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Table S13 Model-averaged results from the 95% confidence set of negative binomial GLMMs explaining host density in terms of possible overall effects of habitat isolation (without controlling for the effects of any other species in the community) at different spatial scales, site elevation and plant height.

Predictor variable	Parameter estimate	Standard error	Lower 95% C.I.	Upper 95% C.I.
Isolation 100 m	-0.55	0.11	-0.77	-0.32
Isolation 5000 m	-0.45	0.10	-0.65	-0.26
Elevation	-0.40	0.10	-0.61	-0.20
Plant height	-0.05	0.10	-0.26	0.15

Model-averaged parameter estimates were calculated using the natural-average method, with unconditional standard errors and 95% confidence intervals (C.I.), based on the 95% confidence set of models selected from the full model set (Table S1).

Table S14 Model-averaged results from the 95% confidence set of negative binomial GLMMs explaining host density in terms of possible effects of habitat isolation at different spatial scales, percentage host mortality from the virus AbgrNPV, site elevation and plant height.

Predictor variable	Parameter estimate	Standard error	Lower 95% C.I.	Upper 95% C.I.
Isolation 100 m	-0.49	0.12	-0.72	-0.26
Isolation 2500 m	-0.4	0.12	-0.63	-0.16
Isolation 5000 m	-0.4	0.1	-0.6	-0.20
AbgrNPV mortality*	0.20	0.09	0.01	0.38
Elevation	-0.36	0.10	-0.57	-0.16
Plant height	-0.01	0.11	-0.22	0.2

* = Site-level percentage mortality from the virus AbgrNPV. Model-averaged parameter estimates were calculated using the natural-average method, with unconditional standard errors and 95% confidence intervals (C.I.), based on the 95% confidence set of models selected from the full model set (Table S2).

Table S15 Model-averaged results from the 95% confidence set of negative binomial GLMMs explaining host density in terms of possible effects of habitat isolation at different spatial scales, percentage parasitism, site elevation and plant height.

Predictor variable	Parameter estimate	Standard error	Lower 95% C.I.	Upper 95% C.I.
Isolation 100 m	-0.58	0.12	-0.82	-0.34
Isolation 5000 m	-0.46	0.10	-0.65	-0.27
Parasitism*	0.01	0.13	-0.25	0.28
Elevation	-0.42	0.12	-0.65	-0.18
Plant height	-0.05	0.12	-0.28	0.18

* = Site-level percentage mortality from the parasitoid. Model-averaged parameter estimates were calculated using the natural-average method, with unconditional standard errors and 95% confidence intervals (C.I.), based on the 95% confidence set of models selected from the full model set (Table S3).

Table S16 Results from the single negative binomial GLMM retained in the 95% confidence set of models (Table S4) explaining host density in terms of possible effects of habitat isolation at different spatial scales, percentage host-mortality from the virus AbgrNPV, percentage parasitism, site elevation and plant height.

Predictor variable	Parameter estimate	Standard error	Lower 95% C.I.	Upper 95% C.I.
Isolation 100 m	-0.56	0.07	-0.79	-0.33
AbgrNPV mortality*	0.36	0.11	0.14	0.58
Parasitism†	0.3	0.12	0.07	0.52
Elevation	-0.49	0.11	-0.71	-0.27
Plant height	-0.08	0.1	-0.27	0.11

* = Site-level percentage mortality from the virus AbgrNPV. † = Site-level percentage mortality from the parasitoid.

Table S17 Model-averaged results from the 95% confidence set of binomial GLMMs explaining host mortality from the virus AbgrNPV in terms of possible overall effects of habitat isolation (without controlling for the effects of any other species in the community) at different spatial scales, site elevation and plant height.

Predictor variable	Parameter estimate	Standard error	Lower 95% C.I.	Upper 95% C.I.
Isolation 100 m	-0.24	0.26	-0.74	0.27
Isolation 250 m	-0.36	0.29	-0.93	0.20
Isolation 500 m	-0.23	0.31	-0.84	0.38
Isolation 1000 m	-0.36	0.34	-1.03	0.31
Isolation 2500 m	-0.40	0.33	-1.06	0.25
Isolation 5000 m	-0.31	0.25	-0.79	0.18
Elevation	-0.46	0.27	-1.00	0.07
Plant height	-0.18	0.12	-0.42	0.06

Model-averaged parameter estimates were calculated using the natural-average method, with unconditional standard errors and 95% confidence intervals (C.I.), based on the 95% confidence set of models selected from the full model set (Table S5).

Table S18 Model-averaged results from the 95% confidence set of binomial GLMMs explaining host mortality from the virus AbgrNPV in terms of possible effects of habitat isolation at different spatial scales, percentage parasitism, site elevation and plant height.

Predictor variable	Parameter estimate	Standard error	Lower 95% C.I.	Upper 95% C.I.
Isolation 100 m	-0.13	0.15	-0.42	0.16
Isolation 250 m	-0.17	0.14	-0.45	0.10
Isolation 500 m	-0.18	0.14	-0.46	0.10
Isolation 1000 m	-0.22	0.16	-0.54	0.10
Isolation 2500 m	-0.28	0.17	-0.62	0.06
Isolation 5000 m	-0.32	0.14	-0.58	-0.05
Parasitism*	-0.72	0.17	-1.05	-0.39
Elevation	-0.12	0.21	-0.53	0.30
Plant height	-0.14	0.11	-0.36	0.08

* = Site-level percentage mortality from the parasitoid. Model-averaged parameter estimates were calculated using the natural-average method, with unconditional standard errors and 95% confidence intervals (C.I.), based on the 95% confidence set of models selected from the full model set (Table S6).

Table S19 Model-averaged results from the 95% confidence set of binomial GLMMs explaining host mortality from the virus AbgrNPV in terms of possible effects of habitat isolation at different spatial scales, host density, site elevation and plant height.

Predictor variable	Parameter estimate	Standard error	Lower 95% C.I.	Upper 95% C.I.
Isolation 100 m	-0.19	0.27	-0.71	0.34
Isolation 250 m	-0.32	0.31	-0.92	0.28
Isolation 500 m	-0.01	0.19	-0.39	0.36
Isolation 1000 m	-0.30	0.35	-0.99	0.39
Isolation 2500 m	-0.35	0.35	-1.03	0.33
Isolation 5000 m	-0.27	0.27	-0.80	0.26
Host density*	0.10	0.19	-0.28	0.47
Elevation	-0.42	0.30	-1.01	0.17
Plant height	-0.17	0.12	-0.41	0.07

* = Site-level host density. Model-averaged parameter estimates were calculated using the natural-average method, with unconditional standard errors and 95% confidence intervals (C.I.), based on the 95% confidence set of models selected from the full model set (Table S7).

Table S20 Model-averaged results from the 95% confidence set of binomial GLMMs explaining host mortality from the virus AbgrNPV in terms of possible effects of habitat isolation at different spatial scales, percentage parasitism, host density, site elevation and plant height.

Predictor variable	Parameter estimate	Standard error	Lower 95% C.I.	Upper 95% C.I.
Isolation 100 m	-0.10	0.15	-0.40	0.19
Isolation 250 m	-0.15	0.14	-0.44	0.13
Isolation 500 m	-0.16	0.14	-0.44	0.12
Isolation 1000 m	-0.20	0.16	-0.52	0.13
Isolation 2500 m	-0.26	0.17	-0.60	0.08
Isolation 5000 m	-0.31	0.14	-0.59	-0.02
Parasitism*	-0.73	0.17	-1.06	-0.39
Host density †	0.07	0.13	-0.18	0.32
Elevation	-0.09	0.24	-0.55	0.37
Plant height	-0.14	0.11	-0.36	0.08

* = Site-level percentage host mortality from the parasitoid. † = Site-level host density. Model-averaged parameter estimates were calculated using the natural-average method, with unconditional standard errors and 95% confidence intervals (C.I.), based on the 95% confidence set of models selected from the full model set (Table S8).

Table S21 Model-averaged results from the 95% confidence set of binomial GLMMs explaining host mortality from the parasitoid in terms of possible overall effects of habitat isolation (without controlling for the effects of any other species in the community) at different spatial scales, site elevation and plant height.

Predictor variable	Parameter estimate	Standard error	Lower 95% C.I.	Upper 95% C.I.
Isolation 100 m	1.27	0.49	0.31	2.22
Isolation 250 m	1.25	0.48	0.30	2.19
Isolation 500 m	0.98	0.55	-0.10	2.06
Isolation 1000 m	0.88	0.57	-0.25	2.01
Elevation	1.40	0.50	0.42	2.38
Plant height	0.71	0.21	0.30	1.13

Model-averaged parameter estimates were calculated using the natural-average method, with unconditional standard errors and 95% confidence intervals (C.I.), based on the 95% confidence set of models selected from the full model set (Table S9).

Table S22 Model-averaged results from the 95% confidence set of binomial GLMMs explaining host mortality from the parasitoid in terms of possible effects of habitat isolation at different spatial scales, percentage host-mortality from the virus AbgrNPV, site elevation and plant height.

Predictor variable	Parameter estimate	Standard error	Lower 95% C.I.	Upper 95% C.I.
Isolation 100 m	0.97	0.42	0.14	1.80
Isolation 250 m	0.92	0.42	0.08	1.75
Isolation 500 m	0.69	0.45	-0.21	1.58
Isolation 1000 m	0.47	0.49	-0.50	1.44
Isolation 5000 m	-0.45	0.37	-1.17	0.28
AbgrNPV mortality*	-0.80	0.31	-1.41	-0.19
Elevation	0.93	0.47	0.00	1.86
Plant height	0.64	0.21	0.22	1.05

* = Site-level percentage host mortality from the virus AbgrNPV. Model-averaged parameter estimates were calculated using the natural-average method, with unconditional standard errors and 95% confidence intervals (C.I.), based on the 95% confidence set of models selected from the full model set (Table S10).

Table S23 Model-averaged results from the 95% confidence set of binomial GLMMs explaining host mortality from the parasitoid in terms of possible effects of habitat isolation at different spatial scales, host density, site elevation and plant height.

Predictor variable	Parameter estimate	Standard error	Lower 95% C.I.	Upper 95% C.I.
Isolation 100 m	1.50	0.51	0.50	2.50
Isolation 250 m	1.43	0.48	0.50	2.37
Isolation 500 m	1.13	0.56	0.03	2.23
Isolation 1000 m	1.07	0.60	-0.11	2.25
Host density*	0.40	0.29	-0.17	0.97
Elevation	1.63	0.49	0.67	2.59
Plant height	0.76	0.22	0.33	1.18

* = Site-level host density. Model-averaged parameter estimates were calculated using the natural-average method, with unconditional standard errors and 95% confidence intervals (C.I.), based on the 95% confidence set of models selected from the full model set (Table S11).

Table S24 Model-averaged results from the 95% confidence set of binomial GLMMs explaining host mortality from the parasitoid in terms of possible effects of habitat isolation at different spatial scales, host mortality from the virus AbgrNPV, host density, site elevation and plant height.

Predictor variable	Parameter estimate	Standard error	Lower 95% C.I.	Upper 95% C.I.
Isolation 100 m	1.22	0.39	0.44	2
Isolation 250 m	1.10	0.34	0.43	1.77
Isolation 500 m	0.87	0.41	0.06	1.68
AbgrNPV mortality*	-0.90	0.27	-1.44	-0.36
Host density†	0.48	0.20	0.09	0.87
Elevation	1.21	0.36	0.51	1.92
Plant height	0.67	0.21	0.25	1.09

* = Site-level AbgrNPV mortality. † = Site-level host density. Model-averaged parameter estimates were calculated using the natural-average method, with unconditional standard errors and 95% confidence intervals (C.I.), based on the 95% confidence set of models selected from the full model set (Table S12).