

TABLE s1. Regression results for the effects of different climate parameters on leaf morphological traits of *Pancratium maritimum*. Coefficients of independent variables and R^2 of the multiple regression equation, as well as their P -values are shown.

Dependent variable ⁽¹⁾	Summary measures			Regression coefficients		
	R^2	F	P	Independent variable ⁽²⁾	β coefficient	P
Leaf thickness						
CBH	0.28	13.63	<0.0001	MAP	-0.18	n.s.
				MAT	-0.95	0.003
				MMT	1.23	<0.0001
ET _{AB}	0.37	20.34	<0.0001	MAP	0.22	n.s.
				MAT	1.73	<0.0001
				MMT	-1.44	<0.0001
IBH	0.28	13.52	<0.0001	MAP	-0.24	n.s.
				MAT	-0.79	0.01
				MMT	1.11	<0.0001
LTE	0.24	11.035	<0.0001	MAP	0.29	0.05
				MAT	0.25	n.s.
				MMT	0.31	n.s.
LTM	0.17	7.45	0	MAP	-0.11	n.s.
				MAT	-0.2	n.s.
				MMT	0.56	0.04
PT _{AB}	0.17	7.09	0	MAP	-0.4	0.01
				MAT	-0.08	n.s.
				MMT	-0.27	n.s.
PT _{AD}	0.21	9.43	<0.0001	MAP	0.093	n.s.
				MAT	-0.65	0.04
				MMT	0.32	n.s.
ST	0.3	15.32	<0.0001	MAP	0.11	n.s.
				MAT	0.09	n.s.
				MMT	0.5	0.05
Stomatal traits						
SD _{AB}	0.11	4.3	0.007	MAP	-0.359	0.02
				MAT	-0.035	n.s.
				MMT	-0.066	n.s.
SD _{AD}	0.24	11.12	<0.0001	MAP	-0.62	<0.0001
				MAT	-0.62	0.05
				MMT	0.094	n.s.
SL _{AB}	0.4	23.74	<0.0001	MAP	-0.38	0.004
				MAT	-0.2	n.s.
				MMT	0.62	0.009
SL _{AD}	0.4	23.81	<0.0001	MAP	0.15	0.03
				MAT	0.33	<0.0001
				MMT	0.38	n.s.
SW _{AB}	0.52	38.17	<0.0001	MAP	-0.44	<0.001
				MAT	0.33	n.s.
				MMT	0.04	n.s.

⁽¹⁾ Subscripts AD and AB: adaxial and abaxial face, respectively; CBH: height of costal bands; ET: thickness of epidermis-cuticle complex; IBH: height of intercostal bands; LTE: total thickness of lamina at edge; LTM: total thickness of lamina at midrib; PT: thickness of palisade cells; SD: stomatal density (N/mm²); SL: length of stomata; ST: thickness of spongy cells; SW: width of stomata.

⁽²⁾ MAP: mean annual precipitation; MAT: mean annual temperature; MMT: mean maximum temperature.

TABLE s2. Principal component analysis for twenty-nine (29) leaf morphological traits in *Pancratium maritimum*. Variables with highest loading in each of the principal component are indicated in bold.

Variables ⁽¹⁾	PC1	PC2	PC3	PC4	PC5	PC6	PC7	Communality
CBH	0.86	0.15	-0.34	0.02	-0.28	0.02	0.04	0.97
CBN	0.11	-0.47	0.43	0.6	-0.43	0.04	-0.1	0.98
CBW	0.83	0	-0.28	-0.11	0.05	0.21	-0.34	0.95
CD _{AB}	-0.18	0.75	0.31	0	0.29	0.18	-0.3	0.9
CD _{AD}	-0.33	0.7	0.37	-0.14	-0.12	-0.11	-0.41	0.96
CL _{AB}	-0.36	-0.16	0.58	-0.47	-0.3	0.39	-0.11	0.96
CL _{AD}	0.67	0.11	0.26	-0.56	-0.13	0.05	-0.1	0.88
CW _{AB}	0.53	-0.16	0.78	0.11	0.26	-0.07	0.06	1
CW _{AD}	0.52	-0.26	0.74	0.05	0.28	-0.02	0.12	0.97
ET _{AB}	0.13	-0.4	-0.2	-0.48	0.61	-0.26	0.13	0.91
ET _{AD}	0.26	-0.27	0.03	-0.1	0.76	-0.33	-0.26	0.9
IBH	0.93	0.15	-0.14	0	-0.27	0.11	0.07	1
IBN	0.01	-0.67	0.26	0.6	-0.29	-0.01	-0.18	1
IBW	0.61	-0.27	0.58	-0.04	0.37	0.13	0.08	0.95
LTE	0.92	0.15	-0.13	-0.03	0.04	0.15	-0.13	0.94
LTM	0.97	0.13	0.07	0.02	0.07	0.19	0	0.99
PT _{AB}	0.04	0.2	-0.24	-0.52	0.53	0.4	0.32	0.92
PT _{AD}	0.13	-0.24	-0.09	-0.04	0	0.94	0.07	0.97
SD _{AB}	-0.26	0.65	0.54	-0.42	-0.01	0.02	-0.17	0.99
SD _{AD}	-0.54	0.61	0.42	-0.28	-0.02	0.03	0.18	0.95
SL _{AB}	0.23	-0.57	0.24	-0.65	-0.28	-0.18	0.13	0.99
SL _{AD}	0.37	-0.38	-0.23	-0.61	-0.22	-0.44	-0.17	0.98
ST	0.87	0.02	0.13	0.09	0.14	0.01	-0.35	0.93
SW _{AB}	0.09	0.04	0.59	-0.68	-0.31	-0.18	0.15	0.97
SW _{AD}	-0.2	-0.57	0.25	-0.61	-0.28	0.15	-0.05	0.9
VD _{AB}	0.59	0.56	-0.29	-0.19	-0.37	-0.18	-0.03	0.95
VD _{AD}	0.6	0.49	-0.39	-0.16	-0.29	-0.12	0.29	0.96
VW _{AB}	0.39	0.46	0.43	0.54	0.18	-0.2	0.22	0.97
VW _{AD}	0.46	0.3	0.58	0.43	-0.21	-0.13	0.33	1
Eigenvalue	8.27	4.81	4.49	4.24	2.77	1.94	1.17	
Variance (%)	28.53	16.59	15.47	14.62	9.55	6.68	4.05	
Cumulative variance (%)	28.53	45.12	60.59	75.21	84.77	91.45	95.49	

⁽¹⁾ Subscripts AD and AB: adaxial and abaxial face, respectively; CBH: height of costal bands; CBN: number of costal bands; CBW: width of costal bands; CD: density of epidermis cells (N/mm²); CL: length of epidermis cells; CW: width of epidermis cells; ET: thickness of epidermis-cuticle complex; IBH: height of intercostal bands; IBN: number of intercostal bands; IBW: width of intercostal bands; LTE: total thickness of lamina at edge; LTM: total thickness of lamina at midrib; PT: thickness of palisade cells; SD: stomatal density (N/mm²); SL: length of stomata; ST: thickness of spongy cells; SW: width of stomata; VD: distance between primary veins; VW: width of primary veins.

TABLE s3. Results of discriminant analysis for twenty-nine (29) leaf morphological traits in *Pancratium maritimum*. Data represent the standardized canonical discriminant function coefficients.

Variables ^(u)	F1	F2	F3	F4	Wilks' Lambda	F *
CBH	-0.19	-0.03	0.24	-0.36	0.18	46.49
CBN	0.32	-0.12	0.49	0.15	0.04	253.86
CBW	0.18	0.11	-0.01	0.21	0.11	78.31
CD _{AB}	-0.09	0.24	-0.18	-0.31	0.08	111.44
CD _{AD}	-0.25	-0.08	0.02	-0.5	0.13	68.84
CL _{AB}	0.09	-0.03	-0.15	0.13	0.38	16.35
CL _{AD}	0.11	0.01	0.18	-0.03	0.58	7.1
CW _{AB}	0.67	-0.23	-0.18	-0.24	0.01	1065.89
CW _{AD}	0.61	-0.06	-0.23	0.02	0.01	742.81
ET _{AB}	-0.27	-0.15	-0.67	0.46	0.05	185.28
ET _{AD}	-0.27	-0.30	-0.12	0.43	0.05	194.29
IBH	-0.19	0.35	0.18	-0.02	0.26	27.72
IBN	0.23	-0.35	0.61	0.16	0.02	399.77
IBW	0.35	-0.21	-0.09	0.01	0.03	354.71
LTE	0.2	0.65	0.14	0.25	0.08	108.37
LTM	0.51	0.77	0.17	0.22	0.02	472.96
PT _{AB}	-0.08	0	-0.13	0.03	0.18	44.15
PT _{AD}	-0.25	-0.58	0.12	0.12	0.09	105.37
SD _{AB}	0.26	-0.35	-0.22	-0.28	0.12	69.71
SD _{AD}	0.08	-0.27	0.41	-0.12	0.23	32.79
SL _{AB}	0.21	0.21	0.22	0.06	0.2	40.38
SL _{AD}	-0.11	0.26	0.08	0.11	0.3	22.81
ST	0.22	0.52	0.19	-0.02	0.09	98.56
SW _{AB}	0.06	-0.17	-0.21	0.02	0.11	76.73
SW _{AD}	-0.17	-0.28	-0.19	0.44	0.07	133.88
VD _{AB}	-0.08	0.32	-0.14	0.02	0.11	77.85
VD _{AD}	-0.03	0.3	-0.09	0.05	0.1	84.71
VW _{AB}	-0.24	-0.11	-0.06	-0.26	0.07	126.14
VW _{AD}	0.01	-0.04	-0.09	-0.27	0.14	63.09
Eigenvalue	308.8	124.71	73.82	52.18		
Variance (%)	47.14	19.04	11.27	7.96		
Cumulative variance (%)	47.14	66.17	77.44	85.41		

*All values are significant at $p < 0.0001$

^(u) Subscripts AD and AB: adaxial and abaxial face, respectively; CBH: height of costal bands; CBN: number of costal bands; CBW: width of costal bands; CD: density of epidermis cells (N/mm²); CL: length of epidermis cells; CW: width of epidermis cells; ET: thickness of epidermis-cuticle complex; IBH: height of intercostal bands; IBN: number of intercostal bands; IBW: width of intercostal bands; LTE: total thickness of lamina at edge; LTM: total thickness of lamina at midrib; PT: thickness of palisade cells; SD: stomatal density (N/mm²); SL: length of stomata; ST: thickness of spongy cells; SW: width of stomata; VD: distance between primary veins; VW: width of primary veins.

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