Supplementary Materials

Effect of Seed Traits and Waterbird Species on the Dispersal Effectiveness of Wetland Plants

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Table S1. Summary of generalized linear mixed models (GLMMs) selection for investigating the effects of dispersal Scheme 10. and the Null model with only the constant and random fators. K is the number of estimated parameters, Wt the weight per model and LogLik is the -2log-likelihood output for each model. Each model has fixed and random effects.

LMM1a: Average retention time (T_{ave}); Random effects = (1|ID) + (1|SS)

Fixed Effects	K	AIC$_c$	ΔAIC$_c$	Wt	LogLik
BS + SL + SLI + BS*SLI	8	-8.74	0.00	0.22	14.22
SL + SLI	6	-8.60	0.14	0.20	11.32
BS + SL + SLI	7	-8.34	0.40	0.18	12.57
BS + SL + SLI + BS*SL +BS*SLI	9	-7.04	1.70	0.09	14.89
SL + SLI + SL*SLI	7	-6.13	2.61	0.06	11.47
BS + SL + SLI + BS*SLI +SL*SLI	9	-5.98	2.75	0.06	14.36
BS + SL + SLI + BS*SL	8	-5.79	2.95	0.05	12.74
BS + SL + SLI +SL*SLI	8	-5.74	3.00	0.05	12.71
BS + SL + SLI + BS*SL + BS*SLI + SL*SLI	10	-4.12	4.62	0.02	15.03
BS + SL + SLI + BS*SL + SL*SLI	9	-3.03	5.71	0.01	12.88
SL	5	-2.99	5.75	0.01	7.21
BS + SL	6	-2.71	6.03	0.01	8.38
Null	4	-1.78	6.96	0.00	5.35

BS: dispersal species, SL: seed length, SLI: seed lignin, * refers to interaction of fixed factors
ID: dispersal individual, SS: seed species

LMM1b: Maximum retention time (T_{max}); Random effects = (1|ID) + (1|SS)

Fixed Effects	K	AIC$_c$	ΔAIC$_c$	Wt	LogLik
BS + SLI + BS*SL I	7	55.99	0.00	0.19	-19.60
BS + SLI	6	56.48	0.49	0.15	-21.22
BS + SL + SLI + BS*SLI	8	56.95	0.96	0.12	-18.63
BS + SL + SLI	7	57.31	1.32	0.10	-20.25
BS + SL + SLI + BS*SLI + SL*SLI	9	58.01	2.02	0.07	-17.63
SLI	5	58.20	2.21	0.06	-23.39
BS + SL + SLI + SL*SLI	8	58.21	2.21	0.06	-19.26
BS + SL + SLI + BS*SL	8	58.46	2.47	0.06	-19.39
SL + SLI	6	58.96	2.97	0.04	-22.46
BS + SL + SLI + BS*SL + BS*SLI	9	59.19	3.20	0.04	-18.23
BS + SL + SLI + BS*SL + SL*SLI	9	59.52	3.53	0.03	-18.39

Fixed Effects	K	AIC$_c$	ΔAIC$_c$	Wt	LogLik
SL + SLI + SL*SLI	7	59.80	3.81	0.03	-21.50
BS + SL + SLI + BS*SL + BS*SLI + SL*SLI	10	60.40	4.41	0.02	17.23
BS	5	63.53	7.54	0.00	-26.05
Null	4	65.15	9.16	0.00	-28.11

BS: dispersal species, SL: seed length, SLI: seed lignin, * refers to interaction of fixed factors
ID: dispersal individual, SS: seed species

GLMM2: Retrieval; Random effects = (1|ID) + (1|SS)

Fixed Effects	K	AIC$_c$	ΔAIC$_c$	Wt	LogLik
BS + SLI + BS*SLI	6	279.14	0.00	0.21	-132.54
BS + SLI	5	279.25	0.12	0.19	-133.91
BS + SL + SLI + BS*SL	7	280.07	0.94	0.13	-131.64
BS + SL + SLI	6	280.97	1.83	0.08	-133.46
BS + SL + SLI + BS*SLI	7	280.98	1.85	0.08	-132.09
BS+ SL + SLI + BS*SL + SL*SLI	8	281.00	1.86	0.08	-130.65
BS + SL + BS*SL + BS*SLI	8	281.59	2.46	0.06	-130.95
BS + SL + SLI + SL*SLI	7	281.79	2.66	0.05	-132.50
BS + SL + SLI + BS*SLI + SL*SLI	8	282.00	2.87	0.05	-131.16
BS + SL + SLI + BS*SL + BS*SLI + SL*SLI	9	282.77	3.63	0.03	-130.06
BS	4	285.29	6.16	0.01	-138.18
BS + SL + BS*SL	6	285.46	6.34	0.01	-135.71
BS + SL	5	286.42	7.28	0.01	-137.50
Null	3	298.40	19.26	0.00	-145.93

BS: dispersal species, SL: seed length, SLI: seed lignin, * refers to interaction of fixed factors
ID: dispersal individual, SS: seed species

GLMM3: Germinated; Random effects = (1|ID) + (1|SS)

Fixed Effects	K	AIC$_c$	ΔAIC$_c$	Wt	LogLik
SLI	4	159.41	0.00	0.37	-75.24
BS + SLI	5	161.20	1.79	0.15	-74.88
SL + SLI	5	161.34	1.93	0.14	-74.95
BS + SL + SLI	6	163.19	3.78	0.06	-74.57
BS + SLI + BS*SLI	6	163.26	3.86	0.05	-74.61
Null	3	163.46	4.06	0.05	-78.46

BS: dispersal species, SL: seed length, SLI: seed lignin, * refers to interaction of fixed factors
ID: dispersal individual, SS: seed species

GLMM4a: Recovered within time interval (RT|Retrieval); Random effects = (RT|ID)

Fixed Effects	K	AIC$_c$	ΔAIC$_c$	Wt	LogLik
BS + RT + RT²	7	225.71	0.00	0.33	-103.85
BS + RT²	6	225.91	0.21	0.30	-105.51
BS + RT + RT² + BS*RT	8	227.14	1.44	0.16	-102.91
BS + RT + RT² + BS*RT²	8	228.30	2.59	0.09	-103.48
BS + RT² + BS*RT²	7	228.59	2.88	0.08	-105.30
BS + RT + RT² + BS*RT + BS*RT²	9	229.46	3.76	0.05	-102.27
Null	4	271.73	46.02	0.00	-131.22

BS: dispersal species, RT: retention time, RT²: retention time squared, * refers to interaction of fixed factors
RT|ID: dispersal individual within time interval

GLMM4b: Germinated within time interval (RT|Germination); Random effects = (RT|ID)

Fixed Effects	K	AIC$_c$	ΔAIC$_c$	Wt	LogLik
BS + RT²	6	167.76	0.00	0.50	-76.43
BS + RT² + BS*RT²	7	169.84	2.09	0.17	-75.92
BS + RT + RT²	7	170.49	2.73	0.13	-76.25
BS + RT + RT² + BS*RT	8	172.23	4.47	0.05	-75.45
BS + RT + RT² + BS*RT²	8	172.75	4.99	0.04	-75.71
BS + RT	6	172.84	5.08	0.04	-78.97
RT²	5	173.38	5.62	0.03	-80.69
BS + RT + BS*RT	7	174.62	6.87	0.02	-78.31
BS + RT + RT² + BS*RT + BS*RT²	9	175.18	7.42	0.01	-75.13
RT + RT²	6	175.93	8.17	0.01	-80.51
Null	4	190.96	23.21	0.00	-90.84

BS: dispersal species, RT: retention time, RT²: retention time squared, * refers to interaction of fixed factors
RT|ID: dispersal individual within time interval

GLMM5: Treatment (TT); Random effects = (1|ID)

Fixed Effects	K	AIC$_c$	ΔAIC$_c$	Wt	LogLik
TT + SS	10	292.10	0.00	0.66	-134.62
TT	3	294.07	1.96	0.25	-143.89
Null	2	296.73	4.63	0.07	-146.29

SS: seed species, TT: treatment, * refers to interaction of fixed factors
ID: dispersal individual