

DIGITAL APPENDIX 1

Partition for each studied gene

APÉNDICE DIGITAL 1

Partición de cada gen estudiado

Gene	Partition
12S	GTR + I + G
16S	TPM3uf+G
18S	GTR + I + G
COI	TPM1uf+I+G

** Partitions were found for the four studied genes using Jmodeltest 2.1.10.

DIGITAL APPENDIX 2

Leg count and sex of analyzed specimens.

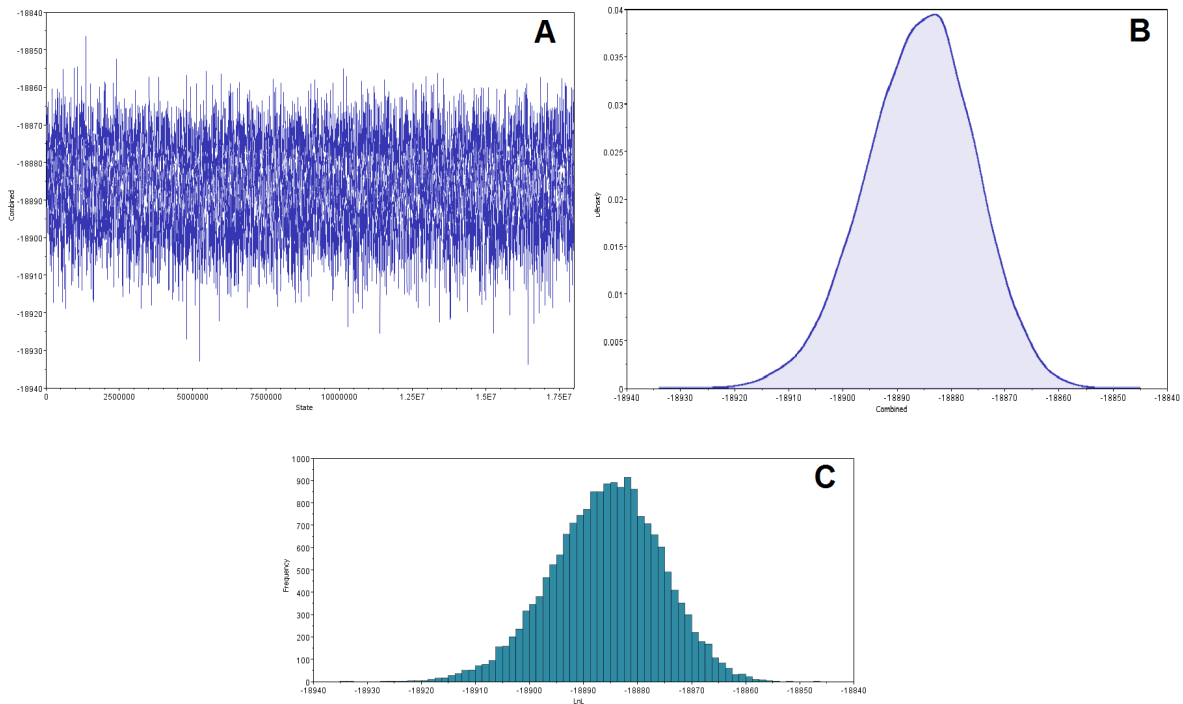
APÉNDICE DIGITAL 2

Conteo de patas y sexo de los especímenes analizados

Individual	Number of legs	Sex
1	37	Female
2	33	Male
3	32	Male
4	37	Female

5	37	Female
6	38	Female
7	39	Female

** Details on analyzed specimens.



Digital Appendix 3. Convergence graphic representation of combined runs results: (a) trace; (b) marginal density's KDE; (c) estimated parameters.

Apéndice Digital 3. Representación gráfica de los resultados de convergencia de las corridas combinadas: (a) señal; (b) KDE de densidad marginal; (c) parámetros estimados.

DIGITAL APPENDIX 4

95 % highest posterior density interval estimators of the Bayesian analysis

APÉNDICE DIGITAL 4

Estimadores al 95 % de los intervalos de mayor densidad posterior del análisis bayesiano

Parameter	Mean	Variance	Lower	Upper	Median	min ESS*	avg ESS	PSRF+
TL{all}	3.326.108	0.029130	3.010.732	3.681.204	3.319.578	243.08	280.04	1.002
r(A<->C){1}	0.141069	0.000246	0.108502	0.171006	0.141476	869.72	924.49	1.000
r(A<->G){1}	0.140594	0.000436	0.099540	0.176391	0.140787	346.24	540.30	1.000
r(A<->T){1}	0.143516	0.000227	0.116100	0.176247	0.143203	618.48	733.48	1.000
r(C<->G){1}	0.019600	0.000213	0.000022	0.041824	0.017374	421.38	422.21	1.001
r(C<->T){1}	0.535305	0.001632	0.459042	0.612549	0.535542	413.28	553.88	1.000
r(G<->T){1}	0.019916	0.000080	0.004668	0.039009	0.018821	976.15	1073.07	1.000
k_revmat{1}	3.838.865	0.532529	3.000.000	5.000.000	4.000.000	699.67	737.97	1.000
r(A<->C){2}	0.030747	0.000461	0.000091	0.074355	0.024352	180.75	238.59	1.004
r(A<->G){2}	0.387674	0.004324	0.280047	0.572301	0.372173	28.45	33.65	1.000
r(A<->T){2}	0.092772	0.000444	0.058579	0.138327	0.088440	37.68	48.60	1.003
r(C<->G){2}	0.055675	0.001152	0.000953	0.099408	0.060348	87.87	137.76	1.000
r(C<->T){2}	0.347473	0.005623	0.116348	0.428641	0.367055	26.41	34.02	1.000
r(G<->T){2}	0.085660	0.000485	0.043748	0.134391	0.083437	70.28	71.13	1.001
k_revmat{2}	3.729.390	0.621530	3.000.000	5.000.000	4.000.000	122.51	362.38	1.002
r(A<->C){3}	0.034500	0.000130	0.010453	0.056556	0.033964	312.28	327.12	1.006
r(A<->G){3}	0.042466	0.000084	0.026696	0.060420	0.041252	502.58	555.93	1.003
r(A<->T){3}	0.065600	0.000378	0.033510	0.102419	0.063884	341.72	370.21	1.000
r(C<->G){3}	0.005740	0.000007	0.001058	0.010610	0.005470	893.19	998.14	1.000
r(C<->T){3}	0.817946	0.000583	0.771904	0.865589	0.819341	492.85	492.88	1.006
r(G<->T){3}	0.033749	0.000050	0.020479	0.047505	0.033209	418.14	737.27	1.000
k_revmat{3}	4.617.505	0.535051	4.000.000	6.000.000	5.000.000	607.86	653.74	1.000
r(A<->C){4}	0.002271	0.000006	0.000001	0.007108	0.001458	369.39	392.69	1.000
r(A<->G){4}	0.530597	0.002260	0.446568	0.648308	0.531705	101.02	161.83	1.003
r(A<->T){4}	0.073805	0.000063	0.059044	0.089682	0.073157	129.57	242.49	1.000
r(C<->G){4}	0.055912	0.000431	0.013814	0.082560	0.065023	106.67	126.48	1.000
r(C<->T){4}	0.261738	0.002175	0.161915	0.355874	0.257799	107.93	183.00	1.004

r(G<->T){4}	0.075678	0.000112	0.056525	0.096002	0.074113	118.44	285.32	1.000
k_revmat{4}	4.637.045	0.433155	4.000.000	6.000.000	5.000.000	177.44	281.79	1.000
pi(A){1}	0.426240	0.000521	0.386751	0.477108	0.425903	579.43	646.10	1.000
pi(C){1}	0.099000	0.000099	0.080057	0.118977	0.098667	564.62	596.47	1.000
pi(G){1}	0.084358	0.000134	0.062509	0.107317	0.083455	823.89	878.40	1.000
pi(T){1}	0.390403	0.000414	0.354413	0.434034	0.390239	661.55	741.66	1.000
pi(A){2}	0.438575	0.000550	0.391984	0.483297	0.438909	217.66	271.61	1.000
pi(C){2}	0.050986	0.000311	0.026891	0.096104	0.046054	25.60	33.62	1.000
pi(G){2}	0.117847	0.000153	0.094954	0.142514	0.116944	360.45	414.70	1.002
pi(T){2}	0.392592	0.000588	0.343170	0.436425	0.392367	342.92	390.60	1.001
pi(A){3}	0.178978	0.000100	0.160062	0.198270	0.178705	724.30	814.51	1.000
pi(C){3}	0.253744	0.000130	0.232323	0.276937	0.253327	730.19	734.69	1.000
pi(G){3}	0.349767	0.000142	0.325815	0.372363	0.349817	771.00	926.93	1.001
pi(T){3}	0.217512	0.000111	0.197682	0.237267	0.217582	509.11	674.46	1.002
pi(A){4}	0.343957	0.000190	0.316939	0.370388	0.344038	374.79	530.59	1.000
pi(C){4}	0.087862	0.000163	0.063895	0.113142	0.086796	81.10	167.86	1.001
pi(G){4}	0.135033	0.000056	0.119424	0.148605	0.134899	536.50	620.44	1.001
pi(T){4}	0.433147	0.000257	0.403738	0.464928	0.433040	299.93	470.32	1.000
alpha{1}	0.415016	0.001919	0.337013	0.505028	0.412838	1561.04	1660.72	1.000
alpha{2}	0.312961	0.000901	0.252802	0.369357	0.311505	1073.70	1122.90	1.000
alpha{3}	0.147773	0.000060	0.132695	0.162949	0.147421	686.98	689.17	1.001
alpha{4}	0.164601	0.000133	0.143569	0.188281	0.164091	712.87	776.94	1.000
pinvar{1}	0.071758	0.000449	0.031912	0.113070	0.070377	1659.11	1763.56	1.000
pinvar{2}	0.094146	0.000494	0.052575	0.138845	0.093334	690.53	1110.76	1.000
pinvar{3}	0.226939	0.000466	0.183578	0.268769	0.226758	1225.03	1375.73	1.001
pinvar{4}	0.069156	0.000129	0.047459	0.092087	0.068708	1523.32	1564.09	1.000

** Convergence diagnostic minimum and average values for parameter sampled in both runs for our dataset with 95% confidence interval.

DIGITAL APPENDIX 5
Summary of the statistics of partitions

APÉNDICE DIGITAL 5
Resumen de las estadísticas de las particiones

Average standard deviation of split frequencies	0.005540
Maximum standard deviation of split frequencies	0.027996
Average PSRF for parameter values (excluding NA and >10.0)	1.000
Maximum PSRF for parameter values	1.008

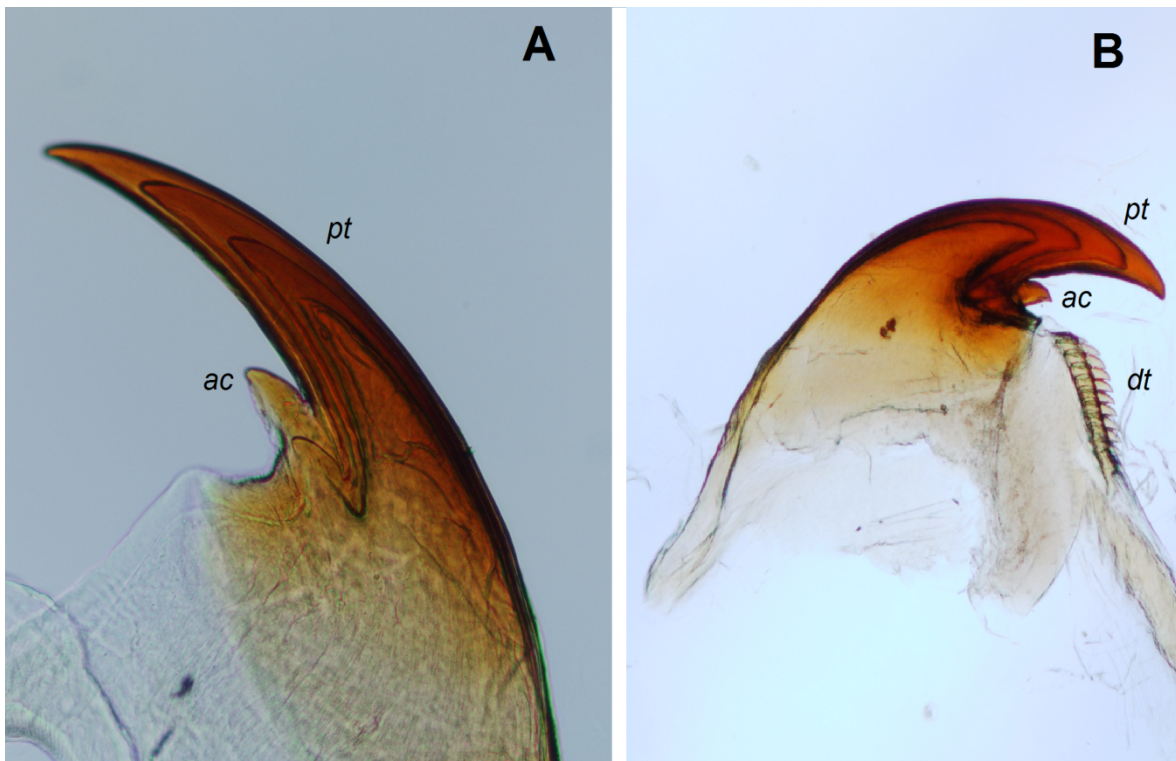
** Summary statistics in combined chains of both datasets for partitions with frequency ≥ 0.05 in at least one run.

DIGITAL APPENDIX 6
Summary of statistics

APÉNDICE DIGITAL 6
Resumen de las estadísticas

Mean	-18885.8095
Standard error of mean	0.1122
Standard deviation	10.08
Variance	101.606
Median	-18885.3843
Value range	[-18933.8061, -18846.4037]
Geometric mean	n/a
95% HPD interval	[-18905.7091, -18866.4142]
Auto-correlation time (ACT)	2231.0986
Effective sample size (ESS)	8068.7
Number of samples	18002

** Bayesian analysis summary statistics in combined chains of used dataset.



Digital Appendix 7. A. Shape of the outer jaw blade principal tooth (pt) and accessory tooth (ac); B. inner blade with its denticles (dt).

Apéndice Digital 7. A. Forma del diente principal de la mandíbula exterior (pt) y su diente accesorio (ac); B. Mandíbula interna con sus denticulos (dt).