

Artificial water bodies as amphibian breeding sites: the case of the common midwife toad (*Alytes obstetricans*) in central Spain

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Supplementary material

Table S1. Model ranking for POPAN analyses in Valtierra and Fuente del Valle in the breeding seasons of 2019, 2020 and 2021. For each model, parameters represent: probability of survival (ϕ), probability of capture (p), and the probability of entrance of individuals in the population ($pent$), which can be constant (.) or depend on time (t), sex (g), or both factors and their interaction (g*t).

Locality	Breeding season	Model	AICc	AICc Weight	Number of parameters	Deviance
Valtierra	2019	$\varphi(.)p(t)pent(t)$	353.514	0.904	20	−26.449
		$\varphi(g)p(t)pent(t)$	359.307	0.050	22	−26.967
		$\varphi(t)p(t)pent(t)$	359.474	0.050	25	−3.857
	2020	$\varphi(.)p(t)pent(t)$	829.642	0.929	38	154.375
		$\varphi(g)p(t)pent(t)$	834.774	0.071	40	153.123
	2021	$\varphi(g)p(t)pent(t)$	1,070.965	0.600	50	270.674
		$\varphi(.)p(t)pent(t)$	1,071.778	0.400	48	277.944
	Fuente del Valle	2019	$\varphi(t)p(t)pent(t)$	15.174	0.874	3
$\varphi(t)p(t)pent(g*t)$			19.909	0.082	4	−8.286
$\varphi(g*t)p(t)pent(t)$			21.174	0.044	4	−7.021
2020		$\varphi(g)p(t)pent(t)$	446.754	0.509	26	142.773
		$\varphi(.)p(t)pent(t)$	446.827	0.491	24	149.342
2021		$\varphi(t)p(t)pent(t)$	137.693	0.723	13	−0.136
		$\varphi(.)p(t)pent(t)$	140.056	0.221	12	67.874
		$\varphi(g)p(t)pent(t)$	142.763	0.057	14	−0.006

Table S2. Standardized log-odds-ratio (LOR) chi square (χ^2) statistics for ‘transience’ (3SR) and ‘trap-dependence’ (2.CT) effects and the associated *p*-values obtained for each sex group and population. Groups for which data were insufficient to perform the tests are indicated with a dash (-). Significant results are marked in bold.

Year	Fuente del Valle			Valtierra		
	Test	χ^2	<i>p</i> -value	Test	χ^2	<i>p</i> -value
2019	3.SR ♂	–	–	3.SR ♂	0.955	0.340
	3.SR Ind	–	–	3.SR Ind	0.453	0.650
	3.SR ♀	–	–	3.SR ♀	0.804	0.421
	2.CT ♂	–	–	2.CT ♂	1.213	0.225
	2.CT Ind	–	–	2.CT Ind	–0.240	0.810
	2.CT ♀	–	–	2.CT ♀	–2.029	0.042
	3.SR ♂	0.928	0.354	3.SR ♂	2.083	0.037
	3.SR Ind	0.357	0.721	3.SR Ind	1.052	0.293
	3.SR ♀	0.571	0.568	3.SR ♀	0.979	0.328
2020	2.CT ♂	–1.258	0.208	2.CT ♂	–1.564	0.118
	2.CT Ind	–0.468	0.639	2.CT Ind	–1.192	0.233
	2.CT ♀	–1.286	0.199	2.CT ♀	–0.720	0.472
	3.SR ♂	–	–	3.SR ♂	0.779	0.436
	3.SR Ind	–	–	3.SR Ind	1.101	0.271
	3.SR ♀	0.951	0.341	3.SR ♀	0.762	0.446
2021	2.CT ♂	–	–	2.CT ♂	–2.265	0.024
	2.CT Ind	–	–	2.CT Ind	–0.200	0.842
	2.CT ♀	–	–	2.CT ♀	–0.825	0.410



Figure S1. Water bodies used for reproduction by *A. obstetricans* in Valtierra (a = water trough) and Fuente del Valle (b = artificial pond, c = shallow water trough, d = medium-depth water trough). Photo credits: Carlos Caballero-Díaz.

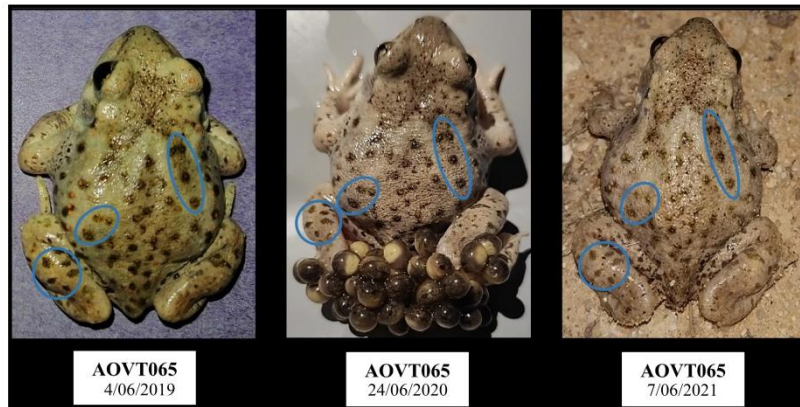


Figure S2. Photo-identification of an adult male of *Alytes obstetricans* (code AOVT065) in three different capture sessions in Valtierra in June 2019, 2020, and 2021. Blue ellipses represent areas with characteristic patterns facilitating individual identification across sampling sessions. Photo credits: Carlos Caballero-Díaz, Ana Díaz-Zúñiga and Iván Gómez.

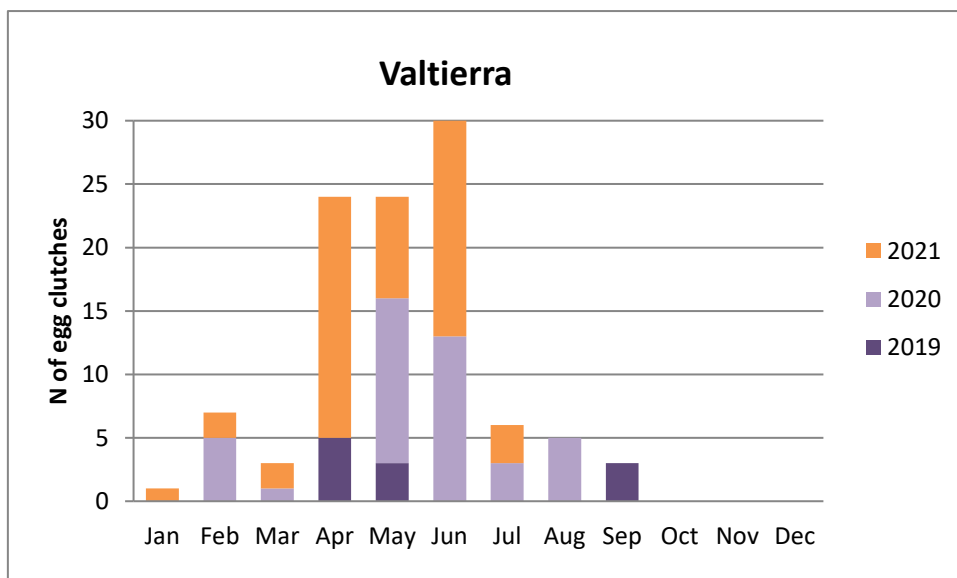
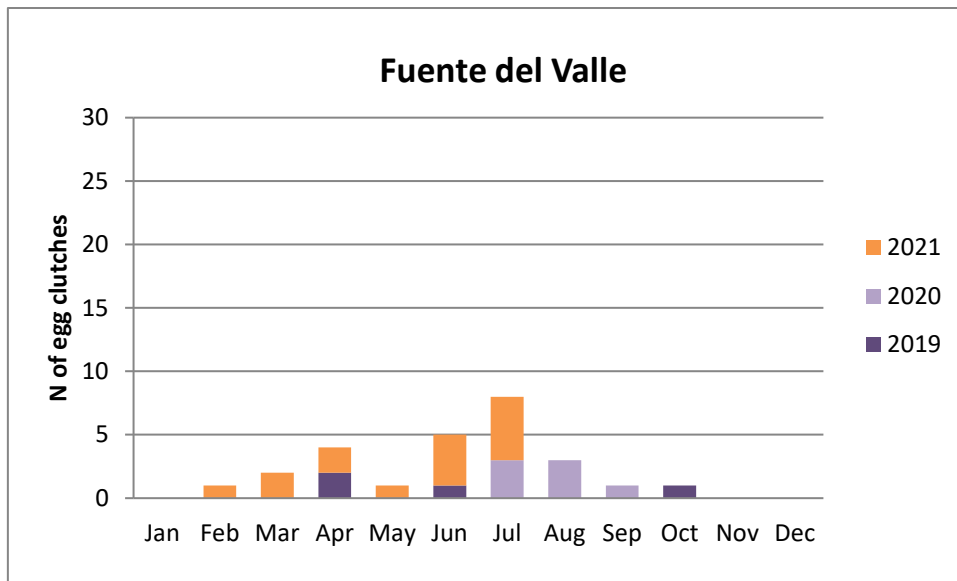


Figure S3. Number of *Alytes obstetricans* egg clutches detected by year, month and locality.