**Supplemental Material**

**Table S1**. Assessment of 19 *G. agassizii* microsatellite loci using 8 scat samples that qualified as SQS at the screening loci. Each sample was amplified 5 times at each locus.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Locus** | **Avg Q-score** | **% scored** | **% scored with consensus genotypes** | **% of genotypes meeting SQS** | **Number Failed** | **ADO Rate** | **FA Rate** | **A** | **Allelic Range (bp)** | **PID** | **PSIB** | **PIDcum** | **PSIBcum** | **Reliability for genotyping** |
| GOA1-FAM | 1 | 100 | 100 | 88 | 0 | 0 | 0 | 3 | 131-139 | 0.252 | 0.517 | 2.52E-01 | 5.37E-01 | high |
| GOA8-FAM | 0.93 | 93 | 100 | 88 | 3 | 0 | 0 | 17 | 146-211 | 0.017 | 0.302 | 4.28E-03 | 1.63E-01 | high |
| GOA12-NED | 0.93 | 98 | 100 | 88 | 1 | 0.059 | 0 | 13 | 105-169 | 0.054 | 0.352 | 2.31E-04 | 5.75E-02 | high |
| GP30-PET | 0.93 | 95 | 100 | 75 | 2 | 0.042 | 0 | 8 | 203-234 | 0.084 | 0.384 | 1.94E-05 | 2.19E-02 | high |
| GOA13--VIC | 0.93 | 95 | 100 | 63 | 2 | 0.067 | 0 | 16 | 212-296 | 0.020 | 0.307 | 3.89E-07 | 8.76E-03 | high |
| GOA2-NED | 0.85 | 93 | 100 | 88 | 3 | 0.136 | 0 | 4 | 204-213 | 0.081 | 0.391 | 3.15E-08 | 4.84E-03 | high |
| GOA23-NED | 0.8 | 95 | 100 | 88 | 2 | 0.152 | 0.026 | 16 | 175-258 | 0.012 | 0.293 | 3.78E-10 | 1.47E-03 | high |
| GOAG4-VIC | 0.73 | 90 | 100 | 88 | 4 | 0.194 | 0.028 | 18 | 144-199 | 0.290 | 0.567 | 1.10E-10 | 4.30E-04 | high |
| GOA4-FAM | 0.73 | 93 | 100 | 88 | 3 | 0.276 | 0 | 10 | 264-303 | 0.069 | 0.374 | 7.56E-12 | 1.60E-04 | med; caution; ADO |
| GOAG7-FAM | 0.68 | 95 | 100 | 88 | 2 | 0.333 | 0 | 5 | 266-281 | 0.115 | 0.411 | 8.69E-13 | 6.49E-05 | med; caution; high ADO |
| GOA3-PET | 0.68 | 85 | 88 | 63 | 6 | 0.263 | 0 | 10 | 285-309 | 0.169 | 0.463 | 1.47E-13 | 2.75E-05 | med; caution; ADO |
| GP61-VIC | 0.63 | 70 | 75 | 75 | 12 | 0.107 | 0 | 17 | 203-250 | 0.031 | 0.326 | 4.55E-15 | 9.31E-06 | med; caution; low success |
| GP15-PET | 0.6 | 85 | 88 | 63 | 6 | 0.161 | 0.059 | 20 | 209-284 | 0.017 | 0.304 | 7.74E-17 | 2.83E-06 | high |
| GOA9-FAM | 0.6 | 88 | 88 | 63 | 5 | 0.261 | 0.057 | 17 | 206-266 | 0.018 | 0.304 | 1.39E-18 | 8.64E-07 | med; caution; ADO |
| GP55-VIC | 0.6 | 85 | 100 | 75 | 6 | 0.258 | 0.059 | 8 | 272-305 | 0.112 | 0.410 | 1.56E-19 | 3.55E-07 | med; caution; high ADO |
| GOA14-VIC | 0.6 | 93 | 88 | 63 | 3 | 0.474 | 0.027 | 37 | 202-310 | 0.004 | 0.273 | 6.24E-22 | 9.69E-08 | med; caution; high ADO |
| GOA6-PET | 0.53 | 93 | 100 | 75 | 3 | 0.378 | 0.054 | 17 | 213-277 | 0.016 | 0.300 |  |  | low accuracy |
| GOA11-NED | 0.5 | 55 | 75 | 75 | 18 | 0.111 | 0 | 21 | 268-338 | 0.024 | 0.316 |  |  | low PCR success |
| GP81-NED | 0.23 | 40 | 38 | 38 | 24 | 0.286 | 0 | 7 | 377-396 | 0.082 | 0.380 |  |  | low PCR success |