Factors affecting plant species richness and endemism in the South Aegean (Greece)

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Supplementary material

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TABLE S1. Floristic data on islands, parameters measured, endemic species and number of habitats. IG: island groups (Ky: Kythira, Cr: Crete, Ks: Kasos, Kp: Karpathos, Rd: Rodos); Size: order of islands according to their size (from 1 = the smallest to 60 = the largest); Lat (N): latitude; Long (E): longitude of islands; Island: island names (there are two islets with the name "Prasonisi" in the Karpathos island group, (1) and (2) and Kth13 is an anonymous Karpathos islet); A: area; S: vascular plant species richness of each island excluding all doubtfully present species; Alt: maximum altitude; DI: shortest distance from nearest larger island; DC: shortest distance from nearest mainland; SI: single island endemics; SA: South Aegean endemics; AE: Aegean endemics, H: habitat numbers calculated according to the South Aegean Indicator Values (SAIV) of light, temperature, moisture and soil salinity (see text for details)

										Endemic species			SAIVs		
IG	**Size**	**Lat (N)**	**Long (E)**	**Island**	**A (km^2)**	**S**	**Alt (m)**	**DI (km)**	**DC (km)**	**SI**	**SA**	**AE**	**TE**	**H**	**Floristic data source**
Ky															
	38	36°14′08″	23°06′49″	Antidragonera	0.1903	88	40	0.54	21.13				5	8	Tzanoudakis *et al.*, 1998; Panitsa *et al.*, 2004
	52	35°51′50″	23°17′57″	Antikythira	19.6785	336	378	31.1	58.7	1	4	1	13	17	Greuter & Rechinger, 1967; Tzanoudakis *et al.*, 1998, 2006
	41	36°05′42″	22°59′51″	Avgo (Chytra)	0.3121	14	208	3.72	41.8			1	2	4	Tzanoudakis *et al.*, 1998; Panitsa *et al.*, 2004
	8	36°07′12″	23°05′40″	Kapelo	0.0029	1	10	4.35	34.24					5	Tzanoudakis *et al.*, 1998; Panitsa *et al.*, 2004
	57	36°14′58″	22°59′52″	Kythira	277.228	741	507	74.67	8.53	3	5	2	38	23	Greuter & Rechinger, 1967; Yannitsaros, 1969, 1998, 2004; Iatrou, 1994
	30	36°11′35″	22°54′05″	Lidia	0.0425	15	27	1.24	33.25					6	Tzanoudakis *et al.*, 1998; Panitsa *et al.*, 2004
	44	36°13′20″	23°06′45″	Megali Dragonera	0.3833	109	36	0.83	22.22				8	7	Tzanoudakis *et al.*, 1998; Panitsa *et al.*, 2004
	20	36°10′28″	22°54′48″	Megalo Stroggylo	0.0189	11	29	1.3	31.21					4	Tzanoudakis *et al.*, 1998; Panitsa *et al.*, 2004
	24	36°15′52″	23°05′40″	Prasonisi of Kythira	0.0291	15	13	0.93	18.45					6	Tzanoudakis *et al.*, 1998; Panitsa *et al.*, 2004
	18	34°53′35″	23°18′10″	Thymonies (large islet)	0.014	8	18	0.34	60.78					4	Tzanoudakis *et al.*, 1998, 2006
	43	35°58'28"	23°14'43"	Prassou (Porion)	0.3506	98	120	7.64	50.71			2	4	8	Tzanoudakis *et al.*, 1998, 2006

TABLE S1. (cont.)

IG	Size	Lat (N)	Long (E)	Island	A (km^2)	S	Alt (m)	DI (km)	DC (km)	Endemic species SI	SAIVs SA	AE	TE	H	Floristic data source
Cr															
	46	35°36′40″	23°34′46″	Agria Gramvousa	0.7987	94	101	0.674	92.1		2	3	8	9	Christodoulakis *et al.*, 1991
	51	34°52′20″	25°42′18″	Chrysi	4.728	275	27	13.8	252			3	9	12	Brullo & Guarino, 2000; Bergmeier *et al.*, 2001
	60	35°12′51″	25°08′16″	Crete	8264.62	1795	2456	29.85	97.29	119	16	44	258	38	Jahn & Schönfelder, 1995
	49	35°20′47″	26°10′43″	Dragonada (Dionysades)	2.8667	230	125	9.5	182.4		2	7	18	9	Christodoulakis *et al.*, 1990; Bergmeier & Dimopoulos, 2001
	55	34°50′38″	24°05′25″	Gavdos	32.7192	471	360	37.1	191.4	1	1	4	14	21	Bergmeier *et al.*, 1997
	47	35°19′42″	26°10′25″	Gianisada (Dionysades)	2.1079	212	150	6.9	183.3		3	6	17	9	Christodoulakis *et al.*, 1990; Bergmeier & Dimopoulos, 2001
	45	35°38′30″	23°35′14″	Imeri Gramvousa	0.7209	112	116	1.1	96.3		1	2	6	8	Christodoulakis, *et al.*, 1991
	50	34°56′23″	26°08′22″	Koufonisi	4.1781	272	64	5.4	248.5		1	6	14	8	Bergmeier *et al.*, 2001
	32	34°57′17″	26°07′48″	Makrouli	0.0665	114	7	4.7	309.9		1	2	4	9	Bergmeier *et al.*, 2001
	35	34°52′34″	25°44′39″	Mikronisi	0.1243	70	16	13.7	248.7			1	3	6	Bergmeier *et al.*, 2001
	42	35°22′35″	26°10′28″	Paximada (Dionysades)	0.3141	68	136	12	179.3			5	9	8	Christodoulakis *et al.*, 1990; Bergmeier & Dimopoulos, 2001
	37	34°57′34″	26°08′05″	Stroggyli	0.1518	108	19	3.9	309.6		1		2	9	Bergmeier *et al.*, 2001
	36	34°55′15″	26°07′52″	Trachilos	0.1369	96	43	8.3	225.6			2	3	8	Bergmeier *et al.*, 2001
Ks															
	23	35°21′33″	26°50′19″	Ano Kouriko	0.0275	24	28	0.278	153.5					5	Raus, 1989
	48	35°26′15″	26°51′47″	Armathia	2.5765	175	111	2.7	148.3		3	2	9	10	Raus, 1989
	2	35°23′06″	26°57′23″	Fyra	0.00094	13	<20	0.28	146			2	3	3	Raus, 1989

TABLE S1. (cont.)

IG	Size	Lat (N)	Long (E)	Island	A (km^2)	S	Alt (m)	DI (km)	DC (km)	Endemic species SI	Endemic species SA	Endemic species AE	Endemic species TE	SAIVs H	Floristic data source
	25	35°27′31″	26°54′41″	Karofyllas	0.0315	20	18	3.9	142.3				2	5	Raus, 1989
	56	35°23′25″	26°55′02″	Kasos	66.7063	553	601	6.1	144.2		4	8	29	20	Greuter *et al.*, 1983; Jahn & Schönfelder, 1995; Raus, 1996
	29	35°21′20″	26°50′35″	Kato Kouriko	0.0413	17	38	0.199	155.3			1	1	3	Raus, 1989
	31	35°25′50″	26°49′27″	Lytra	0.0485	20	34	0.576	147.1			1	1	5	Raus, 1989
	40	35°27′12″	26°53′50″	Makro	0.3086	65	29	2	141.4			1	5	8	Raus, 1989
	33	35°25′53″	26°50′16″	Megalo Pontikonisi	0.777	27	25	0.758	146.8			1	2	6	Raus, 1989
	28	35°25′57″	26°50′31″	Mikro Pontikonisi	0.0402	22	22	0.347	145.6			1	2	7	Raus, 1989
	39	35°21′42″	26°49′37″	Plati	0.2109	26	31	1.2	153.7			1	1	6	Raus, 1989
	21	35°26′46″	26°53′07″	Porioni	0.0227	15	13	1.2	143					3	Raus, 1989
	12	35°26′14″	27°00′40″	Sella	0.0061	1	< 20	0.41	140.31					1	Raus, 1989
	16	35°20′42″	26°51′38″	South Chochlakias	0.0122	30	< 20	0.216	155.2			2	2	6	Raus, 1989
	22	35°26′20″	27°00′51″	Stroggylo	0.0255	14	38	0.498	140			1	3	6	Raus, 1989
	7	35°21′10″	26°53′56″	Trachilas of Kasos	0.0027	20	< 20	0.105	153.6			1	2	3	Raus, 1989
	1	35°23′35″	26°57′44″	Tris P&res	0.00044	4	< 20	0.02	156.5					2	Raus, 1989
Kp															
	3	35°30′45″	27°12′28″	Affati	0.001	5	4	0.26	128.77			1	2	3	Höner & Greuter, 1988; Höner, 1990
	17	35°49′28″	27°14′06″	Ammoui	0.0136	114	43	0.12	104.36		1	1	10	8	Höner & Greuter, 1988; Höner, 1990
	4	35°28′08″	27°05′53″	Chalkias	0.0015	1	16	0.39	135.67					1	Höner, 1990
	10	35°30′49″	27°12′44″	Despotiko	0.0042	27	9	0.32	128.04			2	2	6	Höner & Greuter, 1988; Höner, 1990
	27	35°27′14″	27°05′08″	Diakoftis	0.0385	54	33	0.09	136.12		1		2	8	Höner & Greuter, 1988; Höner, 1990

TABLE S1. (cont.)

IG	Size	Lat (N)	Long (E)	Island	A (km^2)	S	Alt (m)	DI (km)	DC (km)	Endemic species SI	Endemic species SA	SAIVs AE	SAIVs TE	SAIVs H	Floristic data source
	5	35°30′44″	27°13′10″	Gaidouronisi	0.0020	46	12	0.01	127.98			1	3	8	Höner & Greuter, 1988; Höner, 1990
	58	35°33′41″	27°09′03″	Karpathos	300.9094	1009	1215	49.04	94.87	5	12	20	75	28	Greuter *et al.*, 1983; Gehu *et al.*, 1989; Turland & Chilton, 1994; Jahn & Schönfelder, 1995; Raus, 1996; Chilton, 2003
	15	35°38′27″	27°06′33″	Kth 13	0.0109	9	7	0.14	116.16		1		1	5	Höner, 1990
	26	35°27′19″	27°10′45″	Mira	0.0357	124	38	0.71	135.33		2	4	11	9	Höner & Greuter, 1988; Höner, 1990
	9	35°25′21″	27°06′18″	Nissaros	0.003	3	16	0.58	139.99					3	Höner, 1990
	19	35°49′21″	27°12′23″	North Stomata	0.0171	69	19	0.04	95.78			1	8	8	Höner & Greuter, 1988; Höner, 1990
	11	35°26′36″	27°09′44″	Prasonisi (1)	0.0076	55	18	0.21	136.74		1	1	3	8	Höner & Greuter, 1988; Höner, 1990
	13	35°50′07″	27°12′24″	Prasonisi (2)	0.0046	8	20-30	0.34	93.81				1	6	Höner, 1990
	6	35°32′60″	27°06′30″	Proni	0.0025	53	8	0.08	126.46		1		4	7	Höner & Greuter, 1988; Höner, 1990
	53	35°51′41″	27°13′07″	Saria	20.5207	381	630	0.264	87.1		3	5	26	14	Greuter *et al.,* 1983; Jahn & Schönfelder, 1995; Raus, 1996
	34	35°35′48″	27°03′26″	Sokastro	0.1241	131	67	0.08	123.6		2	5	10	8	Höner & Greuter, 1988; Höner, 1990
	14	35°49′17″	27°12′17″	South Stomata	0.0078	32	6	0.06	94.95			2	7	7	Höner & Greuter, 1988; Höner, 1990
Rd															
	54	36°13′42″	27°34′17″	Chalki	27.2019	367	601	8.88	48.52		1	5	20	14	Carlström, 1987
	59	36°10′15″	27°54′59″	Rodos	1407.6827	1105	1240	43.36	19.29	4	3	6	33	32	Carlström, 1987; Gehu *et al.*, 1989; Chilton, 2002

TABLE S2. Families exhibiting significant species-area relationships (SARs). All 46 c-values of the families SARs are significantly different from the intercept of the total SAR. Total S: the total species number of each family in the South Aegean; number of islands: the total number of South Aegean islands where each family occurs. Families marked with an asterisk (*) exhibit slopes not statistically different from the slope of the total vascular species-area relationship. The five families with no significant SARs are: Amaranthaceae, Asclepiadaceae, Caprifoliaceae, Potamogetonaceae and Thymelaeaceae

Family	**z**	**c**	**R^2**	***p***	**Total S**	**Number of islands**
Aizoaceae	0.08	1.29	0.59	< 0.01	5	37
Araceae	0.10	1.48	0.40	< 0.01	11	30
Adiantaceae	0.12	1.48	0.43	< 0.01	6	21
Amaryllidaceae	0.13	1.38	0.67	< 0.01	6	21
Gentianaceae	0.13	1.66	0.63	< 0.01	6	30
Plumbaginaceae	0.13	2.34	0.47	< 0.01	21	48
Orobanchaceae	0.14	1.74	0.66	< 0.01	13	31
Urticaceae	0.14	1.58	0.70	< 0.01	6	43
Primulaceae	0.15	1.70	0.61	< 0.01	10	26
Chenopodiaceae	0.16	3.72	0.58	< 0.01	25	56
Plantaginaceae	0.16	2.88	0.59	< 0.01	12	30
Solanaceae	0.16	1.78	0.68	< 0.01	14	28
Malvaceae	0.17	1.95	0.70	< 0.01	15	34
Geraniaceae	0.18	3.39	0.66	< 0.01	16	27
Linaceae	0.18	1.45	0.69	< 0.01	11	24
Convolvulaceae	0.19	2.09	0.70	< 0.01	19	32
Crassulaceae	0.20	2.57	0.80	< 0.01	19	43
Dipsacaceae*	0.21	1.12	0.70	< 0.01	9	10
Campanulaceae	0.21	1.51	0.70	< 0.01	19	20
Iridaceae	0.21	1.86	0.78	< 0.01	19	20
Rubiaceae	0.21	4.07	0.74	< 0.01	40	36
Cistaceae	0.23	2.45	0.91	< 0.01	18	17
Hypericaceae*	0.23	0.81	0.73	< 0.01	11	11
Liliaceae	0.23	6.31	0.62	< 0.01	73	54
Rosaceae	0.23	1.45	0.75	< 0.01	27	21
Euphorbiaceae	0.24	3.02	0.85	< 0.01	28	34
Juncaceae*	0.24	0.95	0.76	< 0.01	15	10
Polygonaceae	0.25	1.23	0.72	< 0.01	17	18
Papaveraceae	0.26	2.00	0.81	< 0.01	20	24
Scrophulariaceae	0.26	2.75	0.84	< 0.01	43	23
Verbenaceae*	0.27	0.48	0.89	< 0.05	5	5
Asteraceae	0.28	18.20	0.61	< 0.01	205	51
Boraginaceae	0.28	2.82	0.84	< 0.01	36	31
Brassicaceae	0.28	4.68	0.80	< 0.01	84	43
Lamiaceae	0.28	5.62	0.91	< 0.01	75	32
Apiaceae	0.29	5.25	0.80	< 0.01	67	41
Valerianaceae*	0.29	1.26	0.79	< 0.01	16	14
Caryophyllaceae	0.30	5.25	0.73	< 0.01	88	48
Poaceae*	0.30	12.30	0.60	< 0.01	167	52
Fagaceae*	0.31	0.46	0.82	ns	6	5
Saxifragaceae*	0.31	0.46	0.82	ns	6	5
Ranunculaceae*	0.32	2.04	0.72	< 0.01	39	18
Orchidaceae*	0.35	2.14	0.74	< 0.01	67	16
Fabaceae*	0.36	11.48	0.74	< 0.01	178	54
Aspleniaceae*	0.37	0.33	0.84	< 0.01	10	8
Cyperaceae*	0.55	0.34	0.92	< 0.01	37	9