

Supplementary document S1. Descriptive statistics of the biometrics of *Podocnemis unifilis* eggs sampled in sandy (N = 346) and clayey substrates (N = 416). SD = Standard Deviation.

Nests	Number of eggs		Length (mm)		Width (mm)		Weight (mm)		Shape		Volume (cm ³)	
	Sand bank	Clay banks	Sand bank	Clay banks	Sand bank	Clay banks	Sand bank	Clay banks	Sand bank	Clay banks	Sand bank	Clay banks
N1	28	29	39.95	39.61	28.18	29.32	21.96	18.68	1.42	1.35	9.72	9.78
N2	24	29	38.26	40.68	26.88	29.8	19.75	20.13	1.42	1.36	9.57	9.84
N3	29	33	43.28	40.8	29.9	29.49	35.31	19.87	1.44	1.39	9.91	9.83
N4	29	28	41.64	33.18	26.07	23.25	20.24	9.75	1.6	1.42	9.6	10.58
N5	31	18	40.48	36.9	28.14	23.46	23.87	15.77	1.45	1.57	9.74	9.27
N6	26	29	42.55	40.85	28.69	27.62	25.69	19.41	1.5	1.47	9.82	9.69
N7	18	33	40.99	42.56	27.62	28.81	18.77	22.45	1.48	1.47	9.7	9.82
N8	22	42	39.93	39.2	26.63	29.24	14.54	20.47	1.5	1.34	9.6	9.77
N9	19	28	42.57	41.63	30.4	28.49	23.63	22.07	1.4	1.46	9.93	9.78
N10	12	30	37.66	36.71	24.68	23.29	15.25	11.7	1.52	1.57	9.39	9.25
N11	23	23	41.89	39.73	26.87	27.45	19.08	20.21	1.56	1.45	9.66	9.66
N12	24	22	39.59	37.83	24.72	26.83	15.62	20.22	1.6	1.41	9.44	9.56
N13	30	33	43.57	39.57	31.92	29.49	30.26	26.45	1.36	1.34	10.05	9.8
N14	31	39	39.18	42.39	27.38	30.03	19.8	27.69	1.44	1.41	9.65	9.9
Mean	24.71	29.71	40.99	39.6	27.89	27.89	22.35	20.03	1.47	1.42	9.71	9.75
SD	5.59	6.31	2.15	2.91	2.05	2.63	5.78	4.94	0.12	0.11	0.21	0.24
Minimum	12	18	28.72	19.74	20.08	20.69	12	9	1.05	0.72	9.39	9.25
Maximum	31	42	47.19	49.9	37.3	39.66	37	38	2.16	2.01	10.05	10.58

Supplementary document S2. Summary of linear regression analysis between response variables (Egg Length – ELe, Egg Width – EWi, Egg Weight – EWe, Egg Shape – ES, Egg Volume – EV, Maximum Carapace Length – MCL, Maximum Carapace Width – MCW, Maximum Plastron Length – MPL, Maximum Plastron Width – MPW, Maximum Shell Height – MSH, and Weight – WEI) and predictor variables (Female Size – FS, Clutch Size – CS) for each nesting substrate used by *Podocnemis unifilis*. The level of significance established for the data set was P = 0.01.

	Sand bank				Clay banks			
	n	R ²	F	P	n	R ²	F	P
FS × ELe	14 (346)	0.261	5.591	0.035	14(416)	0.061	1.855	0.198
FS × EWi	14 (346)	0.225	4.792	0.049	14(416)	-0.006	0.921	0.356
FS × EWe	14 (346)	0.558	17.44	0.001	14(416)	-0.052	0.354	0.562
FS × ES	14 (346)	0	0.992	0.338	14(416)	-0.083	0	0.995
FS × EV	14 (346)	0.263	5.641	0.035	14(416)	-0.079	0.037	0.849
CS × ELe	14 (346)	0.091	2.307	0.154	14(416)	0.090	2.288	0.156
CS × EWi	14 (346)	0.104	2.52	0.138	14(416)	0.034	5.715	0.034
CS × EWe	14 (346)	0.241	5.134	0.042	14(416)	0.035	1.473	0.248
CS × ES	14 (346)	-0.034	0.560	0.468	14(416)	0.211	4.479	0.055
CS × EV	14 (346)	1.130	2.948	0.111	14(416)	0.067	1.937	0.189
FS × MCL	56 (1202)	0.113	3.468	0.0735	96 (1881)	0.014	0.555	0.4607
FS × MCW	56 (1202)	0.149	4.73	0.0385	96 (1881)	0.012	0.458	0.5023
FS × MPL	56 (1202)	0.017	0.469	0.492	96 (1881)	0.012	0.475	0.4946
FS × MPW	56 (1202)	0.063	1.844	0.1858	96 (1881)	0.005	0.206	0.6521
FS × MSH	56 (1202)	0.005	0.156	0.6954	96 (1881)	0.000	0.035	0.852
FS × WEI	56 (1202)	0.000	0.023	0.879	96 (1881)	0.016	0.635	0.4305

Supplementary document S3. Total number of monitored *Podocnemis unifilis* nests that completed incubation, and the abiotic and biotic factors that compromised hatchlings during the incubation period.

	Sand bank			Clay banks		
	2012	2013	2014	2012	2013	2014
Incubation complete	37	28	34	51	81	42
Abiotic factors						
Flooded	0	1	10	2	54	89
Dry soil	0	1	0	0	1	0
Natural predation						
<i>Tupinambis teguixin</i>	2	2	2	2	11	15
<i>Solenopsis geminata</i>	0	2	0	6	35	20
Falconidae	0	0	2	0	3	3
Human predation	0	17	4	11	65	1
Total nests	39	51	52	72	250	170

Supplementary document S4. Descriptive statistics of the morphological measurements of *Podocnemis unifilis* offsprings sampled from 152 nests in the nesting area of the Piagaçu Purus SDR. Maximum Carapace Length – MCL, Maximum Carapace Width – MCW, Maximum Plastron Length – MPL, Maximum Plastron Width – MPW, Maximum Shell Height – MSH, and Weight – WEI, obtained from 56 nests on the sand bank (N = 1202) and 96 nests on the clay banks (N = 1881). SD = Standard Deviation, Min = Minimum, Max = Maximum.

	Sand bank				Clay banks			
	Mean	SD	Min	Max	Mean	SD	Min	Max
MCL (mm)	40.22	3.22	33.42	49.54	40.71	3.1	30	49.92
MCW (mm)	36.84	4.1	25.23	55.33	36.23	2.86	24.53	47.11
MPL (mm)	38.91	2.77	29.11	45.74	37.47	2.94	19.2	49.5
MPW (mm)	30.34	2.6	16.97	55.36	29.16	2.33	15.63	39.9
MSH (mm)	19.86	1.72	12.22	31.22	19.34	1.76	11	36.64
WEI (g)	15.41	2.35	7	22.5	14.21	2.39	7	21