**SUPPLEMENTARY INFORMATION**

**Integrating genetic and biophysical approaches to estimate connectivity in an isolated, insular system: case of the culturally important marine gastropod *Monetaria caputdraconis***

**Supplementary Material S1**. Summary of the genetic variables estimated from the eleven microsatellites analyzed for *Monetaria caputdraconis* at Easter Island (EI) and Salas & Gomez Island (SG). n: sampling size, NA: number of alleles, AR: allelic richness, GD: genetic diversity, HE: expected heterozygosity, HO: observed heterozygosity, FIS: inbreeding coefficient and the respective *P* value estimated with permutation analysis, bold values of *P* indicate deviation from the HWE using an α = 0.01.

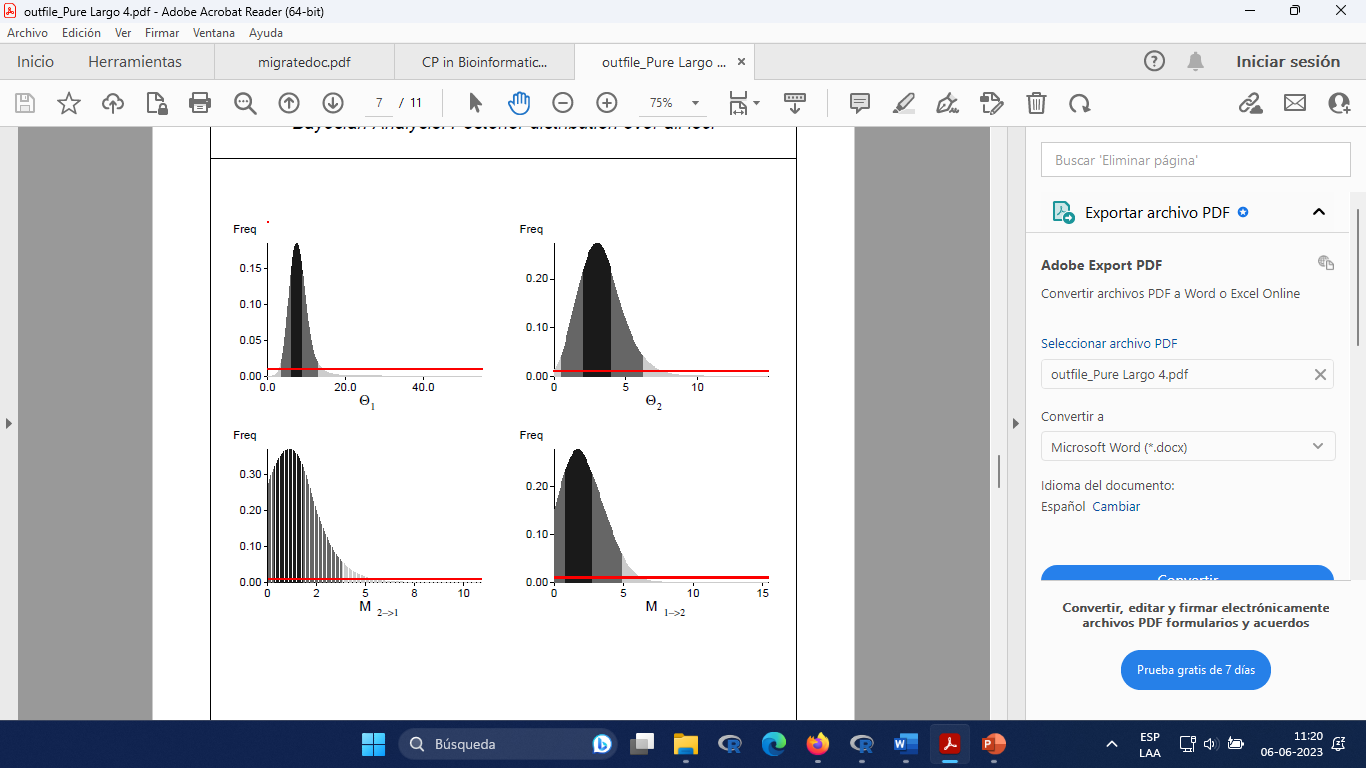
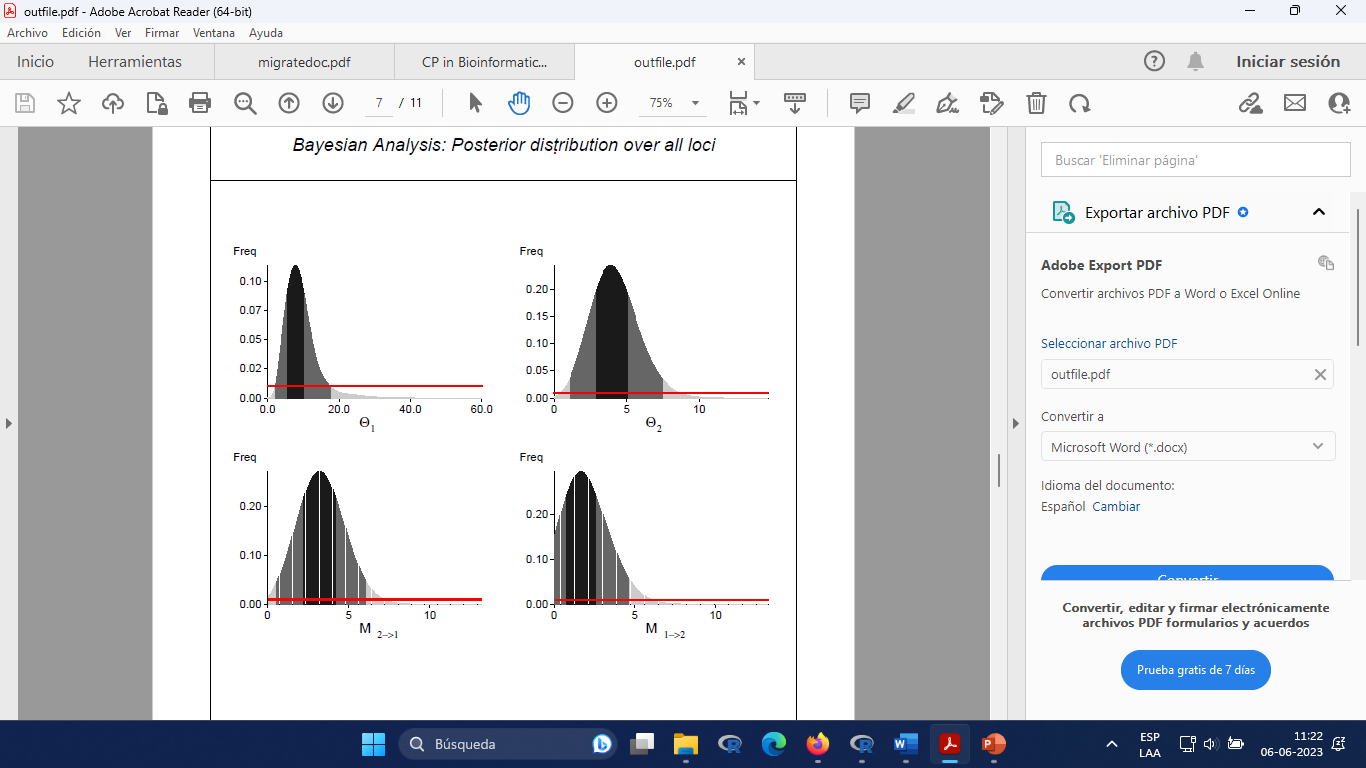
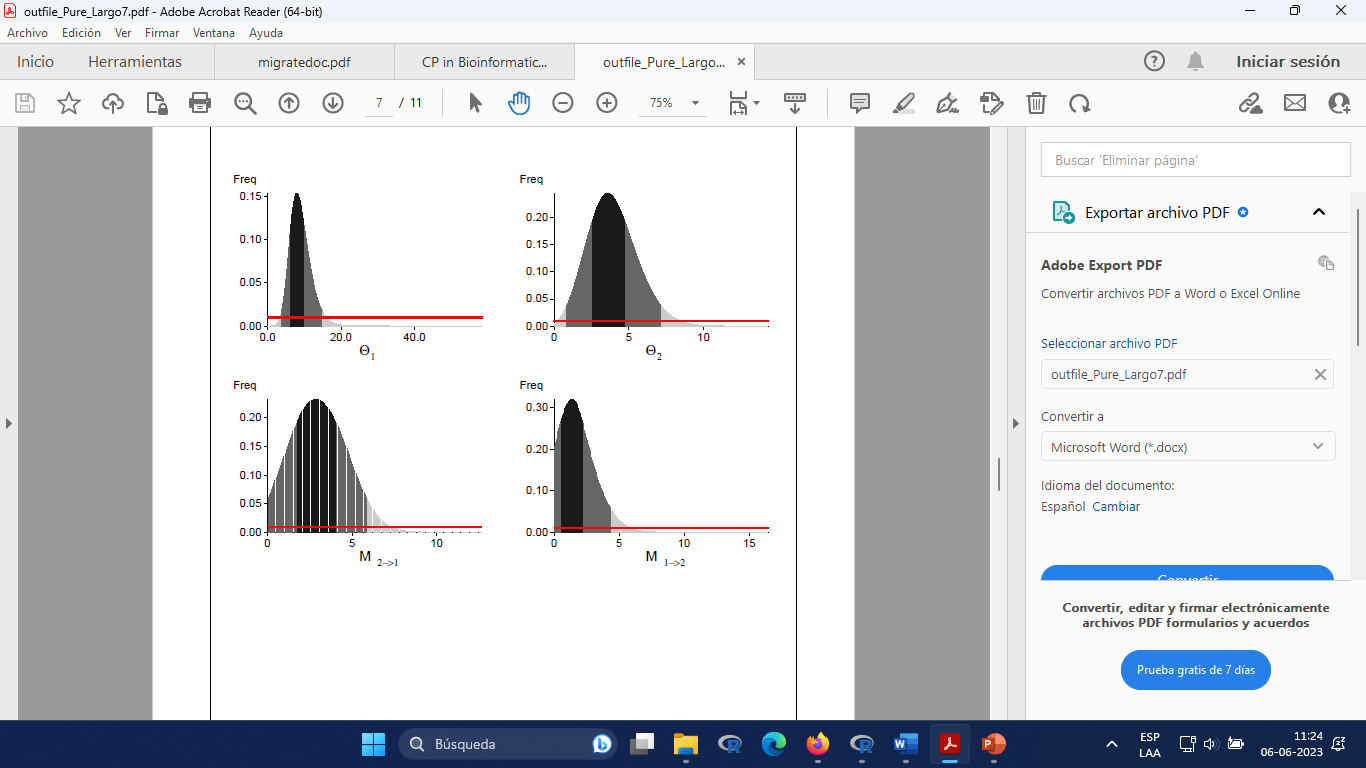
|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Locus** | **location** | **n** | **NA** | **AR** | **GD** | **HO** | **HE** | **FIS** | **P** |
| Pure1 | EI | 74 | 4 | 4.50 | 0.47 | 0.230 | 0.473 | 0.519 | <0.01\* |
|  | SG | 18 | 5 | 3.82 | 0.35 | 0.222 | 0.341 | 0.373 | 0.014 |
| Pure3 | EI | 76 | 6 | 5.23 | 0.57 | 0.552 | 0.574 | 0.044 | 0.281 |
|  | SG | 21 | 6 | 4.82 | 0.72 | 0.667 | 0.703 | 0.075 | 0.374 |
| Pure7 | EI | 75 | 12 | 9.40 | 0.88 | 0.867 | 0.883 | 0.024 | 0.311 |
|  | SG | 16 | 10 | 9.28 | 0.90 | 0.938 | 0.873 | -0.041 | 0.512 |
| Pure15 | EI | 76 | 9 | 7.15 | 0.74 | 0.763 | 0.741 | -0.023 | 0.711 |
|  | SG | 21 | 8 | 6.89 | 0.75 | 0.667 | 0.735 | 0.116 | 0.204 |
| Pure18 | EI | 76 | 17 | 11.59 | 0.91 | 0.882 | 0.911 | 0.039 | 0.168 |
|  | SG | 21 | 14 | 11.99 | 0.91 | 0.762 | 0.890 | 0.168 | 0.026 |
| Pure19 | EI | 61 | 16 | 10.00 | 0.89 | 0.328 | 0.884 | 0.634 | <0.01\* |
|  | SG | 13 | 10 | 11.00 | 0.91 | 0.310 | 0.855 | 0.663 | <0.01\* |
| Pure28 | EI | 65 | 17 | 10.87 | 0.89 | 0.662 | 0.881 | 0.256 | <0.01\* |
|  | SG | 20 | 12 | 11.06 | 0.90 | 0.750 | 0.876 | 0.169 | 0.035 |
| Pure42 | EI | 67 | 10 | 5.51 | 0.75 | 0.731 | 0.752 | 0.035 | 0.322 |
|  | SG | 21 | 6 | 6.08 | 0.69 | 0.619 | 0.679 | 0.112 | 0.281 |
| Pure47 | EI | 76 | 8 | 3.22 | 0.54 | 0.474 | 0.544 | 0.136 | 0.040 |
|  | SG | 21 | 4 | 4.73 | 0.26 | 0.238 | 0.255 | 0.091 | 0.324 |
| Pure48 | EI | 75 | 11 | 7.60 | 0.86 | 0.533 | 0.855 | 0.381 | <0.01\* |
|  | SG | 15 | 8 | 803 | 0.84 | 0.667 | 0.813 | 0.213 | 0.080 |
| Pure50 | EI | 50 | 2 | 1.61 | 0.14 | 0.080 | 0147 | 0.464 | 0.028 |
|  | SG | 21 | 2 | 1.84 | 0.04 | 0.048 | 0.047 | 0.000 | 0.999 |

**Supplementary Material S2**. Summary of the measures of convergence and robustness of the MIGRATE software including acceptance ratio, autocorrelation and effective sample size for the four independent runs. EI: Easter Island, , SG: Salas & Gomez Island

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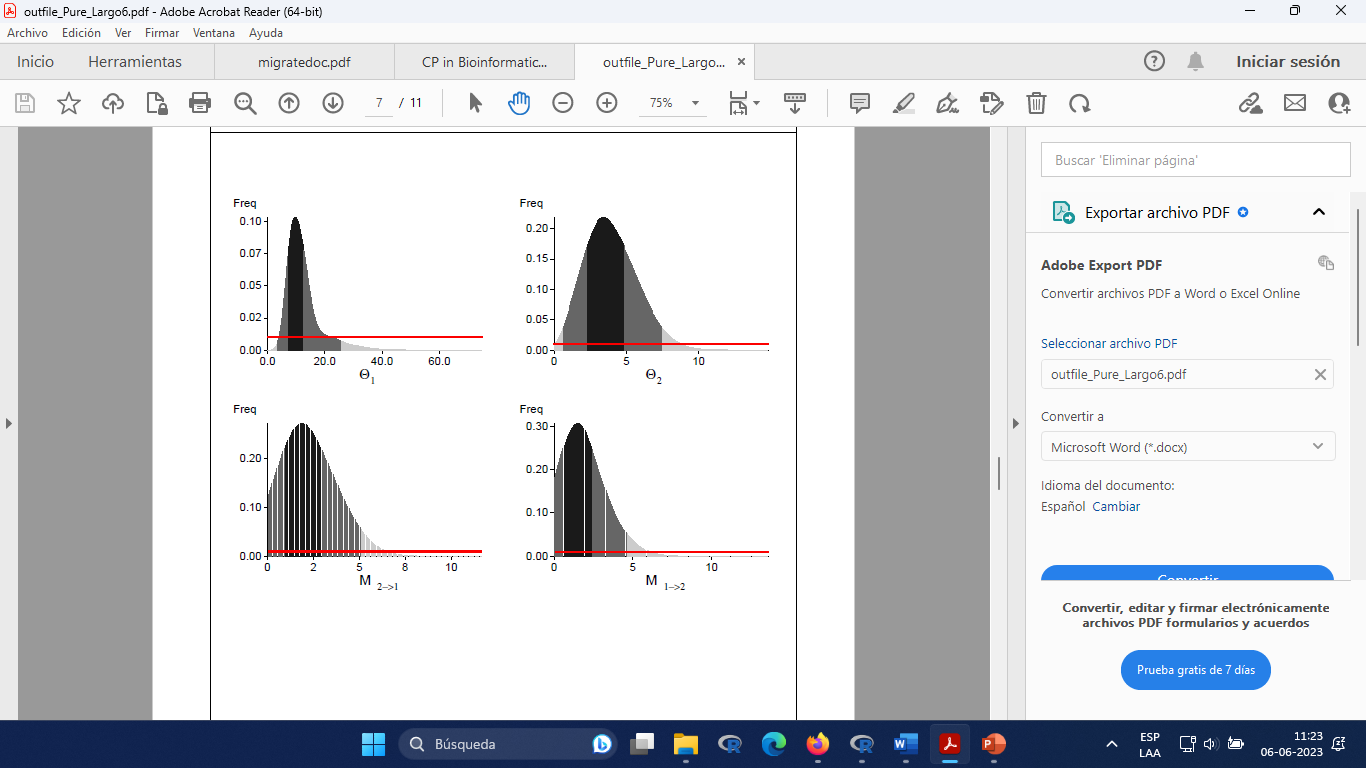
|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Run 1 | Run 2 | Run 3 | Run 4 |
| Acceptance ratios |  |  |  |  |
| Accepted changes |  |  |  |  |
| Θ EI | 267712601/550004174 | 204975688/400029085 | 259412797/499979962 | 265215315/550011413 |
| Θ SG | 298454817/550024283 | 233943218/400008474 | 260357071/500025418 | 285927369/550001162 |
| MSG→EI | 258084522/549994300 | 181315181/399994904 | 236856079/500014197 | 259906213/549990342 |
| MEI→SG | 261032391/549950894 | 195310953/400003818 | 241104974/499968031 | 266001297/550005123 |
| Genealogies | 788562956/2200026349 | 439267374/1599963719 | 742227882/2000012392 | 787247215/2199991960 |
|  |  |  |  |  |
| Ratio |  |  |  |  |
| Θ EI | 0.48675 | 0.51240 | 0.51885 | 0.48220 |
| Θ SG | 0.54262 | 0.58485 | 0.52069 | 0.51987 |
| MSG→EI | 0.46925 | 0.45329 | 0.47370 | 0.47257 |
| MEI→SG | 0.47465 | 0.48827 | 0.48224 | 0.48363 |
| Genealogies | 0.35843 | 0.27455 | 0.37111 | 0.35784 |
|  |  |  |  |  |
| Autocorrelation |  |  |  |  |
| Θ EI | 0.90937 | 0.89516 | 0.89395 | 0.92609 |
| Θ SG | 0.77229 | 0.81465 | 0.77358 | 0.75305 |
| MSG→EI | 0.99642 | 0.99518 | 0.99526 | 0.99670 |
| MEI→SG | 0.99492 | 0.99485 | 0.99450 | 0.99460 |
| Ln[Prob(D|G)] | 0.98613 | 0.98496 | 0.98565 | 0.98597 |
|  |  |  |  |  |
| Effective Sample Size |  |  |  |  |
| Θ EI | 3203804.68 | 4917982.97 | 4009770.21 | 2633412.39 |
| Θ SG | 9611892.85 | 8867615.63 | 10126722.08 | 10075238.30 |
| MSG→EI | 119557.19 | 218494.99 | 168114.45 | 107409.08 |
| MEI→SG | 174962.95 | 209454.62 | 199782.41 | 187591.29 |
| Ln[Prob(D|G)] | 483966.58 | 676584.10 | 497124.23 | 480380.88 |

**Supplementary Material S3.** histograms containing results of each independent run performed with the Migrate software. Θ1: Easter Island (EI), Θ2: Salas & Gómez Island (SG), M1→2: MEI→SG, M2→1: MSG→EI.



**Run 1**

**Run 2**



**Run 3**

**Run 4**