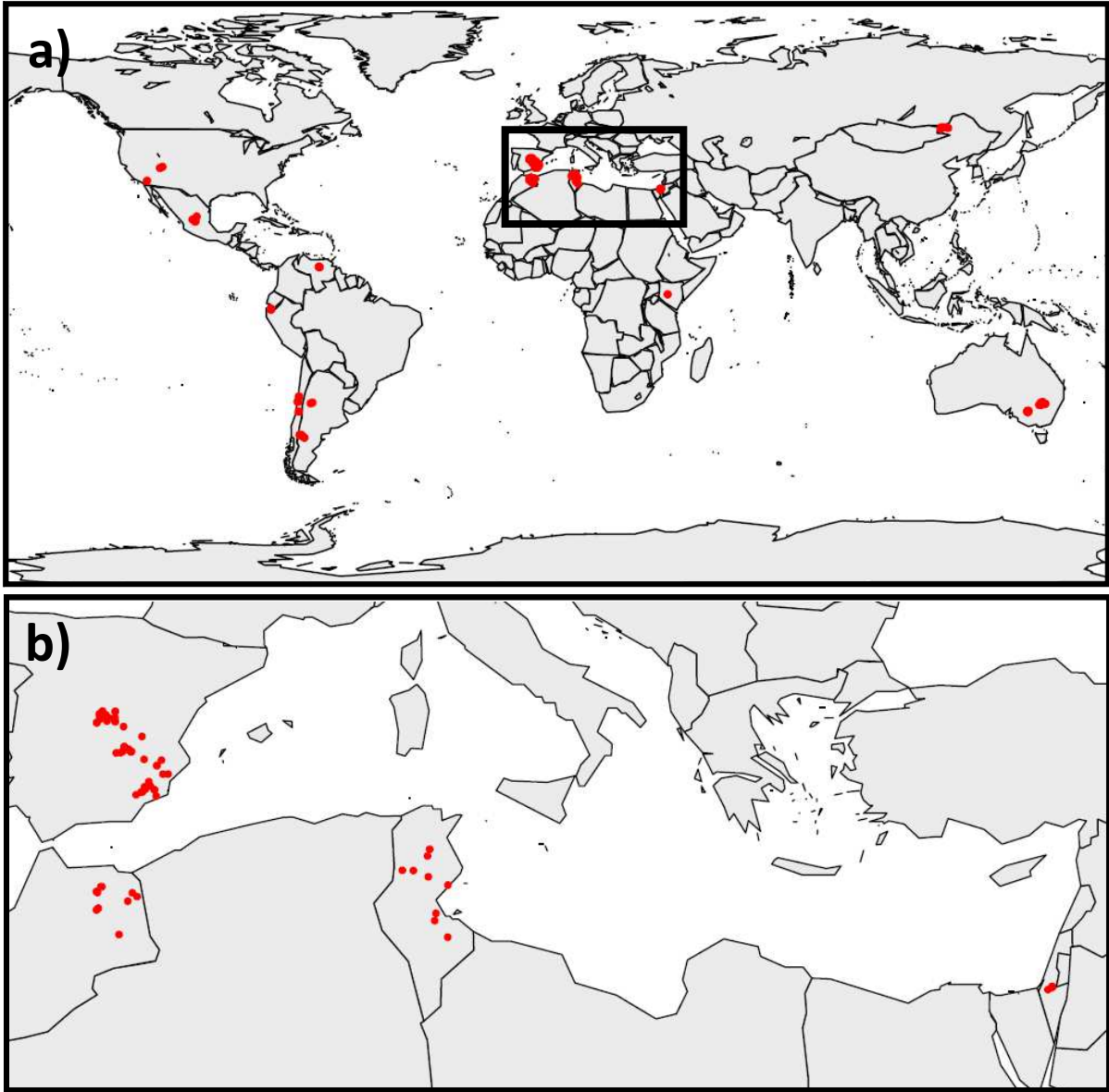


APPENDICES

APPENDIX S1. Map showing the sampling effort for a) the 130 studied dryland communities and b) the Mediterranean basin.



APPENDIX S2. Correlation matrices among the four moments (mean, variance, skewness and kurtosis) and among environmental predictors (climate and edaphic conditions). Correlations with Pearson coefficients higher than 0.50 (absolute value) are indicated in bold. We also present the results of the variance inflation factor (VIF) to evaluate the risk of multicollinearity.

Mean SLA	1.00							
Mean H	-0.11	1.00						
Var SLA	0.58	0.14	1.00					
Var H	-0.01	0.84	0.22	1.00				
Skew SLA	-0.66	0.05	-0.51	-0.10	1.00			
Skew H	0.23	-0.10	0.06	0.27	-0.27	1.00		
Kurt SLA	-0.37	0.10	-0.66	-0.07	0.50	-0.15	1.00	
Kurt H	-0.03	-0.27	-0.29	-0.29	0.07	0.37	0.29	1.00
	Mean SLA	Mean H	Var SLA	Var H	Skew SLA	Skew H	Kurt SLA	Kurt H

Latitude	1.00							
Longitude	-0.18	1.00						
MAT	-0.20	-0.05	1.00					
MAP	-0.06	-0.29	0.35	1.00				
Prec. season	-0.05	-0.36	-0.02	0.06	1.00			
Slope	0.33	-0.21	-0.08	0.18	-0.01	1.00		
Sand	-0.33	0.01	-0.02	-0.20	0.14	-0.39	1.00	
	Latitude	Longitude	MAT	MAP	Prec. season	Slope	Sand	

Model	Model r ²	VIF
MAT ~ MAP + Prec.season + Slope + sand	0.135	1.156
MAP ~ MAT + Prec.season + Slope + sand	0.173	1.209
Prec.season ~ MAT + MAP + Slope + sand	0.039	1.040
Slope ~ MAT + MAP + Prec.season + sand	0.194	1.241
Sand ~ MAT + MAP + Prec.season + Slope	0.195	1.242
Lat ~ MAT + MAP + prec.season + slope + sand	0.283	1.395
MAT ~ Lat + MAP + Prec.season + Slope + sand	0.158	1.187
MAP ~ Lat + MAT + Prec.season + Slope + sand	0.184	1.225
Prec.season ~ Lat + MAT + MAP + Slope + sand	0.040	1.041
Slope ~ Lat + MAT + MAP + Prec.season + sand	0.235	1.308
Sand ~ Lat + MAT + MAP + Prec.season + Slope	0.305	1.439
Long ~ MAT + MAP + prec.season + slope + sand	0.282	1.394
MAT ~ Long + MAP + Prec.season + Slope + sand	0.140	1.162
MAP ~ Long + MAT + Prec.season + Slope + sand	0.213	1.270
Prec.season ~ Long + MAT + MAP + Slope + sand	0.198	1.248
Slope ~ Long + MAT + MAP + Prec.season + sand	0.201	1.252
Sand ~ Long + MAT + MAP + Prec.season + Slope	0.245	1.324

APPENDIX S3. Species number (Sp.nb) and abundance of perennial vegetation for which trait data were available in each of the 130 sites. Data are shown for both Specific Leaf Area and maximum plant height.

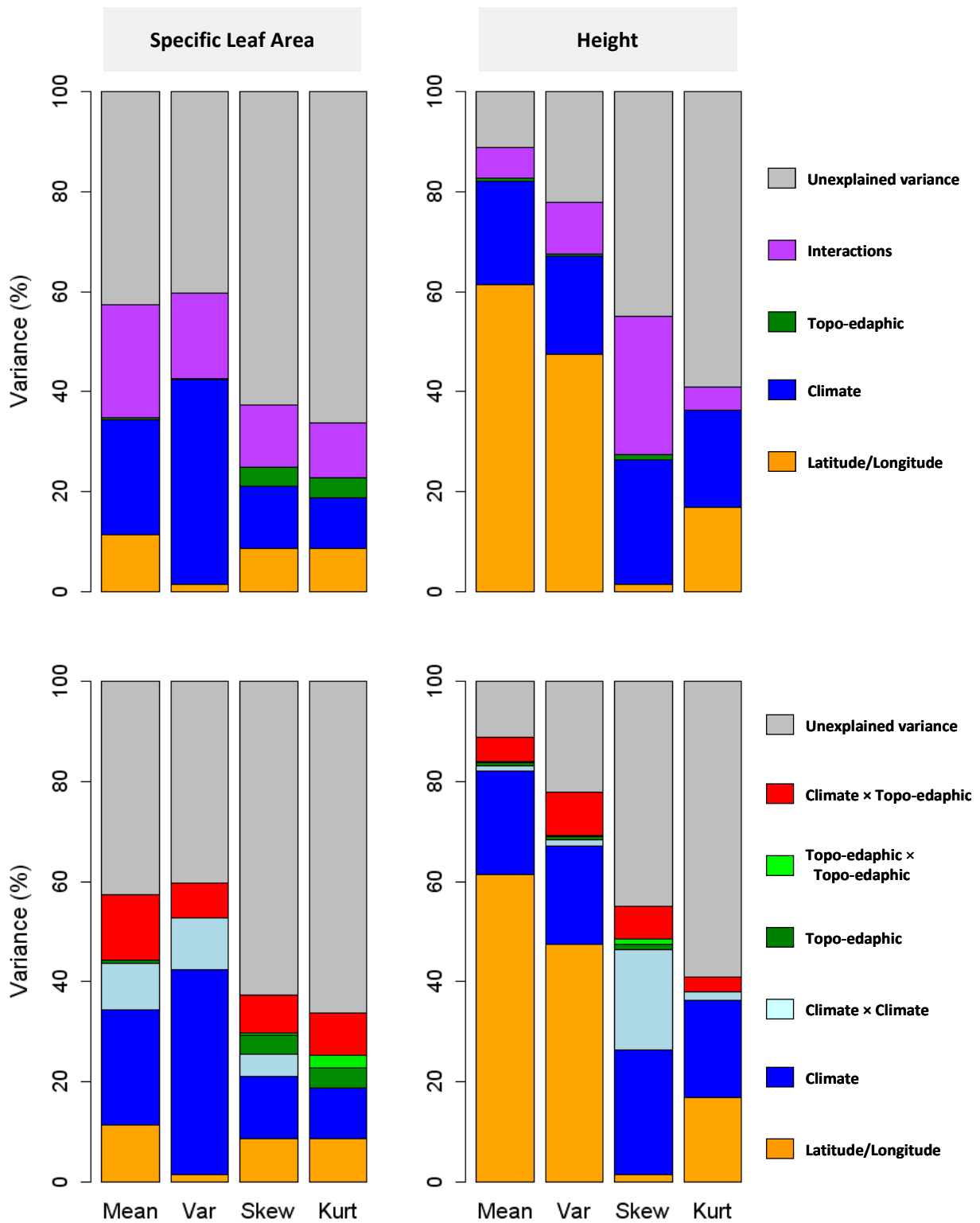
Country	Latitude (°)	Longitude (°)	Specific Leaf Area (SLA)		Maximum plant height	
			Sp. nb	% abundance	Sp. nb	% abundance
Argentina	-41.81	-69.68	7	92.94	13	99.95
Argentina	-41.24	-70.42	9	91.52	19	99.80
Argentina	-41.11	-70.89	10	86.89	20	98.17
Argentina	-41.00	-71.06	9	98.98	13	100.00
Argentina	-41.03	-70.52	7	77.18	19	100.00
Argentina	-31.49	-67.28	5	76.59	4	64.54
Argentina	-31.72	-67.84	5	98.67	2	74.76
Australia	-34.22	142.55	12	99.12	15	100.00
Australia	-34.20	142.56	16	97.93	21	100.00
Australia	-34.25	142.48	16	99.27	16	100.00
Australia	-34.02	142.51	12	98.17	13	100.00
Australia	-34.11	142.54	12	82.58	15	100.00
Australia	-34.20	142.42	12	98.41	15	100.00
Australia	-33.96	142.46	10	98.44	12	100.00
Australia	-33.97	142.66	11	91.90	14	100.00
Australia	-34.11	142.57	15	95.16	16	100.00
Australia	-33.96	142.46	11	99.29	14	100.00
Australia	-33.93	142.69	13	99.78	17	100.00
Australia	-33.94	142.67	15	99.73	18	100.00
Australia	-32.16	145.89	20	91.69	27	99.59
Australia	-31.56	146.31	31	94.71	38	99.79
Australia	-31.30	146.91	16	96.77	24	99.86
Australia	-31.86	147.71	27	84.46	39	99.92
Australia	-32.12	146.66	17	84.00	19	100.00
Chile	-34.11	-71.35	3	86.23	4	95.46
Chile	-29.75	-71.25	4	76.69	8	95.01
Chile	-29.75	-71.25	5	77.13	14	86.28
Chile	-29.75	-71.25	5	70.81	11	83.54
Chile	-31.20	-71.58	3	71.08	11	98.72
Chile	-31.20	-71.58	3	78.43	10	96.26
Chile	-31.20	-71.59	3	76.95	9	90.99
China	49.26	119.18	11	88.03	9	85.87
China	49.49	118.40	14	62.00	9	84.60
China	49.53	117.27	11	95.39	7	94.50
China	49.03	116.99	10	81.44	5	68.05
Ecuador	-3.98	-79.43	3	63.48	3	67.62
Ecuador	-4.00	-79.43	3	71.09	5	71.50
Ecuador	-4.00	-79.44	3	63.40	3	67.54
Ecuador	-4.00	-79.50	3	71.65	5	72.62
Ecuador	-4.00	-79.49	4	76.66	5	78.45
Ecuador	-4.00	-79.50	4	61.14	6	61.26
Ecuador	-4.01	-79.49	4	88.31	5	89.71
Ecuador	-4.01	-79.49	4	66.27	4	66.27
Israel	31.36	34.82	5	100.00	5	100.00
Israel	31.36	34.82	6	100.00	6	100.00

Israel	31.36	34.82	6	100.00	6	100.00
Israel	31.36	34.82	5	100.00	5	100.00
Israel	31.36	34.82	6	100.00	6	100.00
Israel	31.36	34.82	6	100.00	6	100.00
Israel	31.27	34.65	3	97.10	4	100.00
Kenya	0.35	36.89	9	69.02	17	78.35
Mexico	23.21	-101.27	6	76.03	7	80.84
Mexico	22.35	-102.46	3	78.13	3	78.37
Mexico	21.77	-101.67	3	74.21	4	98.49
Mexico	21.77	-101.67	3	74.88	4	76.67
Morocco	34.16	-2.37	7	92.75	8	93.44
Morocco	34.43	-2.19	8	99.68	6	99.46
Morocco	34.47	-3.64	6	99.22	6	100.00
Morocco	34.44	-3.59	6	97.01	7	98.08
Morocco	34.31	-2.00	7	85.55	8	85.55
Morocco	33.87	-3.63	7	98.89	7	99.81
Morocco	33.93	-3.56	3	91.09	2	91.94
Morocco	33.07	-2.73	4	72.36	5	82.62
Morocco	34.63	-3.41	5	80.76	4	72.36
Morocco	34.63	-3.46	5	80.69	5	80.76
Spain	39.05	-2.23	10	100.00	12	100.00
Spain	39.05	-2.23	7	98.36	9	98.47
Spain	40.33	-3.42	7	99.89	7	99.49
Spain	40.32	-3.43	9	99.76	9	99.38
Spain	40.25	-3.26	7	71.85	10	75.26
Spain	37.80	-1.30	20	94.22	23	94.42
Spain	37.80	-1.31	16	95.68	21	96.03
Spain	40.27	-3.51	10	72.52	14	88.98
Spain	40.27	-3.51	3	60.57	4	80.18
Spain	40.14	-3.13	4	76.08	5	83.15
Spain	40.07	-2.90	27	93.90	29	94.81
Spain	40.07	-2.90	20	96.34	21	95.51
Spain	40.21	-3.42	14	98.45	15	95.63
Spain	40.21	-3.42	12	98.70	13	99.60
Spain	39.99	-3.62	6	96.77	7	96.09
Spain	39.99	-3.62	3	95.87	5	96.83
Spain	39.99	-3.62	4	72.84	5	85.89
Spain	37.82	-1.67	18	98.52	17	98.74
Spain	37.82	-1.67	13	95.33	17	95.45
Spain	40.19	-3.50	11	99.22	12	98.93
Spain	40.04	-3.21	7	92.91	7	94.53
Spain	39.21	-2.51	10	97.31	9	99.34
Spain	39.21	-2.51	9	94.97	11	99.44
Spain	38.59	-1.20	26	93.64	31	98.97
Spain	38.59	-1.20	15	88.72	23	93.49
Spain	40.36	-2.88	24	99.69	27	99.53
Spain	40.36	-2.88	21	96.81	24	99.23
Spain	38.79	-1.72	15	100.00	15	100.00
Spain	38.31	-0.76	12	97.23	15	96.66
Spain	39.04	-2.26	8	99.94	8	99.94
Spain	39.01	-2.66	8	97.74	9	94.83
Spain	37.72	-1.84	10	99.65	12	98.62
Spain	40.16	-2.89	28	97.74	29	98.65
Spain	37.92	-1.47	8	97.28	10	98.37

Spain	37.73	-1.78	7	94.32	9	94.67
Spain	38.31	-0.96	17	98.80	17	99.10
Spain	40.37	-3.39	10	99.97	10	99.59
Spain	37.59	-1.23	6	98.79	8	99.47
Spain	39.54	-1.80	18	99.36	20	93.77
Spain	38.07	-1.53	13	99.44	12	97.65
Spain	39.13	-2.35	6	99.98	6	99.98
Spain	38.77	-1.02	7	95.45	9	96.71
Spain	39.00	-2.84	16	98.40	20	99.99
Spain	39.05	-2.57	7	97.85	11	98.16
Spain	40.02	-2.88	18	86.58	20	95.45
Spain	40.26	-3.49	9	100.00	11	99.51
Spain	37.63	-2.04	9	99.95	10	99.43
Spain	40.11	-3.46	12	99.90	15	99.47
Spain	39.86	-2.54	12	63.25	18	85.60
Spain	37.89	-1.70	14	84.85	18	84.12
Tunisia	35.17	8.67	7	96.80	7	97.05
Tunisia	33.52	9.97	6	88.72	7	97.36
Tunisia	35.16	9.12	6	96.79	6	97.03
Tunisia	34.96	9.72	4	100.00	4	100.00
Tunisia	32.98	10.50	4	86.08	5	95.19
Tunisia	34.69	10.51	8	81.32	10	82.27
Tunisia	33.76	10.03	8	86.83	9	78.96
Tunisia	35.63	9.69	5	74.35	7	82.26
Tunisia	35.86	9.77	6	95.39	6	71.89
USA	37.85	-111.31	6	76.10	7	81.89
USA	37.51	-112.02	6	86.90	7	98.10
USA	33.75	-115.81	3	78.20	3	83.80
Venezuela	8.43	-65.40	5	89.87	8	99.36
Venezuela	8.43	-65.41	5	95.16	10	100.00
Venezuela	8.32	-65.19	3	86.38	7	100.00
Mean			9.4 ± (sd) 6.04	89.48 ± (sd) 11.29	11.45 ± (sd) 7.32	92.77 ± (sd) 9.89

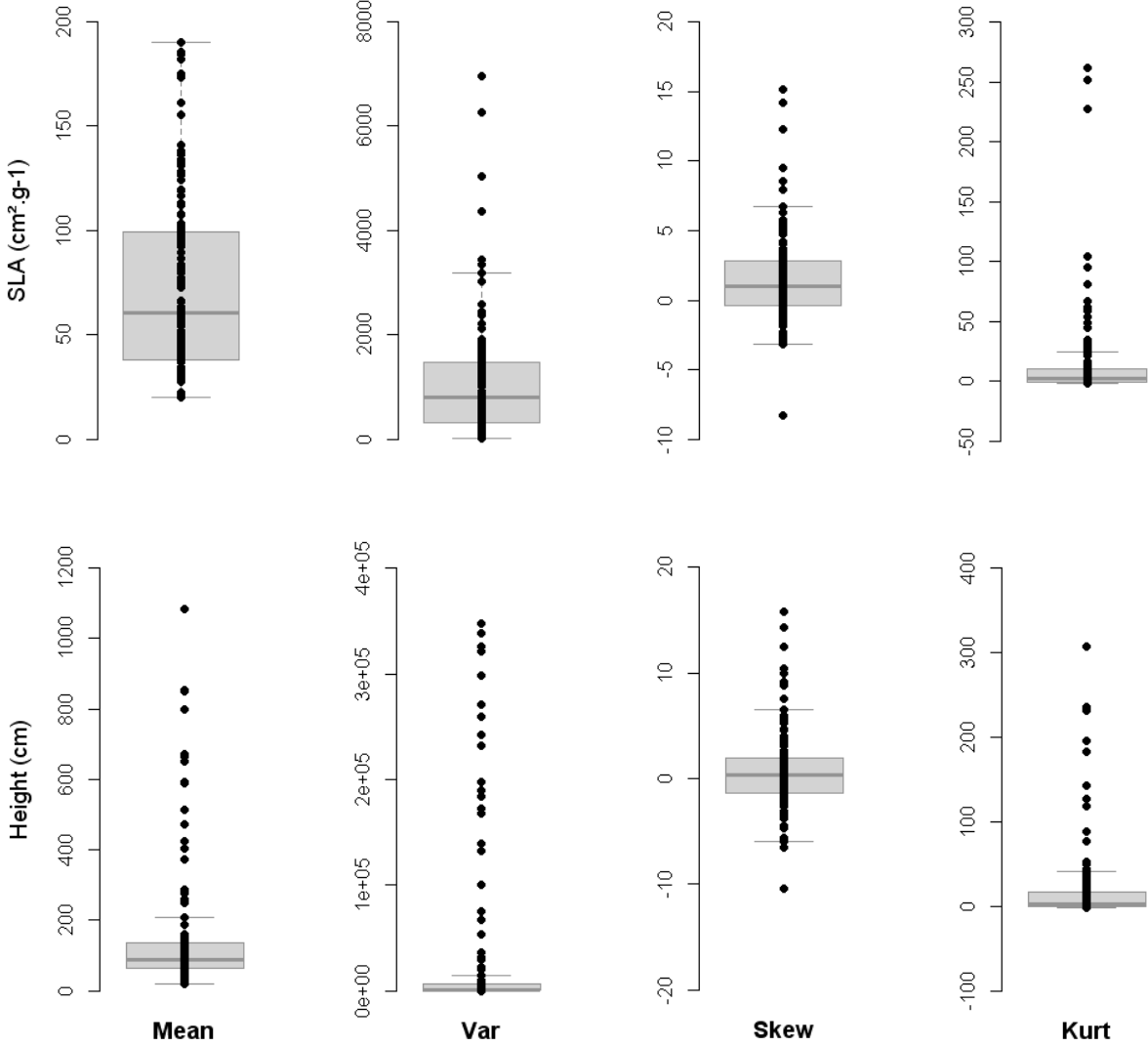
APPENDIX S4. Results of analyses using community abundances above 80% (n = 95 communities. a) Best-fitting regression models in absence of interactions among predictors. Models are presented for each moment and each trait separately. The best models are selected according to AICc values. Shaded cells indicate variables that were selected in a particular model. Latitude and longitude were introduced to avoid spatial auto-correlations. Slope directions are indicated when significant. b) Proportion of variance explained for each group of predictors (i.e. climate and topo-edaphic variables) and two-way interactions (a. and b). and for each group of predictors and their interactions separately (c and d). Grey portions represent the unexplained variances. The proportions were calculated using a variance decomposition analysis based on the best model selected for each trait and each moment. LL: latitude and longitude. MAT: mean annual temperature. MAP: mean annual precipitation. PS: precipitation seasonality, SL: slope angle, SC: sand content.

Trait	Moment	LL	MAT	MAP	PS	SL	SC	Adj. R ²	AICc
SLA	Mean		-	+	-			0.306	128.48
	Var		-	+	-			0.391	285.39
	Skew		+	-	+			0.192	-88.45
	Kurt		+		+		-	0.182	311.40
Height	Mean			+	-			0.811	104.03
	Var			+	-			0.655	359.43
	Skew			+				0.222	-224.84
	Kurt			+				0.325	303.13



APPENDIX S5. Boxplots representing the ranges of data for community-weighted mean, variance, skewness and kurtosis for both specific leaf area (SLA) and maximum plant height.

The grey boxes represent the envelope of the 50% central region



APPENDIX S6. Best models selected from the multiple regressions including geographical, climatic and edaphic variables as predictors (Table 1) and with interactions among predictors (Table 2). Models are presented for each moment separately for a) specific leaf area and b) height.

P values of each best multiple regression model are indicated as follows: ns = $P > 0.05$. * = $P < 0.05$. ** = $P < 0.01$. *** = $P < 0.001$).

a) Specific Leaf Area (SLA)

Mean

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	4.12110	0.04091	100.734	< 2e-16	***
Latitude	-0.19960	0.04637	-4.305	3.36e-05	***
Longitude	-0.29176	0.04420	-6.601	1.07e-09	***
mean_temp	-0.23849	0.04434	-5.378	3.60e-07	***
mean_precipitation	0.12558	0.04637	2.708	0.00772	**
sand	-0.11461	0.04542	-2.524	0.01288	*

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.4665 on 124 degrees of freedom
Multiple R-squared: 0.4197. Adjusted R-squared: 0.3963
F-statistic: 17.94 on 5 and 124 DF. p-value: 2.354e-13

Mean + interactions

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	4.10656	0.03550	115.665	< 2e-16	***
Latitude	-0.05148	0.05004	-1.029	0.30572	
Longitude	-0.51606	0.06409	-8.052	7.63e-13	***
mean_temp	0.22597	0.09042	2.499	0.01384	*
mean_precipitation	0.48790	0.08786	5.553	1.78e-07	***
prec_season	-0.28308	0.06637	-4.265	4.07e-05	***
slope	-0.04601	0.04333	-1.062	0.29052	
sand	0.00305	0.04905	0.062	0.95052	
mean_temp:prec_season	-0.30009	0.05387	-5.570	1.65e-07	***
mean_temp:slope	0.08965	0.07880	1.138	0.25753	
mean_precipitation:prec_season	-0.41290	0.09583	-4.309	3.44e-05	***
mean_precipitation:sand	-0.10807	0.03072	-3.518	0.00062	***
prec_season:slope	0.11759	0.06453	1.822	0.07098	.

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.3826 on 117 degrees of freedom
Multiple R-squared: 0.6317. Adjusted R-squared: 0.594
F-statistic: 16.72 on 12 and 117 DF. p-value: < 2.2e-16

Variance

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	6.4252	0.1006	63.879	< 2e-16	***
Latitude	-0.2657	0.1068	-2.488	0.01415	*
Longitude	-0.3195	0.1192	-2.681	0.00834	**
mean_temp	-0.5618	0.1101	-5.101	1.23e-06	***

```

mean_precipitation 0.3202 0.1111 2.883 0.00465 **
prec_season -0.5362 0.1131 -4.743 5.70e-06 ***

```

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.147 on 124 degrees of freedom
Multiple R-squared: 0.2765. Adjusted R-squared: 0.2473
F-statistic: 9.476 on 5 and 124 DF. p-value: 1.131e-07

Variance + interactions

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	6.40009	0.09812	65.226	< 2e-16	***
Latitude	-0.16409	0.10793	-1.520	0.131083	
Longitude	-0.92322	0.15883	-5.813	5.26e-08	***
mean_temp	0.45439	0.20821	2.182	0.031049	*
mean_precipitation	0.72447	0.20473	3.539	0.000575	***
prec_season	-0.98249	0.15751	-6.238	7.03e-09	***
slope	-0.12570	0.11105	-1.132	0.259963	
mean_temp:mean_precipitation	-0.18363	0.09010	-2.038	0.043760	*
mean_temp:prec_season	-0.77997	0.14247	-5.475	2.48e-07	***
mean_precipitation:prec_season	-0.34769	0.20356	-1.708	0.090235	.
mean_precipitation:slope	0.20269	0.12397	1.635	0.104700	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.015 on 119 degrees of freedom
Multiple R-squared: 0.4557. Adjusted R-squared: 0.41
F-statistic: 9.964 on 10 and 119 DF. p-value: 5.501e-12

Skewness

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	2.78190	0.01619	171.799	< 2e-16	***
Latitude	0.01688	0.01694	0.996	0.32096	
Longitude	0.05538	0.01732	3.197	0.00176	**
mean_temp	0.02871	0.01753	1.638	0.10390	
mean_precipitation	-0.05958	0.01788	-3.333	0.00113	**

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.1846 on 125 degrees of freedom
Multiple R-squared: 0.1914. Adjusted R-squared: 0.1655
F-statistic: 7.398 on 4 and 125 DF. p-value: 2.217e-05

Skewness+ interactions

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	2.800172	0.018195	153.894	< 2e-16	***
Latitude	-0.020416	0.022741	-0.898	0.37116	
Longitude	0.130593	0.029579	4.415	2.28e-05	***
mean_temp	-0.064449	0.035615	-1.810	0.07295	.
mean_precipitation	-0.135138	0.041304	-3.272	0.00141	**
prec_season	0.061300	0.028120	2.180	0.03128	*
slope	0.034268	0.020595	1.664	0.09884	.
sand	0.007016	0.022150	0.317	0.75199	
mean_temp:prec_season	0.079503	0.025505	3.117	0.00230	**
mean_precipitation:prec_season	0.104395	0.047522	2.197	0.03002	*
mean_precipitation:slope	-0.033637	0.022842	-1.473	0.14357	
prec_season:slope	-0.036113	0.032406	-1.114	0.26742	
prec_season:sand	0.048707	0.023901	2.038	0.04384	*
slope:sand	0.043777	0.025423	1.722	0.08774	.

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.1729 on 116 degrees of freedom
 Multiple R-squared: 0.342. Adjusted R-squared: 0.2683
 F-statistic: 4.639 on 13 and 116 DF. p-value: 2.21e-06

Kurtosis

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	1.8873	0.1111	16.991	<2e-16 ***
Latitude	-0.1645	0.1260	-1.305	0.1944
Longitude	0.2749	0.1271	2.163	0.0325 *
mean_temp	0.2854	0.1170	2.439	0.0161 *
prec_season	0.2260	0.1252	1.805	0.0736 .
sand	-0.2585	0.1205	-2.145	0.0339 *

 Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.266 on 124 degrees of freedom
 Multiple R-squared: 0.1281. Adjusted R-squared: 0.09293
 F-statistic: 3.643 on 5 and 124 DF. p-value: 0.004137

Kurtosis + interactions

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	1.936173	0.107946	17.937	< 2e-16 ***
Latitude	-0.231775	0.137831	-1.682	0.095228 .
Longitude	0.521882	0.140738	3.708	0.000316 ***
mean_temp	0.622793	0.155102	4.015	0.000103 ***
prec_season	0.074760	0.127431	0.587	0.558520
slope	-0.003104	0.133272	-0.023	0.981459
sand	-0.231873	0.128036	-1.811	0.072622 .
mean_temp:slope	0.605646	0.223593	2.709	0.007734 **
prec_season:slope	-0.623508	0.187514	-3.325	0.001170 **

 Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.215 on 121 degrees of freedom
 Multiple R-squared: 0.2167. Adjusted R-squared: 0.1649
 F-statistic: 4.185 on 8 and 121 DF. p-value: 0.0001894

B) Height

Mean

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	4.63717	0.03943	117.606	< 2e-16 ***
Latitude	-0.51669	0.04585	-11.268	< 2e-16 ***
Longitude	0.23301	0.04595	5.071	1.41e-06 ***
mean_temp	0.09862	0.04129	2.388	0.0184 *
prec_season	-0.35912	0.04437	-8.094	4.54e-13 ***
slope	0.10326	0.04533	2.278	0.0244 *

 Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.4496 on 124 degrees of freedom
 Multiple R-squared: 0.7297. Adjusted R-squared: 0.7188
 F-statistic: 66.94 on 5 and 124 DF. p-value: < 2.2e-16

Mean + interactions

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)
(Intercept)	4.52395	0.03533	128.042	< 2e-16 ***
Latitude	-0.46556	0.04678	-9.953	< 2e-16 ***
Longitude	0.12123	0.06113	1.983	0.049744 *

mean_temp	0.11990	0.08069	1.486	0.140049	
mean_precipitation	-0.05866	0.05720	-1.026	0.307249	
prec_season	-0.40401	0.04603	-8.778	1.92e-14	***
slope	0.13235	0.04079	3.245	0.001541	**
sand	-0.04307	0.04579	-0.941	0.348932	
mean_temp:mean_precipitation	0.10172	0.03920	2.595	0.010701	*
mean_temp:prec_season	-0.12637	0.05207	-2.427	0.016792	*
mean_temp:slope	-0.14775	0.07355	-2.009	0.046907	*
mean_temp:sand	0.13374	0.04297	3.112	0.002348	**
mean_precipitation:slope	0.10158	0.06357	1.598	0.112810	
mean_precipitation:sand	-0.18136	0.05183	-3.499	0.000666	***
prec_season:slope	0.17422	0.06172	2.823	0.005619	**
prec_season:sand	0.06777	0.04678	1.449	0.150197	

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.3539 on 114 degrees of freedom
Multiple R-squared: 0.846. Adjusted R-squared: 0.8258
F-statistic: 41.76 on 15 and 114 DF. p-value: < 2.2e-16

Variance

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	7.5762	0.1361	55.652	< 2e-16	***
Latitude	-1.0569	0.1444	-7.320	2.65e-11	***
Longitude	0.6818	0.1557	4.380	2.48e-05	***
mean_temp	0.2267	0.1426	1.590	0.114	
prec_season	-1.0158	0.1530	-6.641	8.56e-10	***

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.552 on 125 degrees of freedom
Multiple R-squared: 0.5994. Adjusted R-squared: 0.5866
F-statistic: 46.76 on 4 and 125 DF. p-value: < 2.2e-16

Variance + interactions

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	7.43040	0.14409	51.569	< 2e-16	***
Latitude	-0.83856	0.18904	-4.436	2.09e-05	***
Longitude	0.50633	0.17755	2.852	0.00514	**
mean_temp	-0.01185	0.19932	-0.059	0.95268	
mean_precipitation	0.75901	0.35186	2.157	0.03304	*
prec_season	-1.30106	0.21038	-6.184	9.43e-09	***
slope	0.10508	0.16356	0.642	0.52185	
sand	0.18770	0.19131	0.981	0.32854	
mean_temp:mean_precipitation	0.29248	0.14754	1.982	0.04978	*
mean_temp:slope	-0.61931	0.29276	-2.115	0.03651	*
mean_precipitation:prec_season	-0.94856	0.34511	-2.749	0.00694	**
mean_precipitation:sand	-0.31961	0.12407	-2.576	0.01124	*
prec_season:slope	0.72310	0.24419	2.961	0.00371	**

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.448 on 117 degrees of freedom
Multiple R-squared: 0.6736. Adjusted R-squared: 0.6401
F-statistic: 20.12 on 12 and 117 DF. p-value: < 2.2e-16

Skewness

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	3.8123088	0.0068842	553.777	< 2e-16	***
Latitude	0.0060895	0.0076358	0.797	0.4267	
Longitude	0.0004769	0.0074329	0.064	0.9489	
mean_precipitation	0.0317211	0.0074923	4.234	4.41e-05	***

```
sand          0.0131745  0.0076314  1.726  0.0868 .
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
Residual standard error: 0.07849 on 125 degrees of freedom
Multiple R-squared: 0.1403.    Adjusted R-squared: 0.1128
F-statistic: 5.102 on 4 and 125 DF.  p-value: 0.000768
```

Skewness + interactions

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	3.803854	0.007449	510.658	< 2e-16	***
Latitude	0.022997	0.009935	2.315	0.022421	*
Longitude	0.024273	0.012168	1.995	0.048455	*
mean_temp	-0.052191	0.017888	-2.918	0.004249	**
mean_precipitation	0.049405	0.018612	2.654	0.009079	**
prec_season	0.012271	0.012507	0.981	0.328598	
slope	-0.020265	0.008376	-2.420	0.017120	*
sand	0.009703	0.009521	1.019	0.310309	
mean_temp:mean_precipitation	0.021378	0.007940	2.692	0.008163	**
mean_temp:prec_season	0.040736	0.010857	3.752	0.000278	***
mean_temp:slope	-0.027401	0.014976	-1.830	0.069924	.
mean_precipitation:prec_season	-0.033039	0.019377	-1.705	0.090906	.
mean_precipitation:slope	-0.034237	0.013392	-2.557	0.011884	*
mean_precipitation:sand	-0.026067	0.009597	-2.716	0.007634	**
prec_season:slope	0.024962	0.012810	1.949	0.053806	.
slope:sand	-0.016495	0.010879	-1.516	0.132241	

```
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
Residual standard error: 0.06998 on 114 degrees of freedom
Multiple R-squared: 0.3768.    Adjusted R-squared: 0.2948
```

Kurtosis

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	2.0452	0.1022	20.012	< 2e-16	***
Latitude	0.3887	0.1069	3.635	0.000405	***
Longitude	-0.2122	0.1093	-1.942	0.054432	.
mean_temp	0.2376	0.1106	2.148	0.033655	*
mean_precipitation	0.4508	0.1128	3.996	0.000109	***

```
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
```

```
Residual standard error: 1.165 on 125 degrees of freedom
Multiple R-squared: 0.3004.    Adjusted R-squared: 0.278
F-statistic: 13.42 on 4 and 125 DF.  p-value: 3.962e-09
```

Kurtosis + interactions

Coefficients:

	Estimate	Std. Error	t value	Pr(> t)	
(Intercept)	2.00532	0.10966	18.286	< 2e-16	***
Latitude	0.37655	0.13528	2.783	0.00627	**
Longitude	0.19334	0.18138	1.066	0.28865	
mean_temp	-0.42288	0.23284	-1.816	0.07190	.
mean_precipitation	0.26573	0.17372	1.530	0.12879	
prec_season	0.25221	0.13617	1.852	0.06652	.
slope	-0.01365	0.12354	-0.110	0.91220	
sand	-0.06738	0.13876	-0.486	0.62816	
mean_temp:mean_precipitation	0.31956	0.12267	2.605	0.01038	*
mean_temp:prec_season	0.45421	0.15848	2.866	0.00493	**
mean_temp:sand	0.21389	0.12607	1.697	0.09245	.
mean_precipitation:slope	-0.49243	0.20046	-2.456	0.01550	*
mean_precipitation:sand	-0.41305	0.16228	-2.545	0.01222	*

```
---
```

Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 1.118 on 117 degrees of freedom
Multiple R-squared: 0.3968. Adjusted R-squared: 0.3349
F-statistic: 6.413 on 12 and 117 DF. p-value: 1.184e-08