%                | 35.8%             | 20.3%            | 31.8%           | 24.6%           | 42.5%           | 31.7%            | 19.7%               |
| <i>viminalis</i>                | 31.0%         | 26.8%            | 30.2%         | 29.1%                | 29.7%             | 17.4%            | 25.9%           | 23.1%           | 34.4%           | 27.1%            | 19.1%               |
| <i>virginea</i>                 | 34.0%         | 28.6%            | 32.7%         | 29.4%                | 33.4%             | 21.9%            | 28.5%           | 27.3%           | 38.8%           | 31.5%            | 23.1%               |

|                                     | <i>fibrosa</i> | <i>globulus</i> | <i>grandis</i> | <i>guilfoylei</i> | <i>lansdowneana</i> | <i>leucophloia</i> | <i>marginata</i> | <i>melliodora</i> | <i>melliodora x<br/>sideroxylon</i> | <i>microcorys</i> | <b>ANBG98061<br/>69</b> |
|-------------------------------------|----------------|-----------------|----------------|-------------------|---------------------|--------------------|------------------|-------------------|-------------------------------------|-------------------|-------------------------|
| <i>albens</i>                       | 41.0%          | 32.5%           | 37.0%          | 32.4%             | 41.4%               | 41.0%              | 23.1%            | 36.1%             | 41.0%                               | 27.4%             | 23.7%                   |
| <i>brandiana</i>                    | 31.5%          | 25.7%           | 30.5%          | 30.3%             | 32.5%               | 34.5%              | 18.8%            | 27.7%             | 33.2%                               | 22.6%             | 21.8%                   |
| <i>caleyi</i>                       | 39.3%          | 31.5%           | 36.0%          | 31.3%             | 39.8%               | 39.8%              | 22.5%            | 32.8%             | 38.5%                               | 25.0%             | 24.1%                   |
| <i>camaldulensis</i>                | 32.8%          | 28.7%           | 33.7%          | 29.1%             | 33.1%               | 32.8%              | 19.2%            | 27.4%             | 33.3%                               | 22.9%             | 21.6%                   |
| <i>cladocalyx</i>                   | 39.9%          | 30.3%           | 35.2%          | 32.3%             | 38.2%               | 38.2%              | 22.8%            | 34.0%             | 39.2%                               | 26.5%             | 23.9%                   |
| <i>cloeziana</i>                    | 22.4%          | 17.0%           | 21.1%          | 27.7%             | 22.6%               | 23.4%              | 28.6%            | 17.2%             | 24.2%                               | 19.9%             | 32.2%                   |
| <i>coolabah</i>                     | 37.1%          | 27.8%           | 32.2%          | 28.4%             | 37.7%               | 36.9%              | 19.5%            | 31.3%             | 37.8%                               | 23.7%             | 21.2%                   |
| <i>curtisii</i>                     | 28.2%          | 24.5%           | 28.4%          | 33.3%             | 29.0%               | 28.7%              | 27.9%            | 24.0%             | 28.8%                               | 27.5%             | 29.4%                   |
| <i>dawsonii</i>                     | 48.6%          | 38.6%           | 41.7%          | 36.5%             | 48.7%               | 47.0%              | 28.7%            | 45.3%             | 48.5%                               | 32.6%             | 29.1%                   |
| <i>decipiens</i>                    | 35.0%          | 28.4%           | 32.4%          | 30.9%             | 35.1%               | 33.7%              | 20.5%            | 29.8%             | 33.8%                               | 25.7%             | 23.1%                   |
| <i>erythrocorys</i>                 | 22.2%          | 18.7%           | 21.9%          | 25.1%             | 23.0%               | 22.3%              | 19.0%            | 18.7%             | 23.2%                               | 21.1%             | 22.1%                   |
| <i>fibrosa</i>                      |                | 32.7%           | 37.3%          | 33.9%             | 39.6%               | 41.9%              | 23.7%            | 35.4%             | 40.0%                               | 28.3%             | 23.6%                   |
| <i>globulus</i>                     | 31.0%          |                 | 31.3%          | 29.0%             | 32.0%               | 30.1%              | 17.7%            | 25.8%             | 32.6%                               | 22.2%             | 20.6%                   |
| <i>grandis</i>                      | 36.2%          | 33.0%           |                | 32.0%             | 37.2%               | 36.0%              | 23.0%            | 31.8%             | 37.4%                               | 27.4%             | 24.9%                   |
| <i>guilfoylei</i>                   | 32.2%          | 28.5%           | 31.8%          |                   | 33.1%               | 33.6%              | 27.7%            | 28.4%             | 32.9%                               | 28.5%             | 28.0%                   |
| <i>lansdowneana</i>                 | 42.3%          | 35.0%           | 39.2%          | 34.4%             |                     | 43.2%              | 25.2%            | 39.8%             | 43.8%                               | 30.1%             | 26.1%                   |
| <i>leucophloia</i>                  | 40.8%          | 30.8%           | 35.9%          | 33.2%             | 39.5%               |                    | 23.2%            | 34.7%             | 39.5%                               | 27.7%             | 25.6%                   |
| <i>marginata</i>                    | 23.4%          | 18.3%           | 23.1%          | 28.8%             | 24.0%               | 23.9%              |                  | 18.9%             | 24.9%                               | 21.4%             | 34.1%                   |
| <i>melliodora</i>                   | 37.2%          | 29.9%           | 34.0%          | 29.9%             | 38.2%               | 36.7%              | 20.1%            |                   | 39.6%                               | 39.6%             | 39.6%                   |
| <i>melliodora x<br/>sideroxylon</i> | 22.9%          | 22.9%           | 22.9%          | 22.9%             | 22.9%               | 22.9%              | 22.9%            | 22.9%             |                                     | 22.9%             | 22.9%                   |
| <i>microcorys</i>                   | 25.6%          | 19.8%           | 24.8%          | 27.9%             | 26.5%               | 26.9%              | 19.6%            | 19.4%             | 26.4%                               |                   | 23.1%                   |
| <b>ANBG9806169</b>                  | 24.0%          | 21.3%           | 25.9%          | 28.6%             | 25.4%               | 26.4%              | 34.7%            | 21.1%             | 26.7%                               | 24.0%             |                         |
| <i>paniculata</i>                   | 41.7%          | 34.5%           | 38.2%          | 35.0%             | 42.2%               | 41.0%              | 25.8%            | 37.0%             | 42.3%                               | 30.6%             | 26.8%                   |
| <i>pauciflora</i>                   | 25.7%          | 24.8%           | 28.0%          | 30.9%             | 27.9%               | 27.8%              | 39.2%            | 22.7%             | 27.2%                               | 26.8%             | 41.1%                   |
| <i>polyanthemus</i>                 | 40.3%          | 32.4%           | 36.2%          | 31.9%             | 39.7%               | 39.7%              | 23.0%            | 35.1%             | 39.5%                               | 26.1%             | 25.1%                   |
| <i>pumila</i>                       | 36.1%          | 33.0%           | 37.5%          | 35.0%             | 36.2%               | 36.0%              | 23.5%            | 31.7%             | 38.2%                               | 28.3%             | 24.2%                   |
| <i>regnans</i>                      | 23.1%          | 21.1%           | 25.9%          | 30.4%             | 26.3%               | 26.3%              | 38.3%            | 21.4%             | 26.5%                               | 24.9%             | 39.3%                   |
| <i>shirleyi</i>                     | 39.6%          | 33.7%           | 37.8%          | 32.7%             | 41.8%               | 41.4%              | 24.6%            | 38.0%             | 41.9%                               | 29.7%             | 26.1%                   |
| <i>sideroxylon</i>                  | 37.3%          | 29.4%           | 33.9%          | 29.9%             | 37.4%               | 37.7%              | 20.9%            | 31.7%             | 34.8%                               | 24.1%             | 22.9%                   |
| <i>tenuipes</i>                     | 21.7%          | 18.7%           | 23.2%          | 29.2%             | 24.8%               | 25.2%              | 21.7%            | 17.0%             | 22.6%                               | 21.5%             | 24.2%                   |
| <i>victrix</i>                      | 32.9%          | 29.4%           | 33.8%          | 29.4%             | 36.5%               | 38.1%              | 20.4%            | 32.0%             | 37.6%                               | 23.9%             | 22.7%                   |
| <i>viminalis</i>                    | 32.3%          | 26.5%           | 31.5%          | 28.4%             | 31.8%               | 30.4%              | 17.8%            | 26.1%             | 32.5%                               | 22.0%             | 20.5%                   |
| <i>virginea</i>                     | 33.1%          | 28.3%           | 32.9%          | 31.6%             | 34.2%               | 33.7%              | 22.2%            | 28.8%             | 34.8%                               | 26.5%             | 24.6%                   |



|                                 | <i>paniculata</i> | <i>pauciflora</i> | <i>polyanthemos</i> | <i>pumila</i> | <i>regnans</i> | <i>shirleyi</i> | <i>sideroxylon</i> | <i>tenuipes</i> | <i>victrix</i> | <i>viminalis</i> | <i>virginea</i> |
|---------------------------------|-------------------|-------------------|---------------------|---------------|----------------|-----------------|--------------------|-----------------|----------------|------------------|-----------------|
| <i>albens</i>                   | 43.3%             | 27.8%             | 40.3%               | 37.4%         | 24.2%          | 42.7%           | 38.4%              | 24.1%           | 38.6%          | 32.7%            | 36.1%           |
| <i>brandiana</i>                | 36.0%             | 20.3%             | 31.5%               | 32.4%         | 20.4%          | 34.4%           | 29.2%              | 20.3%           | 28.8%          | 27.1%            | 29.9%           |
| <i>caleyi</i>                   | 41.8%             | 26.9%             | 36.3%               | 37.0%         | 22.6%          | 39.8%           | 34.7%              | 23.7%           | 36.8%          | 31.4%            | 34.7%           |
| <i>camaldulensis</i>            | 34.8%             | 23.6%             | 31.9%               | 35.4%         | 20.6%          | 34.5%           | 29.9%              | 21.8%           | 30.0%          | 29.0%            | 30.2%           |
| <i>cladocalyx</i>               | 41.3%             | 25.8%             | 38.4%               | 36.3%         | 23.0%          | 39.7%           | 34.4%              | 23.3%           | 36.0%          | 30.8%            | 35.4%           |
| <i>cloeziana</i>                | 24.3%             | 35.9%             | 22.2%               | 22.5%         | 35.8%          | 23.0%           | 20.1%              | 23.4%           | 20.0%          | 17.3%            | 21.9%           |
| <i>coolabah</i>                 | 39.2%             | 24.0%             | 36.1%               | 32.8%         | 20.4%          | 38.4%           | 33.5%              | 19.8%           | 34.0%          | 27.7%            | 31.4%           |
| <i>curtisii</i>                 | 30.6%             | 32.7%             | 27.9%               | 30.3%         | 29.6%          | 30.5%           | 26.1%              | 31.7%           | 25.9%          | 24.3%            | 28.0%           |
| <i>dawsonii</i>                 | 49.4%             | 31.9%             | 46.9%               | 41.6%         | 28.1%          | 48.6%           | 46.3%              | 28.7%           | 46.4%          | 38.2%            | 42.3%           |
| <i>decipiens</i>                | 35.2%             | 23.8%             | 32.4%               | 34.3%         | 22.6%          | 34.1%           | 31.1%              | 20.8%           | 31.9%          | 29.2%            | 34.6%           |
| <i>erythrocorys</i>             | 23.5%             | 23.0%             | 22.0%               | 23.2%         | 19.5%          | 22.2%           | 19.9%              | 19.5%           | 20.1%          | 18.1%            | 22.2%           |
| <i>fibrosa</i>                  | 42.1%             | 24.8%             | 39.8%               | 37.8%         | 21.7%          | 39.1%           | 37.0%              | 23.2%           | 34.2%          | 33.8%            | 35.6%           |
| <i>globulus</i>                 | 33.5%             | 23.5%             | 30.3%               | 34.1%         | 19.6%          | 32.4%           | 28.0%              | 19.6%           | 28.7%          | 26.0%            | 29.3%           |
| <i>grandis</i>                  | 38.3%             | 26.2%             | 35.3%               | 39.5%         | 23.8%          | 37.6%           | 33.8%              | 23.6%           | 34.6%          | 33.7%            | 34.9%           |
| <i>guilfoylei</i>               | 35.6%             | 29.4%             | 31.5%               | 34.8%         | 28.5%          | 32.0%           | 29.3%              | 29.2%           | 29.1%          | 28.1%            | 30.8%           |
| <i>lansdowneana</i>             | 45.6%             | 27.7%             | 42.0%               | 39.2%         | 25.5%          | 44.6%           | 40.8%              | 26.5%           | 40.6%          | 35.6%            | 38.7%           |
| <i>leucophloia</i>              | 41.0%             | 26.7%             | 38.6%               | 36.7%         | 24.3%          | 40.9%           | 36.3%              | 26.0%           | 38.5%          | 31.5%            | 35.4%           |
| <i>marginata</i>                | 26.4%             | 37.5%             | 23.1%               | 24.5%         | 36.6%          | 24.4%           | 21.3%              | 24.4%           | 21.2%          | 18.9%            | 22.9%           |
| <i>melliodora</i>               | 39.6%             | 39.6%             | 39.6%               | 39.6%         | 39.6%          | 39.6%           | 39.6%              | 39.6%           | 39.6%          | 39.6%            | 39.6%           |
| <i>melliodora x sideroxylon</i> | 22.9%             | 22.9%             | 22.9%               | 22.9%         | 22.9%          | 22.9%           | 22.9%              | 22.9%           | 22.9%          | 22.9%            | 22.9%           |
| <i>microcorys</i>               | 29.8%             | 24.3%             | 24.1%               | 27.4%         | 22.6%          | 27.0%           | 22.2%              | 22.7%           | 22.7%          | 20.0%            | 24.7%           |
| <b>ANBG9806169</b>              | 27.5%             | 39.3%             | 25.4%               | 25.1%         | 38.4%          | 26.0%           | 23.6%              | 26.9%           | 23.3%          | 21.3%            | 25.0%           |
| <i>paniculata</i>               |                   | 26.5%             | 40.3%               | 39.5%         | 30.6%          | 43.3%           | 39.9%              | 25.6%           | 42.8%          | 34.7%            | 38.6%           |
| <i>pauciflora</i>               | 27.2%             |                   | 24.6%               | 29.4%         | 37.7%          | 28.4%           | 25.8%              | 28.2%           | 23.5%          | 25.6%            | 28.6%           |
| <i>polyanthemos</i>             | 41.4%             | 23.1%             |                     | 37.5%         | 23.3%          | 41.0%           | 37.0%              | 24.3%           | 37.8%          | 32.4%            | 34.9%           |
| <i>pumila</i>                   | 38.5%             | 27.8%             | 36.2%               |               | 24.5%          | 37.7%           | 33.9%              | 25.9%           | 34.5%          | 33.7%            | 35.9%           |
| <i>regnans</i>                  | 31.8%             | 36.9%             | 24.6%               | 25.9%         |                | 26.5%           | 23.4%              | 25.3%           | 22.2%          | 22.1%            | 25.8%           |
| <i>shirleyi</i>                 | 44.2%             | 27.7%             | 40.6%               | 39.0%         | 25.2%          |                 | 40.2%              | 25.0%           | 37.8%          | 34.6%            | 37.2%           |
| <i>sideroxylon</i>              | 40.4%             | 23.2%             | 36.0%               | 34.9%         | 21.3%          | 39.9%           |                    | 21.4%           | 35.4%          | 30.4%            | 33.7%           |
| <i>tenuipes</i>                 | 25.6%             | 25.4%             | 22.9%               | 25.8%         | 22.3%          | 23.3%           | 20.4%              |                 | 19.7%          | 18.7%            | 23.5%           |
| <i>victrix</i>                  | 41.7%             | 21.8%             | 35.2%               | 35.0%         | 20.4%          | 35.8%           | 33.5%              | 20.6%           |                | 30.2%            | 32.4%           |
| <i>viminalis</i>                | 33.4%             | 23.5%             | 30.0%               | 34.2%         | 19.9%          | 32.2%           | 28.6%              | 19.7%           | 28.8%          |                  | 29.3%           |
| <i>virginea</i>                 | 36.2%             | 26.0%             | 32.2%               | 35.5%         | 23.5%          | 34.7%           | 31.0%              | 24.7%           | 31.1%          | 28.1%            |                 |



**Supplementary Tables S11. Matrix of pairwise rearrangements.** Shows the proportion of the genome that is rearranged for all genome pairs. Read down the genome list (far left column) and extend across until the comparison genome is found. As genomes are different lengths the proportion that species X has rearranged to species Y is different to the proportion that species Y has rearranged to species X.

|                                 | <i>albens</i> | <i>brandiana</i> | <i>caleyi</i> | <i>camaldulensis</i> | <i>cladocalyx</i> | <i>cloeziana</i> | <i>coolabah</i> | <i>curtisii</i> | <i>dawsonii</i> | <i>decipiens</i> | <i>erythrocorys</i> |
|---------------------------------|---------------|------------------|---------------|----------------------|-------------------|------------------|-----------------|-----------------|-----------------|------------------|---------------------|
| <i>albens</i>                   |               | 74.4%            | 82.6%         | 70.3%                | 76.8%             | 54.9%            | 80.1%           | 55.6%           | 83.3%           | 71.4%            | 49.3%               |
| <i>brandiana</i>                | 79.9%         |                  | 80.7%         | 73.8%                | 79.1%             | 60.4%            | 78.6%           | 61.5%           | 81.3%           | 77.3%            | 55.6%               |
| <i>caleyi</i>                   | 82.5%         | 74.7%            |               | 71.9%                | 77.1%             | 56.4%            | 81.6%           | 57.6%           | 83.8%           | 73.4%            | 51.9%               |
| <i>camaldulensis</i>            | 71.4%         | 69.0%            | 71.9%         |                      | 70.3%             | 56.7%            | 69.2%           | 57.0%           | 72.1%           | 70.0%            | 52.5%               |
| <i>cladocalyx</i>               | 80.5%         | 77.1%            | 80.5%         | 72.3%                |                   | 58.1%            | 78.1%           | 59.3%           | 80.9%           | 75.0%            | 53.4%               |
| <i>cloeziana</i>                | 63.0%         | 62.2%            | 63.7%         | 62.2%                | 61.9%             |                  | 62.4%           | 68.0%           | 62.6%           | 63.5%            | 57.8%               |
| <i>coolabah</i>                 | 80.6%         | 73.0%            | 81.8%         | 68.2%                | 74.6%             | 54.6%            |                 | 54.7%           | 81.1%           | 70.3%            | 49.9%               |
| <i>curtisii</i>                 | 67.2%         | 67.0%            | 68.5%         | 67.0%                | 67.3%             | 72.1%            | 66.4%           |                 | 66.7%           | 68.2%            | 62.4%               |
| <i>dawsonii</i>                 | 80.6%         | 72.7%            | 80.7%         | 68.3%                | 74.2%             | 53.2%            | 77.8%           | 52.4%           |                 | 69.6%            | 46.7%               |
| <i>decipiens</i>                | 72.3%         | 71.8%            | 72.4%         | 69.3%                | 71.1%             | 56.7%            | 70.0%           | 57.4%           | 72.3%           |                  | 50.4%               |
| <i>erythrocorys</i>             | 55.4%         | 55.3%            | 55.8%         | 54.9%                | 54.5%             | 55.4%            | 54.2%           | 55.0%           | 53.0%           | 54.5%            |                     |
| <i>fibrosa</i>                  | 84.2%         | 76.3%            | 85.3%         | 72.8%                | 78.4%             | 57.0%            | 83.0%           | 57.7%           | 84.1%           | 74.3%            | 51.4%               |
| <i>globulus</i>                 | 72.1%         | 70.4%            | 73.0%         | 81.9%                | 70.9%             | 57.8%            | 69.8%           | 58.1%           | 72.4%           | 71.6%            | 52.2%               |
| <i>grandis</i>                  | 70.7%         | 68.5%            | 71.7%         | 80.6%                | 69.4%             | 55.6%            | 68.4%           | 55.4%           | 70.3%           | 70.3%            | 49.5%               |
| <i>guilfoylei</i>               | 70.4%         | 71.3%            | 71.4%         | 70.2%                | 70.1%             | 67.6%            | 69.4%           | 68.7%           | 70.3%           | 72.0%            | 61.7%               |
| <i>lansdowneana</i>             | 84.3%         | 75.5%            | 83.6%         | 71.0%                | 77.2%             | 55.4%            | 81.3%           | 55.5%           | 83.7%           | 73.0%            | 50.1%               |
| <i>leucophloia</i>              | 80.3%         | 76.5%            | 80.8%         | 71.6%                | 76.2%             | 57.7%            | 79.1%           | 58.0%           | 79.4%           | 72.7%            | 52.7%               |
| <i>marginata</i>                | 61.6%         | 61.2%            | 62.7%         | 61.1%                | 61.1%             | 81.2%            | 60.9%           | 66.7%           | 61.2%           | 61.9%            | 56.5%               |
| <i>melliodora</i>               | 83.4%         | 73.8%            | 81.7%         | 69.2%                | 74.9%             | 53.4%            | 79.3%           | 54.6%           | 82.7%           | 70.9%            | 49.1%               |
| <i>melliodora x sideroxylon</i> | 63.5%         | 63.5%            | 63.5%         | 63.5%                | 63.5%             | 63.5%            | 63.5%           | 63.5%           | 63.5%           | 63.5%            | 63.5%               |
| <i>microcorys</i>               | 72.5%         | 72.0%            | 72.5%         | 71.3%                | 72.0%             | 68.0%            | 71.3%           | 70.0%           | 72.7%           | 73.6%            | 63.5%               |
| <b>ANBG9806169</b>              | 60.3%         | 60.7%            | 61.9%         | 61.1%                | 60.2%             | 84.0%            | 60.1%           | 66.3%           | 59.5%           | 61.2%            | 56.9%               |
| <i>paniculata</i>               | 84.1%         | 76.7%            | 85.6%         | 72.8%                | 79.1%             | 58.2%            | 82.3%           | 58.2%           | 84.3%           | 73.7%            | 51.1%               |
| <i>pauciflora</i>               | 62.6%         | 61.2%            | 63.4%         | 62.7%                | 62.4%             | 86.7%            | 61.6%           | 67.8%           | 62.0%           | 63.3%            | 57.5%               |
| <i>polyanthemos</i>             | 83.2%         | 75.0%            | 83.3%         | 70.8%                | 77.2%             | 55.7%            | 81.0%           | 55.7%           | 87.8%           | 72.0%            | 50.5%               |
| <i>pumila</i>                   | 73.6%         | 72.1%            | 74.1%         | 83.1%                | 72.9%             | 59.3%            | 71.2%           | 59.4%           | 73.4%           | 73.6%            | 54.1%               |
| <i>regnans</i>                  | 61.7%         | 62.1%            | 62.2%         | 61.2%                | 60.4%             | 85.9%            | 60.2%           | 66.5%           | 60.4%           | 62.4%            | 56.0%               |
| <i>shirleyi</i>                 | 83.6%         | 75.5%            | 84.6%         | 71.6%                | 77.1%             | 56.6%            | 82.5%           | 57.6%           | 82.9%           | 72.7%            | 52.5%               |
| <i>sideroxylon</i>              | 84.0%         | 74.8%            | 83.0%         | 71.0%                | 76.1%             | 55.7%            | 80.9%           | 55.7%           | 83.9%           | 72.2%            | 50.1%               |
| <i>tenuipes</i>                 | 70.0%         | 68.7%            | 70.7%         | 69.4%                | 68.9%             | 74.6%            | 68.3%           | 78.4%           | 68.5%           | 69.9%            | 65.7%               |
| <i>victrix</i>                  | 82.7%         | 75.5%            | 83.5%         | 71.7%                | 77.4%             | 57.1%            | 84.3%           | 57.5%           | 83.1%           | 73.3%            | 52.0%               |
| <i>viminalis</i>                | 70.9%         | 69.4%            | 71.7%         | 80.4%                | 69.6%             | 56.5%            | 69.3%           | 56.8%           | 71.0%           | 70.3%            | 51.9%               |
| <i>virginea</i>                 | 75.3%         | 74.2%            | 76.1%         | 73.1%                | 74.4%             | 60.4%            | 73.2%           | 61.4%           | 76.0%           | 79.5%            | 55.7%               |

|                                     | <i>fibrosa</i> | <i>globulus</i> | <i>grandis</i> | <i>guilfoylei</i> | <i>lansdowneana</i> | <i>leucophloia</i> | <i>marginata</i> | <i>meliiodora</i> | <i>meliiodora x<br/>sideroxylon</i> | <i>microcorys</i> | <b>ANBG98061<br/>69</b> |
|-------------------------------------|----------------|-----------------|----------------|-------------------|---------------------|--------------------|------------------|-------------------|-------------------------------------|-------------------|-------------------------|
| <i>albens</i>                       | 83.7%          | 69.6%           | 72.0%          | 63.0%             | 84.0%               | 78.6%              | 55.6%            | 83.6%             | 84.7%                               | 62.3%             | 53.8%                   |
| <i>brandiana</i>                    | 81.2%          | 73.0%           | 75.1%          | 69.3%             | 80.8%               | 80.9%              | 61.3%            | 79.4%             | 81.6%                               | 67.4%             | 60.6%                   |
| <i>caleyi</i>                       | 84.8%          | 71.4%           | 73.5%          | 64.6%             | 83.5%               | 80.0%              | 57.9%            | 82.7%             | 83.8%                               | 63.3%             | 56.3%                   |
| <i>camaldulensis</i>                | 73.2%          | 80.6%           | 83.5%          | 64.6%             | 71.7%               | 71.4%              | 57.6%            | 70.6%             | 73.3%                               | 63.2%             | 57.1%                   |
| <i>cladocalyx</i>                   | 81.8%          | 72.1%           | 74.4%          | 66.9%             | 80.9%               | 78.9%              | 59.3%            | 79.6%             | 81.8%                               | 65.7%             | 57.5%                   |
| <i>cloeziana</i>                    | 63.4%          | 62.1%           | 63.8%          | 67.1%             | 62.6%               | 63.3%              | 82.7%            | 61.5%             | 65.1%                               | 65.1%             | 84.3%                   |
| <i>coolabah</i>                     | 83.0%          | 68.0%           | 70.4%          | 62.3%             | 81.7%               | 78.2%              | 55.7%            | 80.6%             | 82.4%                               | 61.6%             | 54.5%                   |
| <i>curtisii</i>                     | 68.1%          | 66.9%           | 68.3%          | 72.7%             | 67.0%               | 67.6%              | 73.2%            | 66.4%             | 69.4%                               | 71.0%             | 71.7%                   |
| <i>dawsonii</i>                     | 81.5%          | 67.8%           | 69.5%          | 60.7%             | 81.7%               | 75.8%              | 53.8%            | 81.5%             | 82.2%                               | 60.0%             | 52.4%                   |
| <i>decipiens</i>                    | 74.4%          | 70.0%           | 71.8%          | 65.3%             | 73.3%               | 71.6%              | 57.2%            | 72.2%             | 73.7%                               | 64.3%             | 56.7%                   |
| <i>erythrocorys</i>                 | 55.5%          | 54.7%           | 55.5%          | 58.5%             | 55.0%               | 54.8%              | 55.4%            | 54.0%             | 56.7%                               | 57.8%             | 55.4%                   |
| <i>fibrosa</i>                      |                | 72.0%           | 74.5%          | 66.6%             | 83.8%               | 81.1%              | 58.1%            | 84.0%             | 85.3%                               | 65.1%             | 56.1%                   |
| <i>globulus</i>                     | 73.6%          |                 | 85.0%          | 66.2%             | 73.1%               | 71.2%              | 58.2%            | 71.2%             | 74.7%                               | 64.7%             | 57.6%                   |
| <i>grandis</i>                      | 71.9%          | 80.7%           |                | 63.4%             | 71.2%               | 70.1%              | 56.6%            | 70.1%             | 72.9%                               | 63.3%             | 55.8%                   |
| <i>guilfoylei</i>                   | 72.1%          | 70.4%           | 71.7%          |                   | 71.1%               | 71.5%              | 68.3%            | 70.4%             | 72.7%                               | 74.1%             | 66.0%                   |
| <i>lansdowneana</i>                 | 83.7%          | 70.4%           | 72.4%          | 63.8%             |                     | 79.5%              | 56.5%            | 84.3%             | 85.7%                               | 63.4%             | 54.8%                   |
| <i>leucophloia</i>                  | 81.8%          | 70.4%           | 72.9%          | 65.8%             | 80.2%               |                    | 58.2%            | 79.4%             | 81.1%                               | 64.8%             | 57.5%                   |
| <i>marginata</i>                    | 62.4%          | 60.7%           | 62.8%          | 66.7%             | 61.8%               | 61.9%              |                  | 60.8%             | 64.1%                               | 63.9%             | 83.1%                   |
| <i>meliiodora</i>                   | 82.4%          | 69.0%           | 71.2%          | 62.2%             | 82.7%               | 76.7%              | 54.8%            |                   | 75.5%                               | 75.5%             | 75.5%                   |
| <i>meliiodora x<br/>sideroxylon</i> | 63.5%          | 63.5%           | 63.5%          | 63.5%             | 63.5%               | 63.5%              | 63.5%            | 63.5%             |                                     | 63.5%             | 63.5%                   |
| <i>microcorys</i>                   | 73.7%          | 71.5%           | 73.8%          | 76.9%             | 73.0%               | 73.4%              | 68.6%            | 70.9%             | 74.1%                               |                   | 68.1%                   |
| <b>ANBG9806169</b>                  | 61.2%          | 60.5%           | 62.7%          | 64.2%             | 60.4%               | 61.2%              | 83.9%            | 59.9%             | 63.1%                               | 63.5%             |                         |
| <i>paniculata</i>                   | 86.2%          | 72.1%           | 73.8%          | 65.4%             | 84.0%               | 79.4%              | 58.8%            | 83.9%             | 85.5%                               | 65.2%             | 56.9%                   |
| <i>pauciflora</i>                   | 63.3%          | 62.4%           | 63.3%          | 66.6%             | 62.4%               | 61.7%              | 86.2%            | 60.4%             | 63.3%                               | 65.5%             | 91.9%                   |
| <i>polyanthemos</i>                 | 84.0%          | 70.2%           | 72.2%          | 63.6%             | 83.4%               | 78.1%              | 56.3%            | 83.5%             | 84.4%                               | 62.6%             | 55.5%                   |
| <i>pumila</i>                       | 74.5%          | 81.6%           | 83.6%          | 68.2%             | 74.3%               | 73.0%              | 59.9%            | 72.9%             | 75.9%                               | 66.6%             | 58.1%                   |
| <i>regnans</i>                      | 62.4%          | 60.6%           | 62.3%          | 66.9%             | 61.7%               | 61.8%              | 85.5%            | 59.9%             | 63.4%                               | 64.7%             | 91.3%                   |
| <i>shirleyi</i>                     | 84.7%          | 70.9%           | 73.1%          | 64.7%             | 83.1%               | 79.7%              | 57.8%            | 83.3%             | 84.2%                               | 65.1%             | 56.7%                   |
| <i>sideroxylon</i>                  | 84.1%          | 69.6%           | 71.6%          | 63.8%             | 84.0%               | 78.5%              | 56.7%            | 84.8%             | 88.2%                               | 62.4%             | 55.6%                   |
| <i>tenuipes</i>                     | 70.8%          | 69.3%           | 70.8%          | 75.1%             | 69.5%               | 70.2%              | 74.8%            | 67.6%             | 70.3%                               | 72.7%             | 73.5%                   |
| <i>victrix</i>                      | 83.5%          | 71.3%           | 73.2%          | 65.6%             | 82.7%               | 80.7%              | 57.9%            | 82.2%             | 83.7%                               | 64.0%             | 57.2%                   |
| <i>viminalis</i>                    | 73.3%          | 85.5%           | 83.7%          | 64.7%             | 71.4%               | 70.1%              | 57.0%            | 70.0%             | 73.3%                               | 63.3%             | 56.7%                   |
| <i>virginea</i>                     | 76.7%          | 73.1%           | 75.1%          | 68.9%             | 75.9%               | 75.1%              | 61.3%            | 74.5%             | 77.4%                               | 68.3%             | 60.4%                   |

|                                 | <i>paniculata</i> | <i>pauciflora</i> | <i>polyanthemos</i> | <i>pumila</i> | <i>regnans</i> | <i>shirleyi</i> | <i>sideroxylon</i> | <i>tenuipes</i> | <i>victrix</i> | <i>viminalis</i> | <i>virginea</i> |
|---------------------------------|-------------------|-------------------|---------------------|---------------|----------------|-----------------|--------------------|-----------------|----------------|------------------|-----------------|
| <i>albens</i>                   | 84.0%             | 56.5%             | 83.0%               | 69.9%         | 53.4%          | 82.8%           | 83.2%              | 55.5%           | 80.4%          | 69.3%            | 72.6%           |
| <i>brandiana</i>                | 82.1%             | 58.8%             | 79.7%               | 74.3%         | 59.4%          | 81.0%           | 79.4%              | 60.6%           | 78.6%          | 73.6%            | 77.7%           |
| <i>caleyi</i>                   | 86.0%             | 57.0%             | 82.7%               | 71.7%         | 54.8%          | 84.7%           | 82.6%              | 57.7%           | 81.5%          | 70.7%            | 74.1%           |
| <i>camaldulensis</i>            | 73.0%             | 56.7%             | 71.2%               | 81.0%         | 55.2%          | 72.7%           | 70.8%              | 58.4%           | 70.5%          | 80.3%            | 72.1%           |
| <i>cladocalyx</i>               | 81.8%             | 57.7%             | 80.5%               | 73.2%         | 56.5%          | 80.6%           | 79.3%              | 58.4%           | 78.6%          | 71.8%            | 75.9%           |
| <i>cloeziana</i>                | 64.1%             | 84.3%             | 62.6%               | 62.4%         | 84.5%          | 63.2%           | 62.6%              | 67.7%           | 62.0%          | 62.3%            | 64.9%           |
| <i>coolabah</i>                 | 82.5%             | 55.2%             | 80.9%               | 68.2%         | 52.9%          | 82.8%           | 80.2%              | 54.0%           | 82.4%          | 67.7%            | 71.1%           |
| <i>curtisii</i>                 | 68.8%             | 72.1%             | 66.8%               | 67.3%         | 71.1%          | 68.5%           | 66.9%              | 76.1%           | 66.8%          | 66.6%            | 69.5%           |
| <i>dawsonii</i>                 | 81.3%             | 53.7%             | 85.5%               | 67.6%         | 51.1%          | 80.2%           | 81.3%              | 52.9%           | 78.3%          | 67.0%            | 70.7%           |
| <i>decipiens</i>                | 73.2%             | 56.1%             | 71.5%               | 70.9%         | 55.4%          | 72.2%           | 71.7%              | 56.2%           | 71.2%          | 70.1%            | 78.2%           |
| <i>erythrocorys</i>             | 55.0%             | 54.9%             | 54.5%               | 54.5%         | 52.7%          | 54.5%           | 54.3%              | 56.3%           | 54.3%          | 53.6%            | 56.3%           |
| <i>fibrosa</i>                  | 86.5%             | 57.0%             | 84.2%               | 72.5%         | 55.4%          | 84.9%           | 83.8%              | 57.7%           | 81.8%          | 72.4%            | 75.2%           |
| <i>globulus</i>                 | 74.1%             | 58.3%             | 72.0%               | 81.5%         | 56.0%          | 73.1%           | 71.4%              | 57.7%           | 71.3%          | 86.5%            | 73.4%           |
| <i>grandis</i>                  | 72.3%             | 55.1%             | 70.3%               | 79.3%         | 53.6%          | 71.9%           | 70.2%              | 55.7%           | 70.2%          | 81.1%            | 71.8%           |
| <i>guilfoylei</i>               | 72.4%             | 66.7%             | 70.7%               | 71.3%         | 66.6%          | 71.4%           | 70.2%              | 68.3%           | 70.4%          | 69.9%            | 72.5%           |
| <i>lansdowneana</i>             | 84.4%             | 55.5%             | 83.6%               | 71.1%         | 54.0%          | 83.7%           | 84.3%              | 55.9%           | 81.1%          | 70.5%            | 74.0%           |
| <i>leucophloia</i>              | 80.8%             | 57.1%             | 79.4%               | 71.4%         | 56.2%          | 81.5%           | 79.0%              | 59.2%           | 80.4%          | 70.5%            | 74.5%           |
| <i>marginata</i>                | 63.6%             | 83.3%             | 61.5%               | 61.7%         | 82.8%          | 62.5%           | 61.9%              | 66.3%           | 60.8%          | 61.0%            | 63.5%           |
| <i>melliodora</i>               | 75.5%             | 75.5%             | 75.5%               | 75.5%         | 75.5%          | 75.5%           | 75.5%              | 75.5%           | 75.5%          | 75.5%            | 75.5%           |
| <i>melliodora x sideroxylon</i> | 63.5%             | 63.5%             | 63.5%               | 63.5%         | 63.5%          | 63.5%           | 63.5%              | 63.5%           | 63.5%          | 63.5%            | 63.5%           |
| <i>microcorys</i>               | 74.6%             | 67.4%             | 72.3%               | 72.8%         | 67.2%          | 73.7%           | 71.8%              | 69.4%           | 71.7%          | 71.2%            | 74.6%           |
| <b>ANBG9806169</b>              | 61.5%             | 88.9%             | 60.4%               | 60.0%         | 89.3%          | 61.3%           | 60.6%              | 66.3%           | 60.2%          | 60.4%            | 62.6%           |
| <i>paniculata</i>               |                   | 56.3%             | 83.8%               | 72.3%         | 59.0%          | 85.0%           | 84.1%              | 57.2%           | 83.4%          | 72.0%            | 75.8%           |
| <i>pauciflora</i>               | 61.8%             |                   | 60.4%               | 62.7%         | 91.7%          | 63.3%           | 62.5%              | 66.7%           | 61.8%          | 62.6%            | 65.8%           |
| <i>polyanthemos</i>             | 83.9%             | 53.6%             |                     | 71.0%         | 53.9%          | 82.8%           | 83.6%              | 56.4%           | 81.0%          | 70.1%            | 72.8%           |
| <i>pumila</i>                   | 74.9%             | 59.2%             | 74.1%               |               | 57.9%          | 74.6%           | 73.1%              | 60.3%           | 72.7%          | 82.0%            | 75.3%           |
| <i>regnans</i>                  | 64.6%             | 90.9%             | 60.7%               | 61.4%         |                | 63.2%           | 61.0%              | 66.3%           | 60.9%          | 60.8%            | 64.0%           |
| <i>shirleyi</i>                 | 85.3%             | 57.3%             | 82.8%               | 71.9%         | 56.2%          |                 | 83.3%              | 57.9%           | 82.1%          | 71.3%            | 74.3%           |
| <i>sideroxylon</i>              | 84.2%             | 55.0%             | 83.2%               | 70.3%         | 53.8%          | 83.5%           |                    | 55.8%           | 81.0%          | 69.7%            | 73.3%           |
| <i>tenuipes</i>                 | 70.4%             | 72.5%             | 69.0%               | 70.1%         | 72.5%          | 70.6%           | 69.1%              |                 | 68.6%          | 68.8%            | 71.5%           |
| <i>victrix</i>                  | 84.5%             | 56.9%             | 82.0%               | 71.7%         | 55.9%          | 83.4%           | 82.1%              | 57.5%           |                | 71.3%            | 74.0%           |
| <i>viminalis</i>                | 72.8%             | 57.1%             | 70.6%               | 80.3%         | 54.7%          | 71.7%           | 70.4%              | 56.6%           | 69.8%          |                  | 71.9%           |
| <i>virginea</i>                 | 77.0%             | 60.6%             | 74.7%               | 74.7%         | 59.1%          | 76.2%           | 74.7%              | 61.5%           | 74.2%          | 72.5%            |                 |

**Supplementary Tables S12. Matrix of pairwise shared sequence (synteny + rearranged).** Shows the proportion of the genome that is shared for all genome pairs. Read down the genome list (far left column) and extend across until the comparison genome is found. As genomes are different lengths the proportion that species X shares with species Y is different to the proportion that species Y shares with species X.

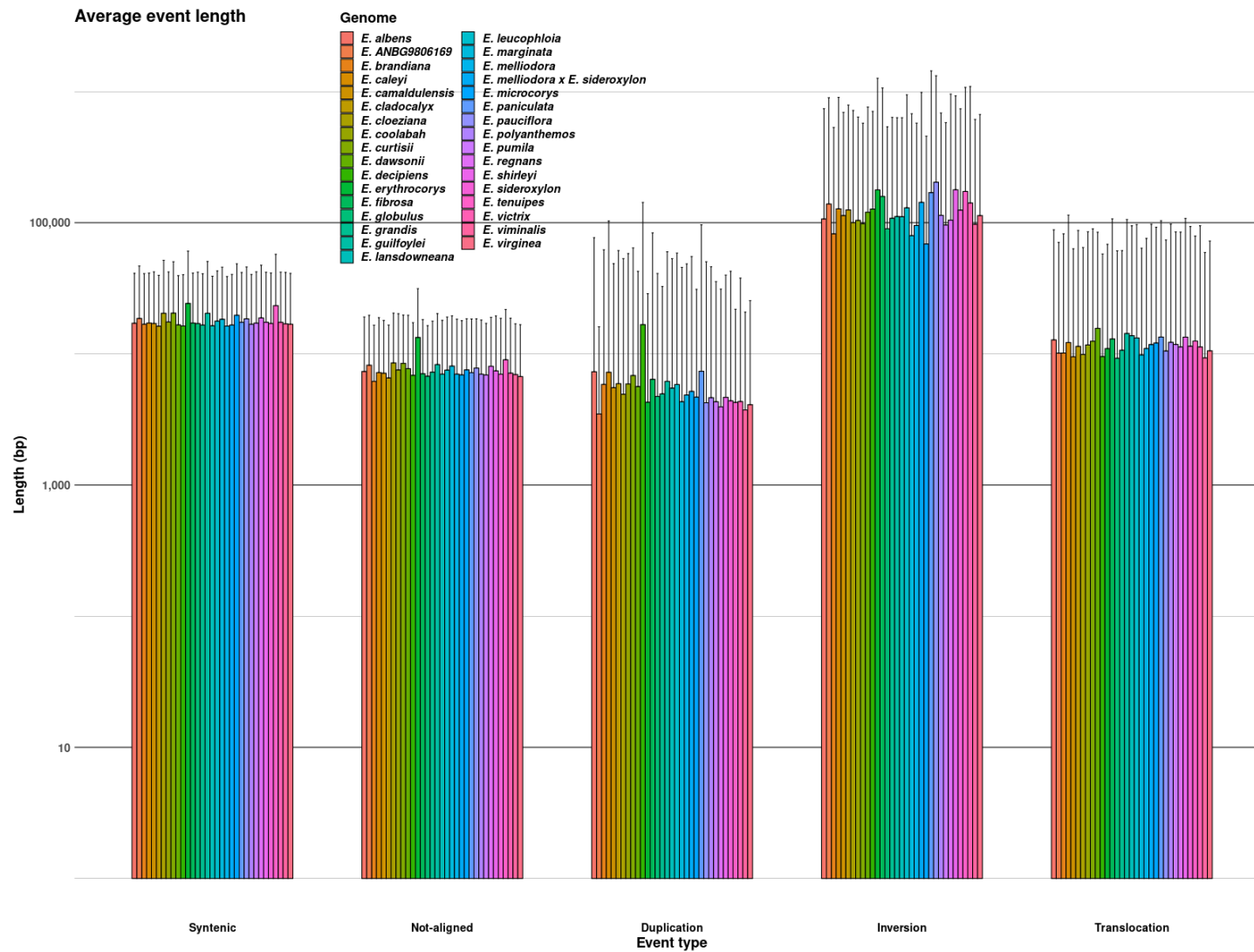
|                                 | <i>albens</i> | <i>brandiana</i> | <i>caleyi</i> | <i>camaldulensis</i> | <i>cladocalyx</i> | <i>cloeziana</i> | <i>coolabah</i> | <i>curtisii</i> | <i>dawsonii</i> | <i>decipiens</i> | <i>erythrocorys</i> |
|---------------------------------|---------------|------------------|---------------|----------------------|-------------------|------------------|-----------------|-----------------|-----------------|------------------|---------------------|
| <i>albens</i>                   |               | 25.6%            | 17.4%         | 29.7%                | 23.2%             | 45.1%            | 19.9%           | 44.4%           | 16.7%           | 28.6%            | 50.7%               |
| <i>brandiana</i>                | 20.1%         |                  | 19.3%         | 26.2%                | 20.9%             | 39.6%            | 21.4%           | 38.5%           | 18.7%           | 22.7%            | 44.4%               |
| <i>caleyi</i>                   | 17.5%         | 25.3%            |               | 28.1%                | 22.9%             | 43.6%            | 18.4%           | 42.4%           | 16.2%           | 26.6%            | 48.1%               |
| <i>camaldulensis</i>            | 28.6%         | 31.0%            | 28.1%         |                      | 29.7%             | 43.3%            | 30.8%           | 43.0%           | 27.9%           | 30.0%            | 47.5%               |
| <i>cladocalyx</i>               | 19.5%         | 22.9%            | 19.5%         | 27.7%                |                   | 41.9%            | 21.9%           | 40.7%           | 19.1%           | 25.0%            | 46.6%               |
| <i>cloeziana</i>                | 37.0%         | 37.8%            | 36.3%         | 37.8%                | 38.1%             |                  | 37.6%           | 32.0%           | 37.4%           | 36.5%            | 42.2%               |
| <i>coolabah</i>                 | 19.4%         | 27.0%            | 18.2%         | 31.8%                | 25.4%             | 45.4%            |                 | 45.3%           | 18.9%           | 29.7%            | 50.1%               |
| <i>curtisii</i>                 | 32.8%         | 33.0%            | 31.5%         | 33.0%                | 32.7%             | 27.9%            | 33.6%           |                 | 33.3%           | 31.8%            | 37.6%               |
| <i>dawsonii</i>                 | 19.4%         | 27.3%            | 19.3%         | 31.7%                | 25.8%             | 46.8%            | 22.2%           | 47.6%           |                 | 30.4%            | 53.3%               |
| <i>decipiens</i>                | 27.7%         | 28.2%            | 27.6%         | 30.7%                | 28.9%             | 43.3%            | 30.0%           | 42.6%           | 27.7%           |                  | 49.6%               |
| <i>erythrocorys</i>             | 44.6%         | 44.7%            | 44.2%         | 45.1%                | 45.5%             | 44.6%            | 45.8%           | 45.0%           | 47.0%           | 45.5%            |                     |
| <i>fibrosa</i>                  | 15.8%         | 23.7%            | 14.7%         | 27.2%                | 21.6%             | 43.0%            | 17.0%           | 42.3%           | 15.9%           | 25.7%            | 48.6%               |
| <i>globulus</i>                 | 27.9%         | 29.6%            | 27.0%         | 18.1%                | 29.1%             | 42.2%            | 30.2%           | 41.9%           | 27.6%           | 28.4%            | 47.8%               |
| <i>grandis</i>                  | 29.3%         | 31.5%            | 28.3%         | 19.4%                | 30.6%             | 44.4%            | 31.6%           | 44.6%           | 29.7%           | 29.7%            | 50.5%               |
| <i>guilfoylei</i>               | 29.6%         | 28.7%            | 28.6%         | 29.8%                | 29.9%             | 32.4%            | 30.6%           | 31.3%           | 29.7%           | 28.0%            | 38.3%               |
| <i>lansdowneana</i>             | 15.7%         | 24.5%            | 16.4%         | 29.0%                | 22.8%             | 44.6%            | 18.7%           | 44.5%           | 16.3%           | 27.0%            | 49.9%               |
| <i>leucophloia</i>              | 19.7%         | 23.5%            | 19.2%         | 28.4%                | 23.8%             | 42.3%            | 20.9%           | 42.0%           | 20.6%           | 27.3%            | 47.3%               |
| <i>marginata</i>                | 38.4%         | 38.8%            | 37.3%         | 38.9%                | 38.9%             | 18.8%            | 39.1%           | 33.3%           | 38.8%           | 38.1%            | 43.5%               |
| <i>melliodora</i>               | 16.6%         | 26.2%            | 18.3%         | 30.8%                | 25.1%             | 46.6%            | 20.7%           | 45.4%           | 17.3%           | 29.1%            | 50.9%               |
| <i>melliodora x sideroxylon</i> | 36.5%         | 36.5%            | 36.5%         | 36.5%                | 36.5%             | 36.5%            | 36.5%           | 36.5%           | 36.5%           | 36.5%            | 36.5%               |
| <i>microcorys</i>               | 27.5%         | 28.0%            | 27.5%         | 28.7%                | 28.0%             | 32.0%            | 28.7%           | 30.0%           | 27.3%           | 26.4%            | 36.5%               |
| <b>ANBG9806169</b>              | 39.7%         | 39.3%            | 38.1%         | 38.9%                | 39.8%             | 16.0%            | 39.9%           | 33.7%           | 40.5%           | 38.8%            | 43.1%               |
| <i>paniculata</i>               | 15.9%         | 23.3%            | 14.4%         | 27.2%                | 20.9%             | 41.8%            | 17.7%           | 41.8%           | 15.7%           | 26.3%            | 48.9%               |
| <i>pauciflora</i>               | 37.4%         | 38.8%            | 36.6%         | 37.3%                | 37.6%             | 13.3%            | 38.4%           | 32.2%           | 38.0%           | 36.7%            | 42.5%               |
| <i>polyanthemos</i>             | 16.8%         | 25.0%            | 16.7%         | 29.2%                | 22.8%             | 44.3%            | 19.0%           | 44.3%           | 12.2%           | 28.0%            | 49.5%               |
| <i>pumila</i>                   | 26.4%         | 27.9%            | 25.9%         | 16.9%                | 27.1%             | 40.7%            | 28.8%           | 40.6%           | 26.6%           | 26.4%            | 45.9%               |
| <i>regnans</i>                  | 38.3%         | 37.9%            | 37.8%         | 38.8%                | 39.6%             | 14.1%            | 39.8%           | 33.5%           | 39.6%           | 37.6%            | 44.0%               |
| <i>shirleyi</i>                 | 16.4%         | 24.5%            | 15.4%         | 28.4%                | 22.9%             | 43.4%            | 17.5%           | 42.4%           | 17.1%           | 27.3%            | 47.5%               |
| <i>sideroxylon</i>              | 16.0%         | 25.2%            | 17.0%         | 29.0%                | 23.9%             | 44.3%            | 19.1%           | 44.3%           | 16.1%           | 27.8%            | 49.9%               |
| <i>tenuipes</i>                 | 30.0%         | 31.3%            | 29.3%         | 30.6%                | 31.1%             | 25.4%            | 31.7%           | 21.6%           | 31.5%           | 30.1%            | 34.3%               |
| <i>victrix</i>                  | 17.3%         | 24.5%            | 16.5%         | 28.3%                | 22.6%             | 42.9%            | 15.7%           | 42.5%           | 16.9%           | 26.7%            | 48.0%               |
| <i>viminalis</i>                | 29.1%         | 30.6%            | 28.3%         | 19.6%                | 30.4%             | 43.5%            | 30.7%           | 43.2%           | 29.0%           | 29.7%            | 48.1%               |
| <i>virginea</i>                 | 24.7%         | 25.8%            | 23.9%         | 26.9%                | 25.6%             | 39.6%            | 26.8%           | 38.6%           | 24.0%           | 20.5%            | 44.3%               |



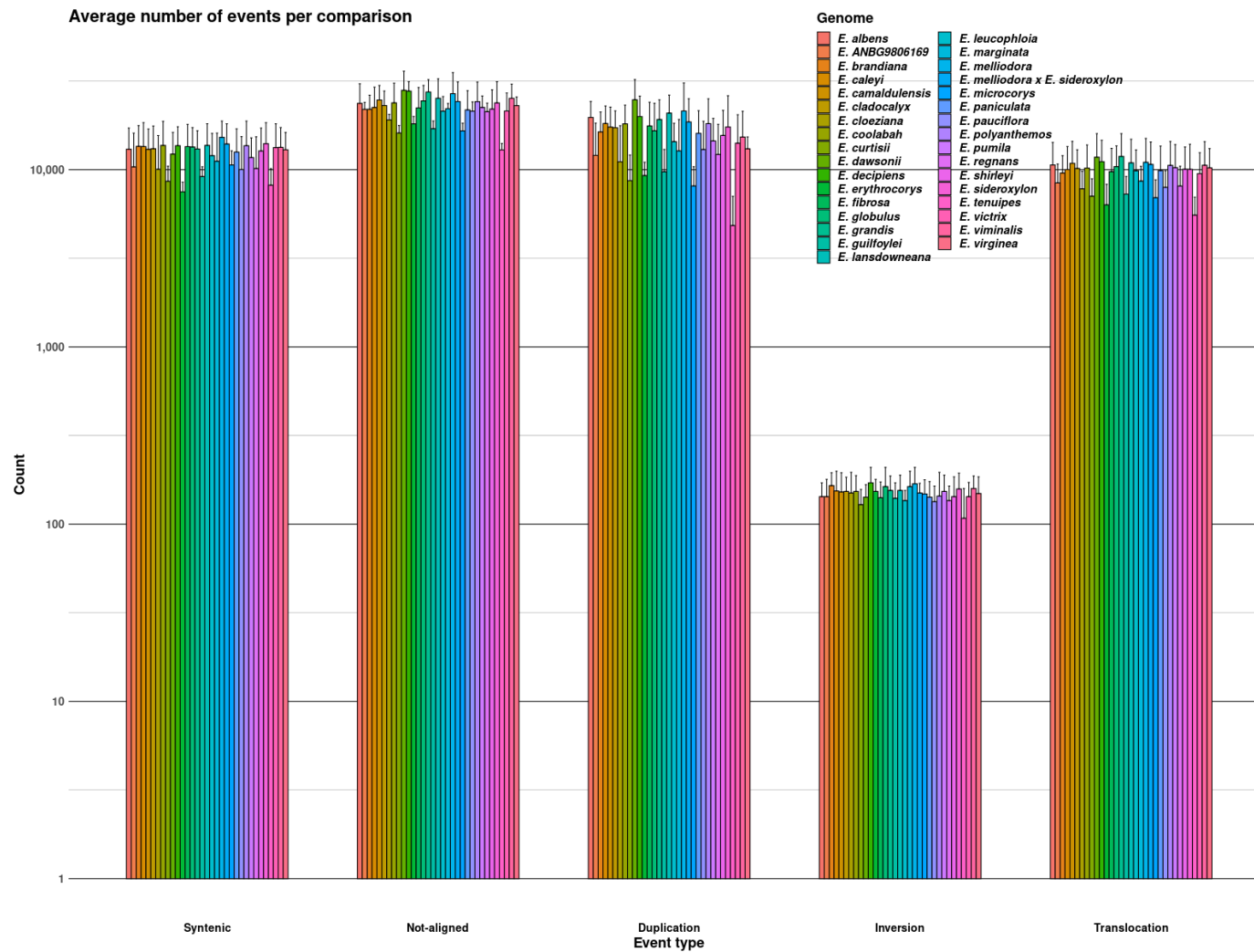
|                                     | <i>fibrosa</i> | <i>globulus</i> | <i>grandis</i> | <i>guilfoylei</i> | <i>lansdowneana</i> | <i>leucophloia</i> | <i>marginata</i> | <i>meliiodora</i> | <i>meliiodora x<br/>sideroxylon</i> | <i>microcorys</i> | <b>ANBG98061<br/>69</b> |
|-------------------------------------|----------------|-----------------|----------------|-------------------|---------------------|--------------------|------------------|-------------------|-------------------------------------|-------------------|-------------------------|
| <i>albens</i>                       | 16.3%          | 30.4%           | 28.0%          | 37.0%             | 16.0%               | 21.4%              | 44.4%            | 16.4%             | 15.3%                               | 37.7%             | 46.2%                   |
| <i>brandiana</i>                    | 18.8%          | 27.0%           | 24.9%          | 30.7%             | 19.2%               | 19.1%              | 38.7%            | 20.6%             | 18.4%                               | 32.6%             | 39.4%                   |
| <i>caleyi</i>                       | 15.2%          | 28.6%           | 26.5%          | 35.4%             | 16.5%               | 20.0%              | 42.1%            | 17.3%             | 16.2%                               | 36.7%             | 43.7%                   |
| <i>camaldulensis</i>                | 26.8%          | 19.4%           | 16.5%          | 35.4%             | 28.3%               | 28.6%              | 42.4%            | 29.4%             | 26.7%                               | 36.8%             | 42.9%                   |
| <i>cladocalyx</i>                   | 18.2%          | 27.9%           | 25.6%          | 33.1%             | 19.1%               | 21.1%              | 40.7%            | 20.4%             | 18.2%                               | 34.3%             | 42.5%                   |
| <i>cloeziana</i>                    | 36.6%          | 37.9%           | 36.2%          | 32.9%             | 37.4%               | 36.7%              | 17.3%            | 38.5%             | 34.9%                               | 34.9%             | 15.7%                   |
| <i>coolabah</i>                     | 17.0%          | 32.0%           | 29.6%          | 37.7%             | 18.3%               | 21.8%              | 44.3%            | 19.4%             | 17.6%                               | 38.4%             | 45.5%                   |
| <i>curtisii</i>                     | 31.9%          | 33.1%           | 31.7%          | 27.3%             | 33.0%               | 32.4%              | 26.8%            | 33.6%             | 30.6%                               | 29.0%             | 28.3%                   |
| <i>dawsonii</i>                     | 18.5%          | 32.2%           | 30.5%          | 39.3%             | 18.3%               | 24.2%              | 46.2%            | 18.5%             | 17.8%                               | 40.0%             | 47.6%                   |
| <i>decipiens</i>                    | 25.6%          | 30.0%           | 28.2%          | 34.7%             | 26.7%               | 28.4%              | 42.8%            | 27.8%             | 26.3%                               | 35.7%             | 43.3%                   |
| <i>erythrocorys</i>                 | 44.5%          | 45.3%           | 44.5%          | 41.5%             | 45.0%               | 45.2%              | 44.6%            | 46.0%             | 43.3%                               | 42.2%             | 44.6%                   |
| <i>fibrosa</i>                      |                | 28.0%           | 25.5%          | 33.4%             | 16.2%               | 18.9%              | 41.9%            | 16.0%             | 14.7%                               | 34.9%             | 43.9%                   |
| <i>globulus</i>                     | 26.4%          |                 | 15.0%          | 33.8%             | 26.9%               | 28.8%              | 41.8%            | 28.8%             | 25.3%                               | 35.3%             | 42.4%                   |
| <i>grandis</i>                      | 28.1%          | 19.3%           |                | 36.6%             | 28.8%               | 29.9%              | 43.4%            | 29.9%             | 27.1%                               | 36.7%             | 44.2%                   |
| <i>guilfoylei</i>                   | 27.9%          | 29.6%           | 28.3%          |                   | 28.9%               | 28.5%              | 31.7%            | 29.6%             | 27.3%                               | 25.9%             | 34.0%                   |
| <i>lansdowneana</i>                 | 16.3%          | 29.6%           | 27.6%          | 36.2%             |                     | 20.5%              | 43.5%            | 15.7%             | 14.3%                               | 36.6%             | 45.2%                   |
| <i>leucophloia</i>                  | 18.2%          | 29.6%           | 27.1%          | 34.2%             | 19.8%               |                    | 41.8%            | 20.6%             | 18.9%                               | 35.2%             | 42.5%                   |
| <i>marginata</i>                    | 37.6%          | 39.3%           | 37.2%          | 33.3%             | 38.2%               | 38.1%              |                  | 39.2%             | 35.9%                               | 36.1%             | 16.9%                   |
| <i>meliiodora</i>                   | 17.6%          | 31.0%           | 28.8%          | 37.8%             | 17.3%               | 23.3%              | 45.2%            |                   | 24.5%                               | 24.5%             | 24.5%                   |
| <i>meliiodora x<br/>sideroxylon</i> | 36.5%          | 36.5%           | 36.5%          | 36.5%             | 36.5%               | 36.5%              | 36.5%            | 36.5%             |                                     | 36.5%             | 36.5%                   |
| <i>microcorys</i>                   | 26.3%          | 28.5%           | 26.2%          | 23.1%             | 27.0%               | 26.6%              | 31.4%            | 29.1%             | 25.9%                               |                   | 31.9%                   |
| <b>ANBG9806169</b>                  | 38.8%          | 39.5%           | 37.3%          | 35.8%             | 39.6%               | 38.8%              | 16.1%            | 40.1%             | 36.9%                               | 36.5%             |                         |
| <i>paniculata</i>                   | 13.8%          | 27.9%           | 26.2%          | 34.6%             | 16.0%               | 20.6%              | 41.2%            | 16.1%             | 14.5%                               | 34.8%             | 43.1%                   |
| <i>pauciflora</i>                   | 36.7%          | 37.6%           | 36.7%          | 33.4%             | 37.6%               | 38.3%              | 13.8%            | 39.6%             | 36.7%                               | 34.5%             | 8.1%                    |
| <i>polyanthemus</i>                 | 16.0%          | 29.8%           | 27.8%          | 36.4%             | 16.6%               | 21.9%              | 43.7%            | 16.5%             | 15.6%                               | 37.4%             | 44.5%                   |
| <i>pumila</i>                       | 25.5%          | 18.4%           | 16.4%          | 31.8%             | 25.7%               | 27.0%              | 40.1%            | 27.1%             | 24.1%                               | 33.4%             | 41.9%                   |
| <i>regnans</i>                      | 37.6%          | 39.4%           | 37.7%          | 33.1%             | 38.3%               | 38.2%              | 14.5%            | 40.1%             | 36.6%                               | 35.3%             | 8.7%                    |
| <i>shirleyi</i>                     | 15.3%          | 29.1%           | 26.9%          | 35.3%             | 16.9%               | 20.3%              | 42.2%            | 16.7%             | 15.8%                               | 34.9%             | 43.3%                   |
| <i>sideroxylon</i>                  | 15.9%          | 30.4%           | 28.4%          | 36.2%             | 16.0%               | 21.5%              | 43.3%            | 15.2%             | 11.8%                               | 37.6%             | 44.4%                   |
| <i>tenuipes</i>                     | 29.2%          | 30.7%           | 29.2%          | 24.9%             | 30.5%               | 29.8%              | 25.2%            | 32.4%             | 29.7%                               | 27.3%             | 26.5%                   |
| <i>victrix</i>                      | 16.5%          | 28.7%           | 26.8%          | 34.4%             | 17.3%               | 19.3%              | 42.1%            | 17.8%             | 16.3%                               | 36.0%             | 42.8%                   |
| <i>viminalis</i>                    | 26.7%          | 14.5%           | 16.3%          | 35.3%             | 28.6%               | 29.9%              | 43.0%            | 30.0%             | 26.7%                               | 36.7%             | 43.3%                   |
| <i>virginea</i>                     | 23.3%          | 26.9%           | 24.9%          | 31.1%             | 24.1%               | 24.9%              | 38.7%            | 25.5%             | 22.6%                               | 31.7%             | 39.6%                   |

|                                 | <i>paniculata</i> | <i>pauciflora</i> | <i>polyanthemos</i> | <i>pumila</i> | <i>regnans</i> | <i>shirleyi</i> | <i>sideroxylon</i> | <i>tenuipes</i> | <i>victrix</i> | <i>viminalis</i> | <i>virginea</i> |
|---------------------------------|-------------------|-------------------|---------------------|---------------|----------------|-----------------|--------------------|-----------------|----------------|------------------|-----------------|
| <i>albens</i>                   | 16.0%             | 43.5%             | 17.0%               | 30.1%         | 46.6%          | 17.2%           | 16.8%              | 44.5%           | 19.6%          | 30.7%            | 27.4%           |
| <i>brandiana</i>                | 17.9%             | 41.2%             | 20.3%               | 25.7%         | 40.6%          | 19.0%           | 20.6%              | 39.4%           | 21.4%          | 26.4%            | 22.3%           |
| <i>caleyi</i>                   | 14.0%             | 43.0%             | 17.3%               | 28.3%         | 45.2%          | 15.3%           | 17.4%              | 42.3%           | 18.5%          | 29.3%            | 25.9%           |
| <i>camaldulensis</i>            | 27.0%             | 43.3%             | 28.8%               | 19.0%         | 44.8%          | 27.3%           | 29.2%              | 41.6%           | 29.5%          | 19.7%            | 27.9%           |
| <i>cladocalyx</i>               | 18.2%             | 42.3%             | 19.5%               | 26.8%         | 43.5%          | 19.4%           | 20.7%              | 41.6%           | 21.4%          | 28.2%            | 24.1%           |
| <i>cloeziana</i>                | 35.9%             | 15.7%             | 37.4%               | 37.6%         | 15.5%          | 36.8%           | 37.4%              | 32.3%           | 38.0%          | 37.7%            | 35.1%           |
| <i>coolabah</i>                 | 17.5%             | 44.8%             | 19.1%               | 31.8%         | 47.1%          | 17.2%           | 19.8%              | 46.0%           | 17.6%          | 32.3%            | 28.9%           |
| <i>curtisii</i>                 | 31.2%             | 27.9%             | 33.2%               | 32.7%         | 28.9%          | 31.5%           | 33.1%              | 23.9%           | 33.2%          | 33.4%            | 30.5%           |
| <i>dawsonii</i>                 | 18.7%             | 46.3%             | 14.5%               | 32.4%         | 48.9%          | 19.8%           | 18.7%              | 47.1%           | 21.7%          | 33.0%            | 29.3%           |
| <i>decipiens</i>                | 26.8%             | 43.9%             | 28.5%               | 29.1%         | 44.6%          | 27.8%           | 28.3%              | 43.8%           | 28.8%          | 29.9%            | 21.8%           |
| <i>erythrocorys</i>             | 45.0%             | 45.1%             | 45.5%               | 45.5%         | 47.3%          | 45.5%           | 45.7%              | 43.7%           | 45.7%          | 46.4%            | 43.7%           |
| <i>fibrosa</i>                  | 13.5%             | 43.0%             | 15.8%               | 27.5%         | 44.6%          | 15.1%           | 16.2%              | 42.3%           | 18.2%          | 27.6%            | 24.8%           |
| <i>globulus</i>                 | 25.9%             | 41.7%             | 28.0%               | 18.5%         | 44.0%          | 26.9%           | 28.6%              | 42.3%           | 28.7%          | 13.5%            | 26.6%           |
| <i>grandis</i>                  | 27.7%             | 44.9%             | 29.7%               | 20.7%         | 46.4%          | 28.1%           | 29.8%              | 44.3%           | 29.8%          | 18.9%            | 28.2%           |
| <i>guilfoylei</i>               | 27.6%             | 33.3%             | 29.3%               | 28.7%         | 33.4%          | 28.6%           | 29.8%              | 31.7%           | 29.6%          | 30.1%            | 27.5%           |
| <i>lansdowneana</i>             | 15.6%             | 44.5%             | 16.4%               | 28.9%         | 46.0%          | 16.3%           | 15.7%              | 44.1%           | 18.9%          | 29.5%            | 26.0%           |
| <i>leucophloia</i>              | 19.2%             | 42.9%             | 20.6%               | 28.6%         | 43.8%          | 18.5%           | 21.0%              | 40.8%           | 19.6%          | 29.5%            | 25.5%           |
| <i>marginata</i>                | 36.4%             | 16.7%             | 38.5%               | 38.3%         | 17.2%          | 37.5%           | 38.1%              | 33.7%           | 39.2%          | 39.0%            | 36.5%           |
| <i>melliodora</i>               | 24.5%             | 24.5%             | 24.5%               | 24.5%         | 24.5%          | 24.5%           | 24.5%              | 24.5%           | 24.5%          | 24.5%            | 24.5%           |
| <i>melliodora x sideroxylon</i> | 36.5%             | 36.5%             | 36.5%               | 36.5%         | 36.5%          | 36.5%           | 36.5%              | 36.5%           | 36.5%          | 36.5%            | 36.5%           |
| <i>microcorys</i>               | 25.4%             | 32.6%             | 27.7%               | 27.2%         | 32.8%          | 26.3%           | 28.2%              | 30.6%           | 28.3%          | 28.8%            | 25.4%           |
| <b>ANBG9806169</b>              | 38.5%             | 11.1%             | 39.6%               | 40.0%         | 10.7%          | 38.7%           | 39.4%              | 33.7%           | 39.8%          | 39.6%            | 37.4%           |
| <i>paniculata</i>               |                   | 43.7%             | 16.2%               | 27.7%         | 41.0%          | 15.0%           | 15.9%              | 42.8%           | 16.6%          | 28.0%            | 24.2%           |
| <i>pauciflora</i>               | 38.2%             |                   | 39.6%               | 37.3%         | 8.3%           | 36.7%           | 37.5%              | 33.3%           | 38.2%          | 37.4%            | 34.2%           |
| <i>polyanthemos</i>             | 16.1%             | 46.4%             |                     | 29.0%         | 46.1%          | 17.2%           | 16.4%              | 43.6%           | 19.0%          | 29.9%            | 27.2%           |
| <i>pumila</i>                   | 25.1%             | 40.8%             | 25.9%               |               | 42.1%          | 25.4%           | 26.9%              | 39.7%           | 27.3%          | 18.0%            | 24.7%           |
| <i>regnans</i>                  | 35.4%             | 9.1%              | 39.3%               | 38.6%         |                | 36.8%           | 39.0%              | 33.7%           | 39.1%          | 39.2%            | 36.0%           |
| <i>shirleyi</i>                 | 14.7%             | 42.7%             | 17.2%               | 28.1%         | 43.8%          |                 | 16.7%              | 42.1%           | 17.9%          | 28.7%            | 25.7%           |
| <i>sideroxylon</i>              | 15.8%             | 45.0%             | 16.8%               | 29.7%         | 46.2%          | 16.5%           |                    | 44.2%           | 19.0%          | 30.3%            | 26.7%           |
| <i>tenuipes</i>                 | 29.6%             | 27.5%             | 31.0%               | 29.9%         | 27.5%          | 29.4%           | 30.9%              |                 | 31.4%          | 31.2%            | 28.5%           |
| <i>victrix</i>                  | 15.5%             | 43.1%             | 18.0%               | 28.3%         | 44.1%          | 16.6%           | 17.9%              | 42.5%           |                | 28.7%            | 26.0%           |
| <i>viminalis</i>                | 27.2%             | 42.9%             | 29.4%               | 19.7%         | 45.3%          | 28.3%           | 29.6%              | 43.4%           | 30.2%          |                  | 28.1%           |
| <i>virginea</i>                 | 23.0%             | 39.4%             | 25.3%               | 25.3%         | 40.9%          | 23.8%           | 25.3%              | 38.5%           | 25.8%          | 27.5%            |                 |

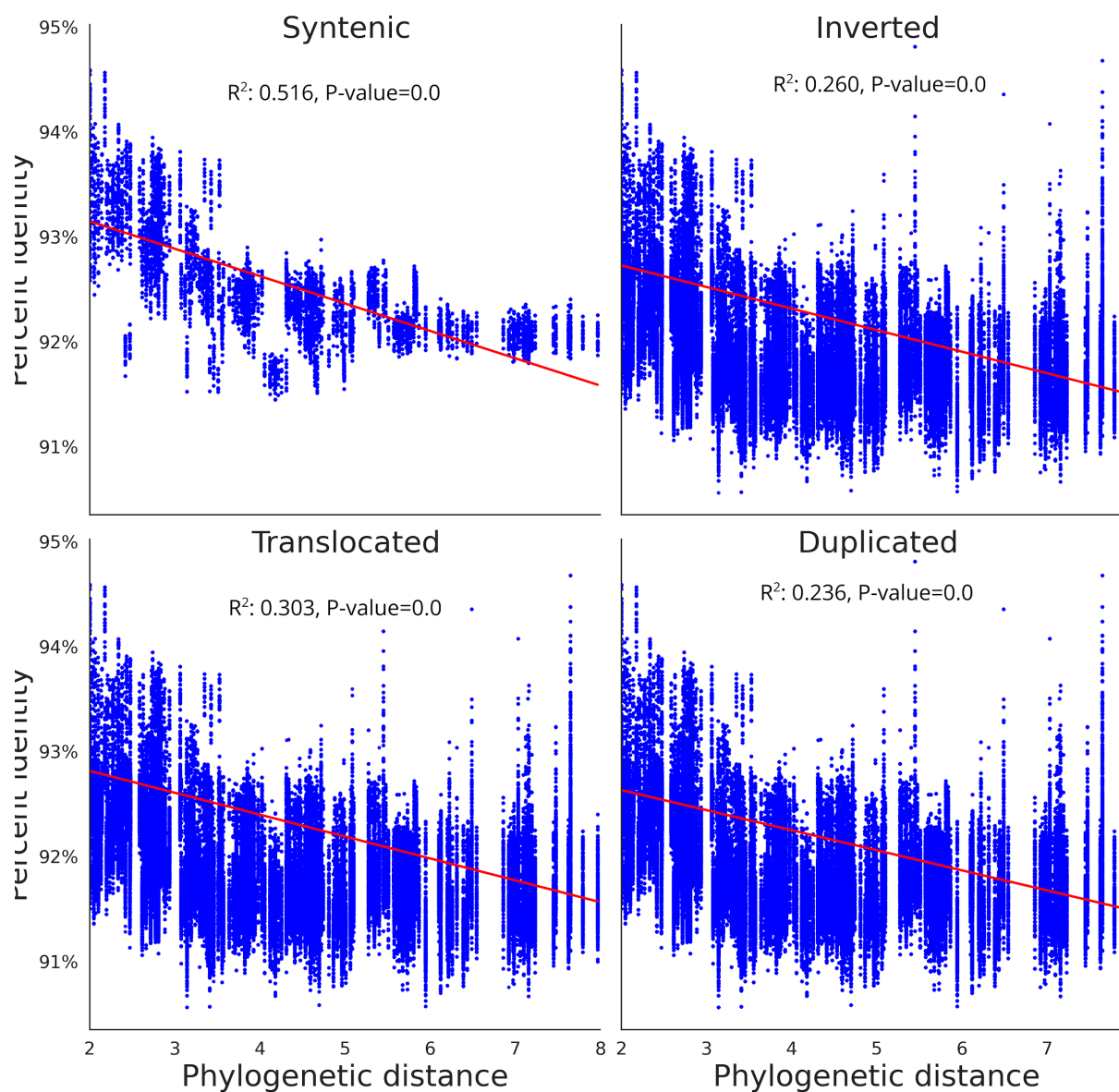
**Supplementary Tables S13. Matrix of pairwise unaligned.** Shows the proportion of the genome that is unaligned for all genome pairs. Read down the genome list (far left column) and extend across until the comparison genome is found.



**Supplementary Figure S18.** Average length of syntenic, unaligned, rearrangement (combined duplications, inversions, and translocations), duplicated, inverted, and translocated regions, for all comparisons within each genome. Error bars show standard deviation of region lengths.

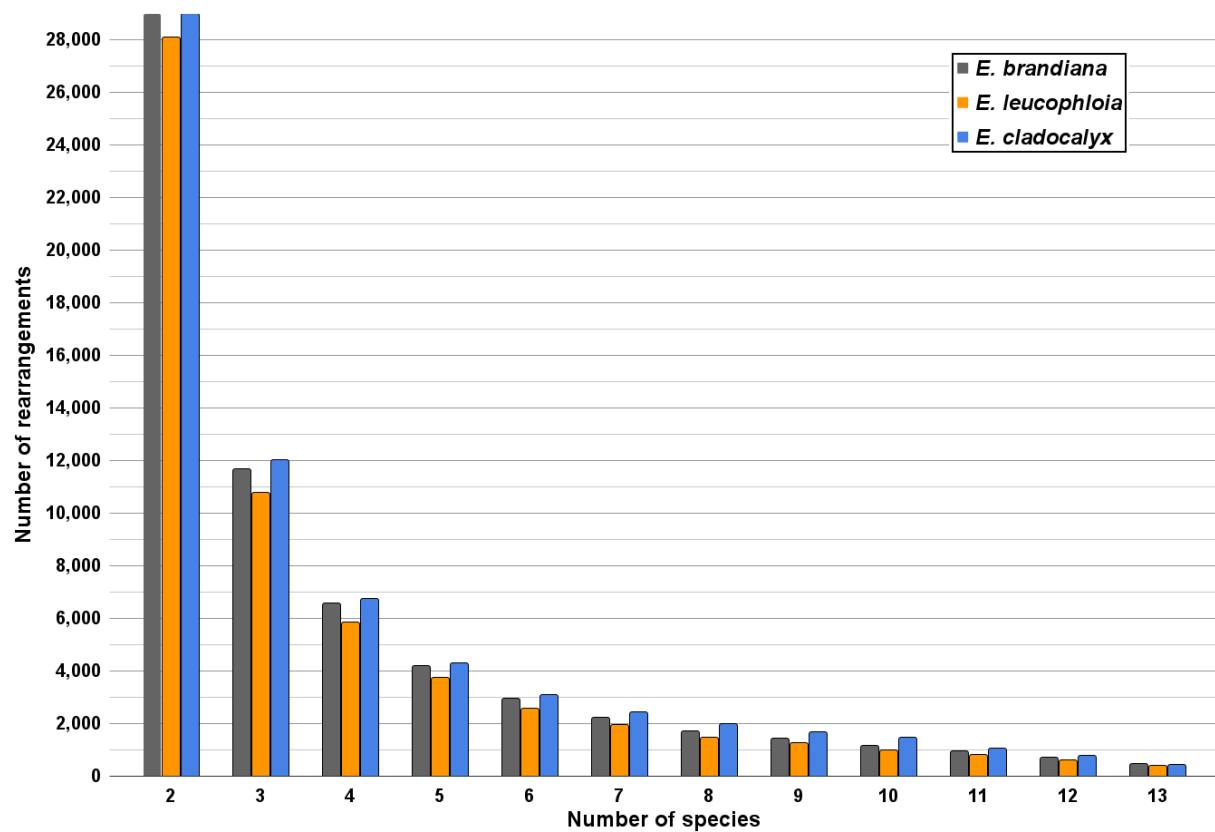


**Supplementary Figure S19.** Average number of syntenic, unaligned, rearrangement (combined duplications, inversions, and translocations), duplicated, inverted, and translocated regions, for all comparisons within each genome. Error bars show the minimum and maximum number of events counted within a comparison for each genome

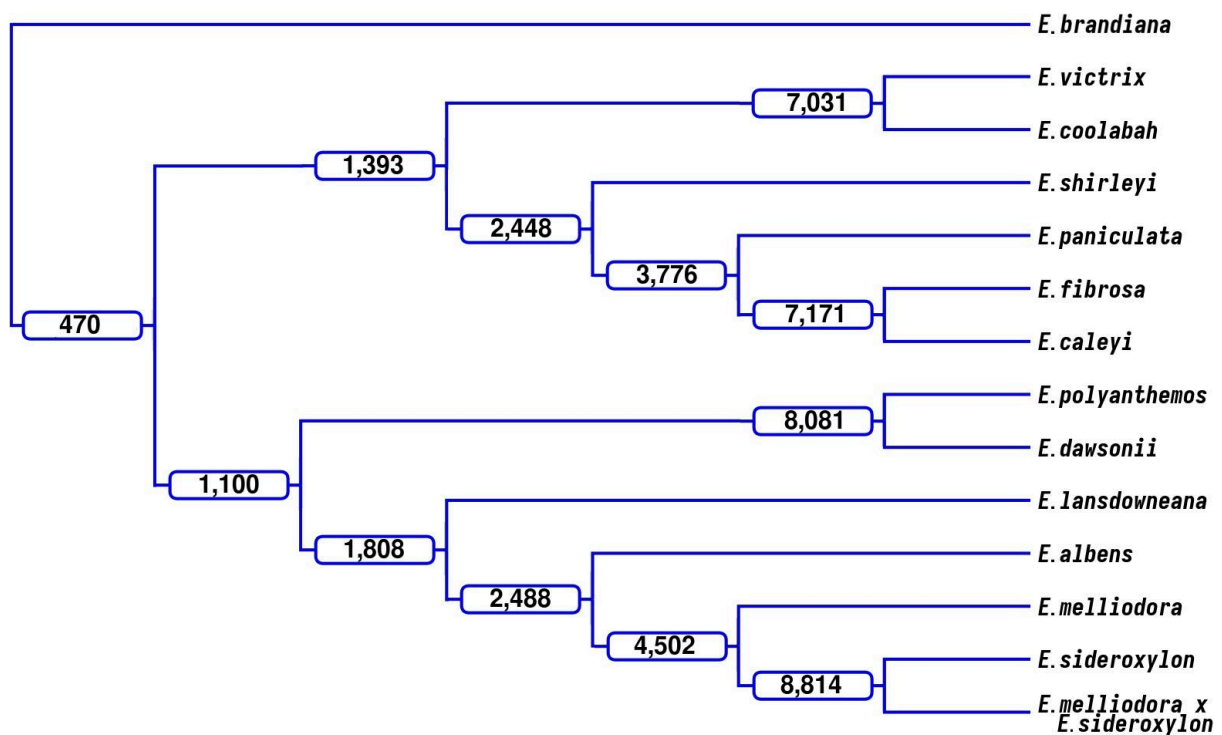


**Supplementary Figure S20.** MUMmer alignment percent identity regression and scatter plot.

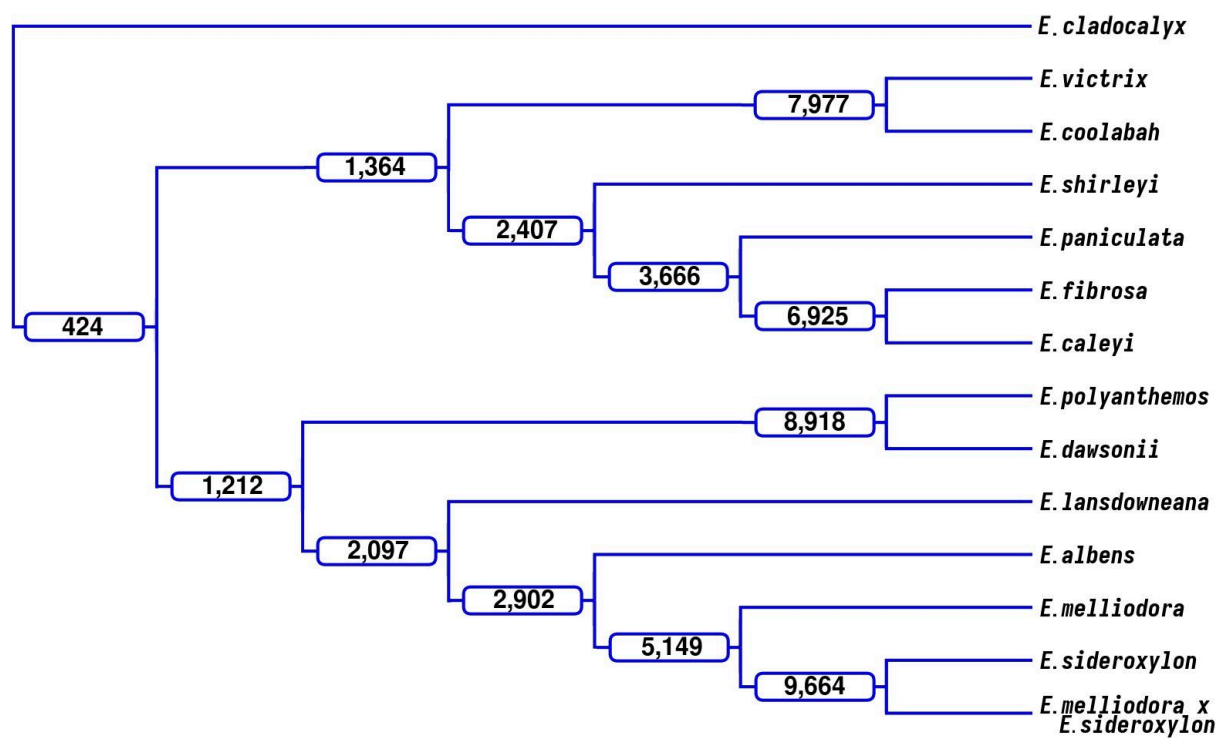




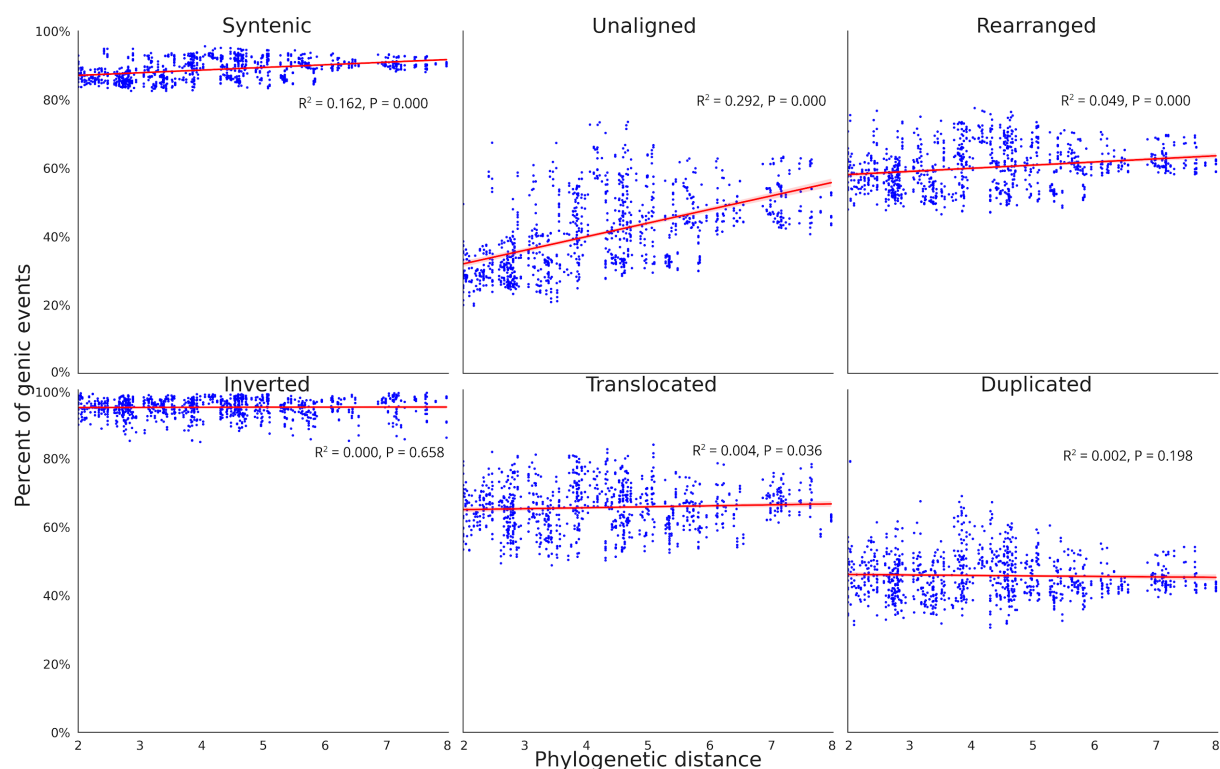
**Supplementary Figure S21.** Ignoring the phylogenetic relationships between genomes, shows the number of rearrangements shared by an increasing number of *Adnataria* genomes using *E. brandiana*, *E. cladocalyx*, and *E. leucophylla* as the outgroup/genetic architecture.



**Supplementary Figures S22.** Repeat of *Adnataria* phylogeny of common rearrangements. *E. brandiana* is the outgroup genome



**Supplementary Figures S23.** Repeat of Adnataria phylogeny of common rearrangements. *E. cladocalyx* is the out genome.



**Supplementary Figures S24. Phylogenetic distance and the number of events syntenic, rearrangement, and unaligned events.** Pairwise genome conservation and loss, as phylogenetic distance increases. The number of events between both *Eucalyptus* genomes with an alignment pair that was identified as syntenic, rearranged, or unaligned, plotted against the phylogenetic distance of the two genomes. The unaligned proportion is the species-specific fraction of the genome between genome pairs, resulting from either an insertion, deletion, differential inheritance, or sequence divergence. Rearranged events are broken down into inverted, translocated, and duplicated regions. Phylogenetic distance was calculated as the sum of branch lengths between each genome pair within phylogeny.