

Supplementary material of ‘New threats for a protected plant: the need to review and update recovery plans of endangered species’, by Joaquín Moreno et al.

<https://doi.org/10.5209/mbot.90361>

Appendix S1. Average density values of *Helianthemum polygonoides* individuals in Cordovilla and Prado Guerrero areas according to mature, juvenile, and dead plant classes, indicating the standard deviation values between brackets. The surface of each tessella and total individuals have been indicated. Data referred to 2004 belong to Ferrandis et al. (2004). Abbreviations: NA, non-available data.

Area	Tessella	Surface (m ²)	Total plants		Mature plants/m ²		Juvenile plants/m ²		Dead plants/m ²	
			2004	2022	2004	2022	2004	2022	2004	2022
Cordovilla	11	3113.7	1214	9050	0.4 (0.3)	2.9 (0.1)	0.7 (0.4)	0.5 (0.2)	0.1 (0.1)	0.3 (0.2)
	12	350.8	196	234	0.6 (0.4)	0.7 (0.4)	0.8 (0.5)	0.2 (0.0)	0.2 (0.2)	0.0 (0.0)
	13	866.4	901	1155	1.0 (1.2)	1.3 (1.0)	1.2 (1.5)	0.3 (0.2)	0.2 (0.2)	0.1 (0.1)
	14	71.7	28	62	0.4 (0.0)	0.9 (0.1)	1.3 (0.0)	0.2 (0.1)	0.1 (0.0)	0.3 (0.1)
	15	23287.4	6986	62410	0.3 (0.4)	2.7 (0.5)	0.7 (0.8)	0.7 (0.3)	0.2 (0.3)	0.3 (0.2)
	16	2125.7	1892	992	0.9 (0.4)	0.5 (0.3)	3.8 (1.3)	0.1 (0.1)	0.1 (0.1)	0.0 (0.0)
	17	371.8	119	486	0.3 (0.0)	1.3 (0.5)	1.5 (0.7)	0.2 (0.1)	0.2 (0.0)	0.1 (0.0)
	18	58084.1	36593	87654	0.6 (0.6)	1.5 (0.8)	1.6 (2.3)	0.3 (0.3)	0.1 (0.1)	0.3 (0.2)
	18A	383	NA	449	NA	1.2 (0.2)	NA	0.3 (0.1)	NA	0.1 (0.0)
	18B	618	NA	775	NA	1.3 (0.2)	NA	0.3 (0.1)	NA	0.3 (0.1)
	18C	269	NA	402	NA	1.5 (0.5)	NA	0.1 (0.0)	NA	1.5 (1.8)
	19	68.8	43	38	0.6 (0.0)	0.5 (0.2)	0.2 (0.0)	0.1 (0.0)	0.2 (0.0)	0.1 (0.1)
	20	2385.4	1598	5534	0.7 (0.7)	2.3 (0.4)	1.5 (1.8)	0.4 (0.1)	0.2 (0.1)	0.2 (0.1)
	20A	121	NA	148	NA	1.2 (0.2)	NA	0.3 (0.1)	NA	0.2 (0.1)
	21	112.4	39	321	0.4 (0.0)	2.9 (0.5)	0.1 (0.0)	0.6 (0.1)	0.1 (0.0)	0.4 (0.1)
	22	48.4	43	NA	0.9 (0.0)	NA	10.3 (0.0)	NA	0.3 (0.0)	NA
	23	4780	5449	15487	1.1 (0.8)	3.2 (0.9)	1.8 (0.8)	0.5 (0.2)	0.1 (0.1)	0.3 (0.1)
	24	2086.4	1565	8485	0.8 (0.2)	4.1 (2.1)	1.8 (0.7)	1.0 (0.5)	0.2 (0.3)	0.4 (0.1)
	25	821.9	468	2531	0.6 (0.5)	3.1 (0.8)	1.2 (0.5)	0.4 (0.2)	0.1 (0.1)	0.4 (0.1)
Prado Guerrero	26	2214	3476	NA	1.6 (0.8)	NA	29.5 (29.5)	NA	0.3 (0.2)	NA
	27	515	649	1538	1.3 (1.1)	3.0 (1.3)	5.5 (4.1)	0.7 (0.4)	0.1 (0.0)	0.3 (0.2)
	28	653.7	556	1612	0.9 (0.8)	2.5 (1.5)	0.9 (0.3)	0.4 (0.3)	0.0 (0.0)	0.0 (0.0)
	29	2106.8	7627	2584	3.6 (1.5)	1.2 (0.2)	11.9 (9.7)	0.2 (0.1)	0.3 (0.2)	0.2 (0.0)
	30	125.8	418	453	3.3 (0.2)	3.6 (1.0)	0.9 (0.2)	0.7 (0.2)	0.0 (0.0)	0.4 (0.2)
	31	487.2	682	890	1.4 (0.3)	1.8 (0.5)	1.0 (0.4)	0.4 (0.2)	0.1 (0.1)	0.9 (0.3)
	32	506.4	856	1303	1.7 (1.1)	2.6 (0.2)	0.8 (0.3)	0.6 (0.1)	0.3 (0.2)	0.5 (0.3)
	33	42997.3	109213	159950	2.5 (1.6)	3.7 (2.4)	7.9 (6.1)	2.2 (2.3)	0.2 (0.2)	0.5 (0.3)
	34	3153.4	2428	NA	0.8 (1.0)	NA	0.8 (0.5)	NA	0.1 (0.0)	NA
	35	214.7	58	NA	0.3 (0.0)	NA	0.1 (0.0)	NA	0.0 (0.0)	NA
	36	638.5	358	2494	0.6 (0.0)	3.9 (1.0)	0.6 (0.0)	0.8 (0.3)	0.0 (0.0)	0.4 (0.2)
	36A	4247	NA	12968	NA	3.1 (1.6)	NA	0.6 (0.3)	NA	0.7 (0.1)

Appendix S2. Average density values of *Helianthemum polygonoides* in Tobarra, Depuradora, Lagoon of Alboraj, Casa Siscar, and Mora de Santa Quiteria areas according mature, juvenile and dead plants, indicating the standard deviation values between brackets. Area of each tesela and total individuals has been indicated. Data referred to 2004 belong to Ferrandis et al. (2004). Abbreviations: NA, non-available data.

Area	Tesela	Surface (m ²)	Total plants		Mature plants/m ²		Juvenile plants/m ²		Dead plants/m ²	
			2004	2022	2004	2022	2004	2022	2004	2022
Tobarra	1	183.7	51	0	0.3 (0.0)	0.0 (0.0)	0.4 (0.4)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
Depuradora	2	811.4	17	1531	0.1 (0.0)	2.9 (0.3)	5.1 (6.6)	0.3 (0.0)	0.0 (0.0)	0.1 (0.2)
Lagoon of Alboraj	3	458.2	119	0	0.3 (0.2)	0.0 (0.0)	0.3 (0.5)	0.0 (0.0)	0.3 (0.2)	0.0 (0.0)
Casa Siscar	4	199.9	18	0	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.1 (0.0)	0.0 (0.0)
	5	77.8	28	0	0.4 (0.0)	0.0 (0.0)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
	6	1953.5	20	0	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
	7	462.5	273	0	0.6 (0.4)	0.0 (0.0)	0.1 (0.2)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
	8	120.6	12	0	0.1 (0.0)	0.0 (0.0)	0.1 (0.0)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)
	9	1593.8	319	0	0.2 (0.1)	0.0 (0.0)	0.2 (0.2)	0.0 (0.0)	0.4 (0.2)	0.0 (0.0)
	10	884.7	186	0	0.2 (0.1)	0.0 (0.0)	0.0 (0.0)	0.0 (0.0)	0.3 (0.1)	0.0 (0.0)
Mora de Santa Quiteria	37	617.6	527	208	1.4 (0.8)	0.9 (0.1)	1.7 (1.8)	0.1 (0.0)	0.1 (0.1)	0.1 (0.1)
	37A	87	ND	165	ND	1.9 (1.0)	ND	0.5 (0.3)	ND	0.1 (0.0)

Appendix S3. Student's t-Test comparisons of area, total plants and density of mature, juvenile and dead plants of *H. polygonoides* populations between the database referred to 2004, belong to Ferrandis et al. (2004), and current provided data (2022). Abbreviations: d.f., degrees of freedom.

	d.f.	t-value	P
Area	38	0.019	0.985
Total plants	38	-2.292	0.027
Density of mature plants	38	-4.501	< 0.001
Density of juvenile plants	38	2.916	< 0.001
Density of dead plants	38	-2.515	0.016