**Supplementary material:**

**Table S1.**  P-values for Spearman’s rank correlation coefficient () between pairwise samples for allelic richness (), observed heterozygosity (), expected heterozygosity (), and fixation index ()

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
| Adults NP vs offspring NP | 0.281 | 0.054 | 0.045\* | 0.023\* |
| Adults NP vs offspring PT | 0.217 | 0.419 | 0.045\* | 0.001\*\* |
| Offspring NP vs offspring PT | 0.480 | 0.222 | 0.360 | 0.293 |

\*P< 0.05; \*\*P< 0.01

**Table S2.** Effective mating system in *Genipa americana* families in a six months of age progeny test (NP)

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Tree |  |  |  |  |  (SE) |  |  (SE) |  |  |  | (SE) | (SE) |   |  |
| 1 | -0.17 | 12 | 0.82 | -0.06 | 0.97 (0.02) | 0.08 | 0.09 (0.02) | 10.6 | 0.137 | 2.99 | 0.24 (0.60) | 0.09 (0.02) | 4.2 | 11.2 |
| 2 | 0.10 | 8 | 0.75 | 0.03 | 0.95 (0.02) | 0.09 | 0.11 (0.02) | 8.7 | 0.153 | 2.52 | 0.27 (0.84) | 0.11 (0.02) | 3.7 | 9.0 |
| 3 | -0.09 | 16 | 0.77 | 0.00 | 0.98 (0.01) | 0.09 | 0.12 (0.03) | 8.1 | 0.140 | 3.08 | 0.37 (0.41) | 0.10 (0.02) | 2.7 | 9.6 |
| 4 | -0.11 | 13 | 0.63 | 0.18 | 0.97 (0.01) | 0.11 | 0.12 (0.02) | 8.4 | 0.140 | 2.86 | 0.26 (0.51) | 0.11 (0.02) | 3.9 | 8.8 |
| 5 | -0.07 | 11 | 0.67 | 0.13 | 0.96 (0.02) | 0.12 | 0.12 (0.02) | 8.5 | 0.140 | 2.80 | 0.61 (0.56) | 0.09 (0.01) | 1.6 | 10.6 |
| 6 | -0.24 | 17 | 0.70 | 0.10 | 0.94 (0.07) | 0.13 | 0.10 (0.02) | 9.9 | 0.138 | 3.08 | 0.30 (0.32) | 0.09 (0.02) | 3.3 | 11.6 |
| 7 | 0.10 | 20 | 0.70 | 0.09 | 0.99 (0.02) | 0.07 | 0.25 (0.06) | 4.0 | 0.172 | 2.65 | 0.54 (0.20) | 0.15 (0.02) | 1.8 | 6.4 |
| 8 | 0.10 | 20 | 0.67 | 0.14 | 0.98 (0.02) | 0.13 | 0.28 (0.07) | 3.5 | 0.176 | 2.55 | 0.45 (0.22) | 0.25 (0.06) | 2.2 | 4.0 |
| 9 | 0.12 | 11 | 0.89 | -0.16 | 0.96 (0.02) | 0.08 | 0.29 (0.04) | 3.4 | 0.181 | 2.38 | 0.91 (0.42) | 0.26 (0.04) | 1.1 | 3.9 |
| 10 | -0.29 | 20 | 0.79 | -0.02 | 0.99 (0.02) | 0.14 | 0.21 (0.05) | 4.7 | 0.152 | 3.03 | 0.23 (0.19) | 0.20 (0.05) | 4.3 | 5.0 |
| 11 | 0.17 | 20 | 0.77 | 0.00 | 0.99 (0.02) | 0.08 | 0.13 (0.04) | 7.6 | 0.165 | 2.82 | 0.21 (0.21) | 0.12 (0.04) | 4.7 | 8.6 |
| 12 | -0.15 | 18 | 0.62 | 0.20 | 0.98 (0.02) | 0.07 | 0.06 (0.02) | 17.9 | 0.132 | 3.16 | 0.08 (0.50) | 0.06 (0.02) | 12.2 | 17.9 |
| 13 | -0.10 | 20 | 0.61 | 0.21 | 0.99 (0.01) | 0.17 | 0.21 (0.06) | 4.8 | 0.133 | 3.29 | 0.25 (0.19) | 0.19 (0.05) | 3.9 | 5.2 |
| 14 | -0.10 | 20 | 0.52 | 0.33 | 0.99 (0.01) | 0.19 | 0.25 (0.07) | 3.9 | 0.157 | 2.81 | 0.47 (0.17) | 0.21 (0.07) | 2.1 | 4.8 |
| 15 | -0.14 | 19 | 0.54 | 0.30 | 0.96 (0.03) | 0.16 | 0.20 (0.07) | 4.9 | 0.150 | 2.98 | 0.45 (0.16) | 0.15 (0.05) | 2.2 | 6.5 |
| 16 | -0.29 | 4 | 0.57 | 0.26 | 0.93 (0.02) | 0.10 | 0.10 (0.01) | 9.6 | 0.138 | 1.92 | 0.41 (0.78) | 0.10 (0.01) | 2.5 | 9.7 |
| 17 | -0.32 | 20 | 0.85 | -0.10 | 0.99 (0.01) | 0.03 | 0.40 (0.10) | 2.5 | 0.175 | 2.68 | 0.57 (0.18) | 0.35 (0.10) | 1.7 | 2.8 |
| 18 | -0.22 | 20 | 0.79 | -0.02 | 0.95 (0.04) | 0.11 | 0.19 (0.05) | 5.3 | 0.149 | 3.07 | 0.19 (0.25) | 0.18 (0.05) | 5.2 | 5.4 |
| 19 | 0.01 | 10 | 0.63 | 0.19 | 0.96 (0.01) | 0.12 | 0.11 (0.02) | 8.8 | 0.140 | 2.70 | 0.30 (0.62) | 0.11 (0.02) | 3.3 | 9.1 |
| 20 | -0.05 | 17 | 0.79 | -0.02 | 0.98 (0.02) | 0.10 | 0.07 (0.04) | 14.1 | 0.134 | 3.21 | 0.12 (0.46) | 0.07 (0.02) | 8.1 | 15.1 |
| 21 | 0.01 | 20 | 0.82 | -0.07 | 0.99 (0.01) | 0.09 | 0.19 (0.05) | 5.3 | 0.150 | 3.03 | 0.18 (0.31) | 0.18 (0.05) | 5.6 | 5.4 |
| 22 | -0.11 | 20 | 0.73 | 0.05 | 0.99 (0.01) | 0.10 | 0.14 (0.06) | 7.3 | 0.142 | 3.19 | 0.30 (0.24) | 0.11 (0.05) | 3.4 | 8.9 |
| 23 | -0.05 | 18 | 0.81 | -0.05 | 0.98 (0.02) | 0.09 | 0.12 (0.03) | 8.0 | 0.141 | 3.11 | 0.32 (0.41) | 0.10 (0.03) | 3.2 | 9.6 |
| 24 | -0.19 | 20 | 0.79 | -0.03 | 0.98 (0.02) | 0.11 | 0.12 (0.04) | 8.4 | 0.140 | 3.16 | 0.05 (0.51) | 0.13 (0.04) | 19.6 | 7.8 |
| 25 | 0.12 | 20 | 0.79 | -0.03 | 0.99 (0.01) | 0.13 | 0.19 (0.07) | 5.4 | 0.166 | 2.79 | 0.34 (0.20) | 0.15 (0.06) | 2.9 | 6.5 |
| 26 | 0.18 | 19 | 0.82 | -0.06 | 0.98 (0.01) | 0.08 | 0.17 (0.05) | 5.8 | 0.173 | 2.63 | 0.50 (0.26) | 0.13 (0.03) | 2.0 | 7.9 |
| 27 | -0.11 | 20 | 0.84 | -0.09 | 0.98 (0.02) | 0.04 | 0.11 (0.03) | 9.3 | 0.138 | 3.20 | 0.13 (0.46) | 0.10 (0.03) | 7.9 | 9.7 |
| 28 | 0.26 | 4 | 0.56 | 0.27 | 0.93 (0.02) | 0.11 | 0.10 (0.01) | 9.8 | 0.173 | 1.73 | 0.27 (0.78) | 0.10 (0.01) | 3.6 | 10.0 |
| 29 | 0.41 | 20 | 0.71 | 0.07 | 0.99 (0.01) | 0.20 | 0.34 (0.09) | 3.0 | 0.235 | 2.02 | 0.58 (0.16) | 0.27 (0.08) | 1.7 | 3.7 |
| 30 | -0.04 | 11 | 0.79 | -0.03 | 0.96 (0.02) | 0.11 | 0.18 (0.04) | 5.5 | 0.148 | 2.78 | 0.83 (0.26) | 0.13 (0.02) | 1.2 | 7.7 |

= fixation index of seed trees; = sample size; = observed heterozygosity; = fixation index of progeny; = multilocus outcrossing rate; = mating rate among relatives; ,  and = paternity correlation within and among, within and among fruits, respectively; ,  and = effective number of pollen donors within, among, and within and among fruits, respectively; = coancestry coefficient; = variance effective size; SE = standard error

**Table S3.** Realized mating system in *Genipa americana* families in a 14 years of age progeny test (PT)

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Tree |  |  |  |  (SE) |  |  (SE) |  |  |  |
| 1 | 23 | 0.82 | -0.04 | 0.98 (0.02) | 0.07 | 0.11 (0.02) | 9.3 | 0.139 | 3.22 |
| 2 | 20 | 0.77 | 0.03 | 0.97 (0.02) | 0.09 | 0.06 (0.02) | 15.9 | 0.133 | 3.29 |
| 3 | 19 | 0.79 | 0.00 | 0.97 (0.02) | 0.07 | 0.06 (0.02) | 16.7 | 0.133 | 3.28 |
| 4 | 24 | 0.76 | 0.04 | 0.98 (0.02) | 0.07 | 0.05 (0.02) | 21.3 | 0.131 | 3.40 |
| 5 | 19 | 0.73 | 0.07 | 0.97 (0.02) | 0.10 | 0.06 (0.02) | 16.7 | 0.133 | 3.24 |
| 6 | 19 | 0.77 | 0.03 | 0.97 (0.02) | 0.10 | 0.06 (0.02) | 15.6 | 0.133 | 3.27 |
| 7 | 20 | 0.82 | -0.04 | 0.97 (0.02) | 0.08 | 0.09 (0.02) | 11.6 | 0.136 | 3.24 |
| 8 | 23 | 0.87 | -0.10 | 0.98 (0.02) | 0.05 | 0.09 (0.02) | 11.0 | 0.136 | 3.29 |
| 9 | 22 | 0.84 | -0.06 | 0.98 (0.02) | 0.07 | 0.05 (0.02) | 18.2 | 0.132 | 3.36 |
| 10 | 23 | 0.84 | -0.06 | 0.99 (0.02) | 0.05 | 0.04 (0.02) | 25.6 | 0.130 | 3.42 |
| 11 | 21 | 0.88 | -0.11 | 0.97 (0.02) | 0.07 | 0.06 (0.02) | 16.9 | 0.132 | 3.32 |
| 12 | 18 | 0.89 | -0.13 | 0.97 (0.02) | 0.07 | 0.05 (0.02) | 19.2 | 0.132 | 3.28 |
| 13 | 20 | 0.91 | -0.16 | 0.97 (0.02) | 0.05 | 0.05 (0.02) | 18.5 | 0.132 | 3.32 |
| 14 | 23 | 0.87 | -0.10 | 0.99 (0.02) | 0.04 | 0.06 (0.02) | 15.6 | 0.133 | 3.36 |
| 15 | 23 | 0.84 | -0.06 | 0.99 (0.02) | 0.05 | 0.06 (0.02) | 16.9 | 0.132 | 3.38 |
| 16 | 19 | 0.81 | -0.03 | 0.97 (0.02) | 0.05 | 0.10 (0.02) | 10.1 | 0.137 | 3.20 |
| 17 | 17 | 0.73 | 0.07 | 0.97 (0.02) | 0.08 | 0.07 (0.02) | 14.3 | 0.134 | 3.14 |
| 18 | 18 | 0.75 | 0.05 | 0.97 (0.02) | 0.08 | 0.07 (0.02) | 13.9 | 0.134 | 3.21 |
| 19 | 21 | 0.78 | 0.01 | 0.97 (0.02) | 0.06 | 0.05 (0.02) | 18.2 | 0.132 | 3.34 |
| 20 | 18 | 0.80 | -0.01 | 0.97 (0.02) | 0.06 | 0.06 (0.02) | 16.1 | 0.133 | 3.26 |
| 21 | 21 | 0.82 | -0.04 | 0.97 (0.02) | 0.07 | 0.06 (0.02) | 17.5 | 0.132 | 3.32 |
| 22 | 20 | 0.80 | -0.02 | 0.97 (0.02) | 0.07 | 0.07 (0.02) | 13.3 | 0.134 | 3.28 |
| 23 | 20 | 0.87 | -0.11 | 0.97 (0.02) | 0.06 | 0.07 (0.02) | 14.3 | 0.134 | 3.28 |
| 24 | 18 | 0.84 | -0.06 | 0.97 (0.02) | 0.07 | 0.07 (0.02) | 13.9 | 0.134 | 3.24 |
| 25 | 15 | 0.88 | -0.12 | 0.96 (0.02) | 0.07 | 0.08 (0.02) | 11.8 | 0.136 | 3.12 |
| 26 | 16 | 0.79 | -0.01 | 0.96 (0.02) | 0.06 | 0.07 (0.02) | 13.7 | 0.134 | 3.16 |
| 27 | 15 | 0.88 | -0.12 | 0.96 (0.02) | 0.06 | 0.09 (0.02) | 11.6 | 0.136 | 3.12 |
| 28 | 16 | 0.84 | -0.07 | 0.96 (0.02) | 0.07 | 0.09 (0.02) | 12.8 | 0.135 | 3.17 |
| 29 | 17 | 0.87 | -0.10 | 0.97 (0.02) | 0.08 | 0.07 (0.02) | 13.9 | 0.134 | 3.21 |
| 30 | 16 | 0.78 | 0.01 | 0.96 (0.02) | 0.09 | 0.09 (0.02) | 11.2 | 0.136 | 3.14 |

= sample size; = observed heterozygosity; = fixation index of progeny; = multilocus outcrossing rate; = mating rate among relatives; *=* paternity correlation; = effective number of pollen donors; = coancestry coefficient; = variance effective size; SE = standard error