

**Additional file 1: Supplementary Table S1** Lymnaeid shell measurements for natural populations of morphologically similar species, *Lymnaea viator* and *Lymnaea neotropica* from the present study and *Galba truncatula*, including *t*-test statistical comparison of variables of *L. viator* vs *L. neotropica* in Locality A

Shell characteristics	<i>Lymnaea viator</i>		<i>t</i> -test comparison		<i>Lymnaea neotropica</i>				<i>Galba truncatula</i>			
	Locality A, Taton, Tinogasta, Catamarca, Argentina (n = 16)		<i>L. neotropica</i> vs <i>L. viator</i> in Locality A		Locality A, Taton, Tinogasta, Catamarca, Argentina (n = 34)		Rio Rimac, Peru (type locality) (type specimens)		Albufera Valencia, Spain (n = 30)		Oued Tiout, Morocco (n = 30)	
	Min. and max. extreme values	Mean ( $\pm$ SD)	<i>t</i> value [ <i>t</i> <sub>(48)</sub> ]	P value	Min. and max. extreme values	Mean ( $\pm$ SD)	Min. and max. extreme values	Mean ( $\pm$ SD)	Min. and max. extreme values	Mean ( $\pm$ SD)	Min. and max. extreme values	Mean ( $\pm$ SD)
Length (SL)	5.62-10.85	9.21 ( $\pm$ 1.52)	-3.985	0.000	5.52-9.18	7.49 ( $\pm$ 0.89)	5.89-8.74	7.13 ( $\pm$ 1.20)	6.79-9.33	7.73 ( $\pm$ 0.64)	6.57-8.29	7.58 ( $\pm$ 0.48)
Maximum width (SW)	3.11-5.79	4.88 ( $\pm$ 0.84)	-3.316	0.002	3.13-5.01	4.10 ( $\pm$ 0.47)	3.29-4.56	3.95 ( $\pm$ 0.54)	3.70-4.90	4.29 ( $\pm$ 0.29)	3.79-4.60	4.26 ( $\pm$ 0.22)
Aperture length (AL)	2.97-6.05	4.73 ( $\pm$ 0.83)	-3.935	0.000	3.14-6.64	3.85 ( $\pm$ 0.40)	2.90-4.53	3.75 ( $\pm$ 0.64)	3.30-4.07	3.58 ( $\pm$ 0.20)	3.29-4.29	3.86 ( $\pm$ 0.28)
Aperture width (AW)	1.90-3.31	2.73 ( $\pm$ 0.42)	-3.907	0.001	1.88-2.74	2.28 ( $\pm$ 0.23)	1.97-2.99	2.46 ( $\pm$ 0.44)	2.05-2.72	2.40 ( $\pm$ 0.17)	2.40-3.15	2.77 ( $\pm$ 0.21)
Last spire length (LSL)	4.52-8.31	6.99 ( $\pm$ 1.06)	-4.149	0.000	4.42-8.93	5.76 ( $\pm$ 0.60)	4.47-6.78	5.58 ( $\pm$ 0.91)	5.28-6.80	5.78 ( $\pm$ 0.40)	5.19-11.09	6.05 ( $\pm$ 1.02)
Spiral angle (SSA)	41.30°-54.91°	47.04° ( $\pm$ 4.35)	-0.988	0.331	33.02°-54.68°	45.09° ( $\pm$ 5.92)	38.64°-46.99°	42.73° ( $\pm$ 2.44)	33.94°-59.26°	42.73° ( $\pm$ 5.34)	40.91°-61.66°	50.77° ( $\pm$ 5.37)
SL/SW ratio	1.67-2.02	1.89 ( $\pm$ 0.10)	-1.917	0.065	1.69-1.98	1.83 ( $\pm$ 0.08)	1.69-1.92	1.80 ( $\pm$ 0.07)	1.55-1.96	1.80 ( $\pm$ 0.09)	1.64-2.02	1.78 ( $\pm$ 0.08)
SL/AL ratio	1.78-2.11	1.95 ( $\pm$ 0.10)	-0.201	0.842	1.75-2.10	1.94 ( $\pm$ 0.10)	1.76-2.03	1.91 ( $\pm$ 0.09)	1.84-2.38	2.16 ( $\pm$ 0.14)	1.84-2.14	1.97 ( $\pm$ 0.07)
SL/LSL ratio	1.24-1.37	1.31 ( $\pm$ 0.04)	-1.102	0.279	1.23-1.38	1.30 ( $\pm$ 0.04)	1.21-1.38	1.28 ( $\pm$ 0.05)	1.25-1.47	1.34 ( $\pm$ 0.05)	0.69-1.36	1.27 ( $\pm$ 0.11)

Range include minimum and maximum extremes, with mean ( $\pm$  standard deviation SD in parentheses). Measurements in mm (except spiral angle in degrees). n = number of specimens measured.