Supplementary Material 5: Coho mass deviation model figures

"Identification of infectious agents in early marine Chinook and Coho salmon

associated with cohort survival"

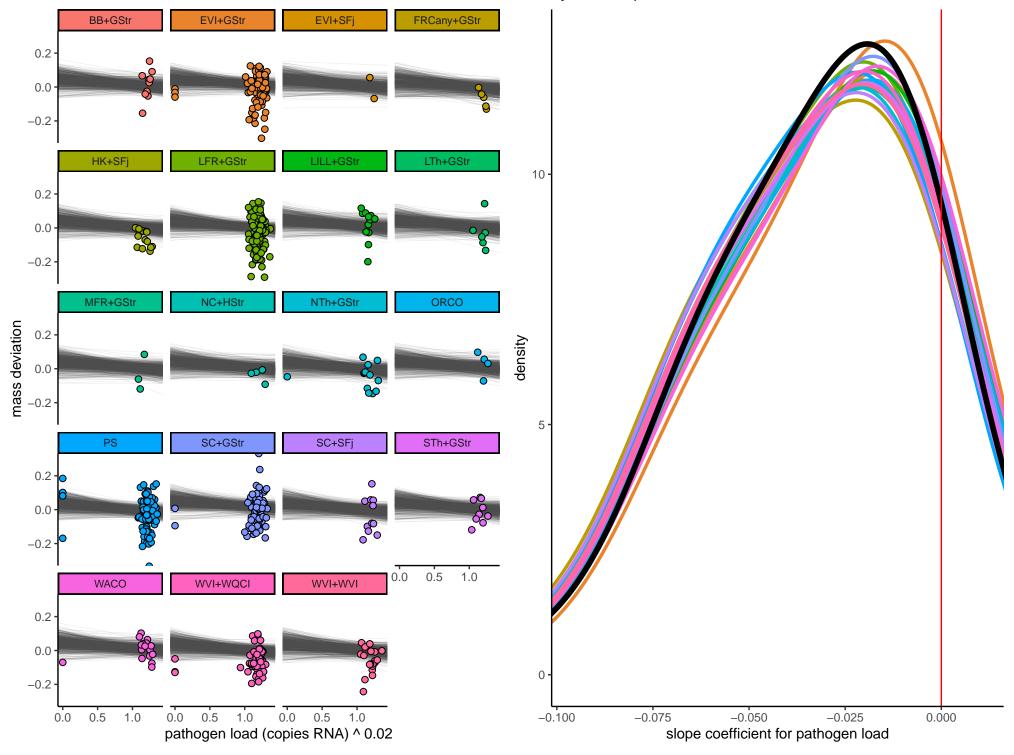
Arthur L. Bass, Andrew W. Bateman, Brendan M. Connors, Benjamin A. Staton, Eric B.

Rondeau, Gideon J. Mordecai, Amy K. Teffer, Karia H. Kaukinen, Shaorong Li, Amy M.

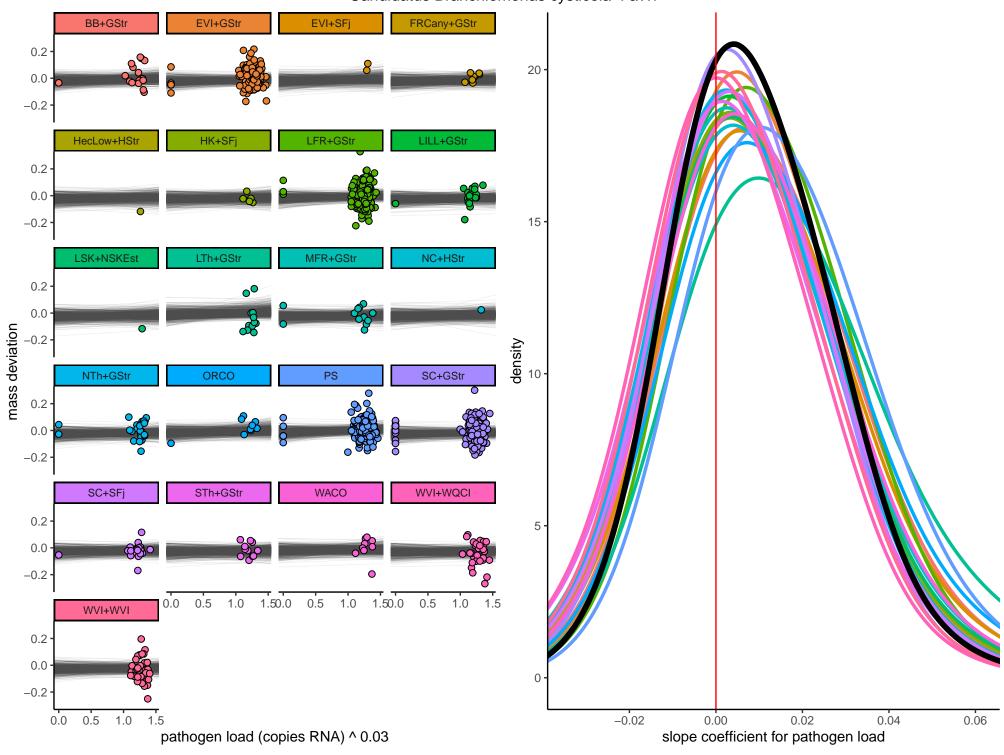
Tabata, David A. Patterson, Scott G. Hinch, Kristina M. Miller

Description: Bayesian multi-level model results from Coho mass deviation models. Raw data (points) are presented in left panels and model results are presented in right panels (heavy black line indicates the posterior distribution of the hyperdistribution mean). Lines in left panels represent 1000 random draws from the posterior distributions of the stock-specific intercepts and slopes. Slope coefficient for the right panel is relative to a 2 SD increase in pathogen load.

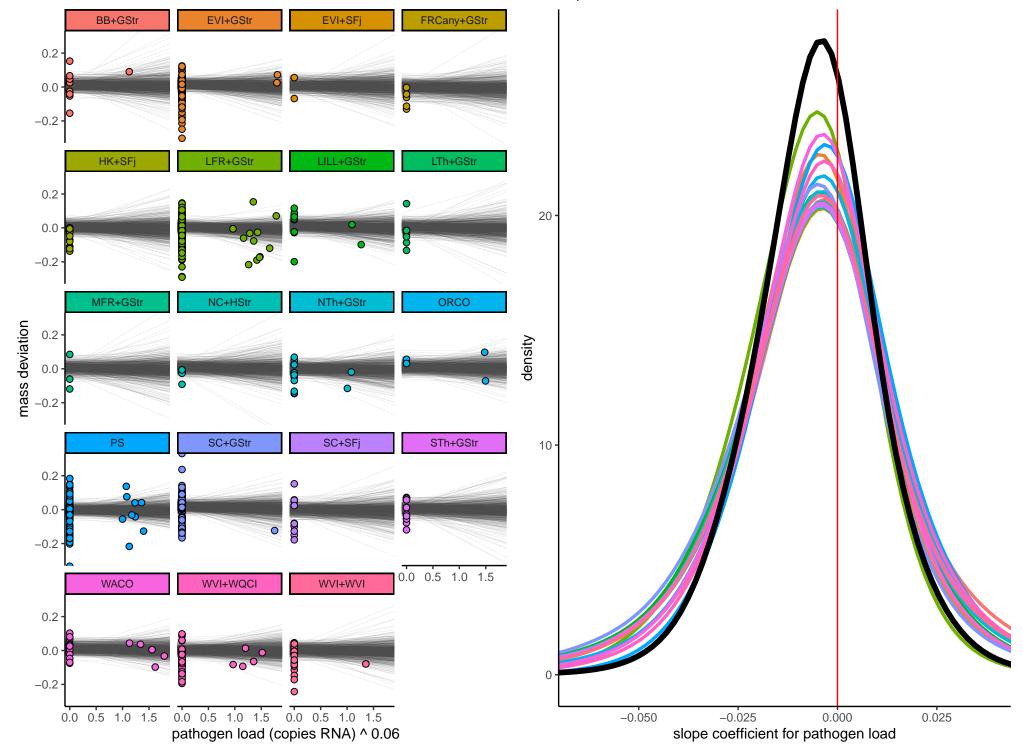
Candidatus Branchiomonas cysticola SpSu



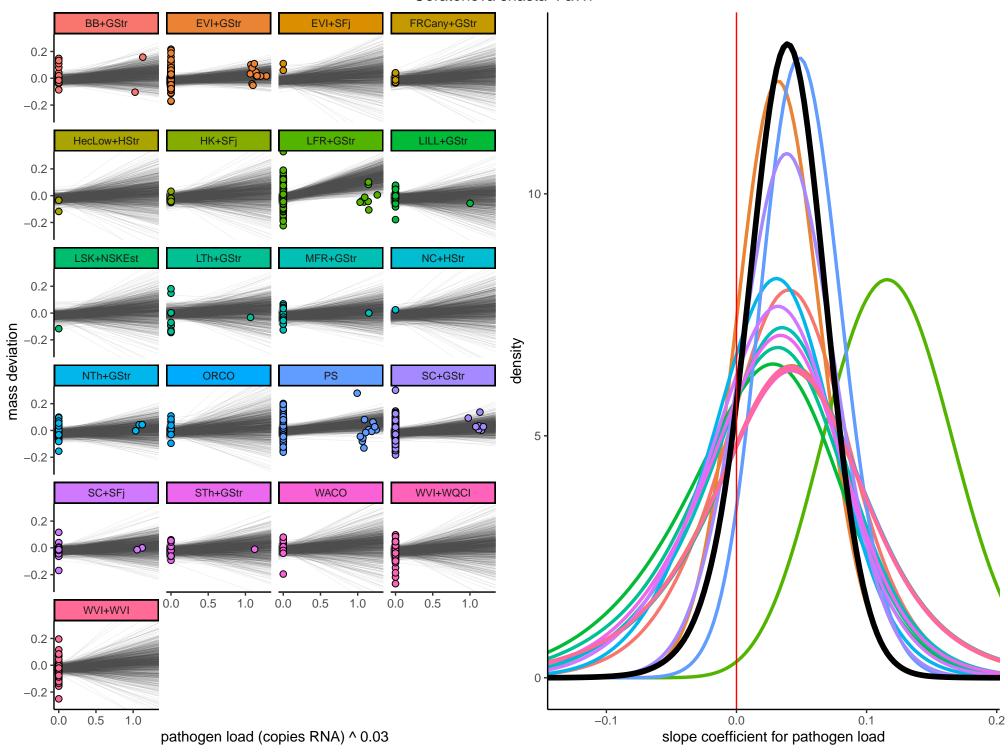
Candidatus Branchiomonas cysticola FaWi



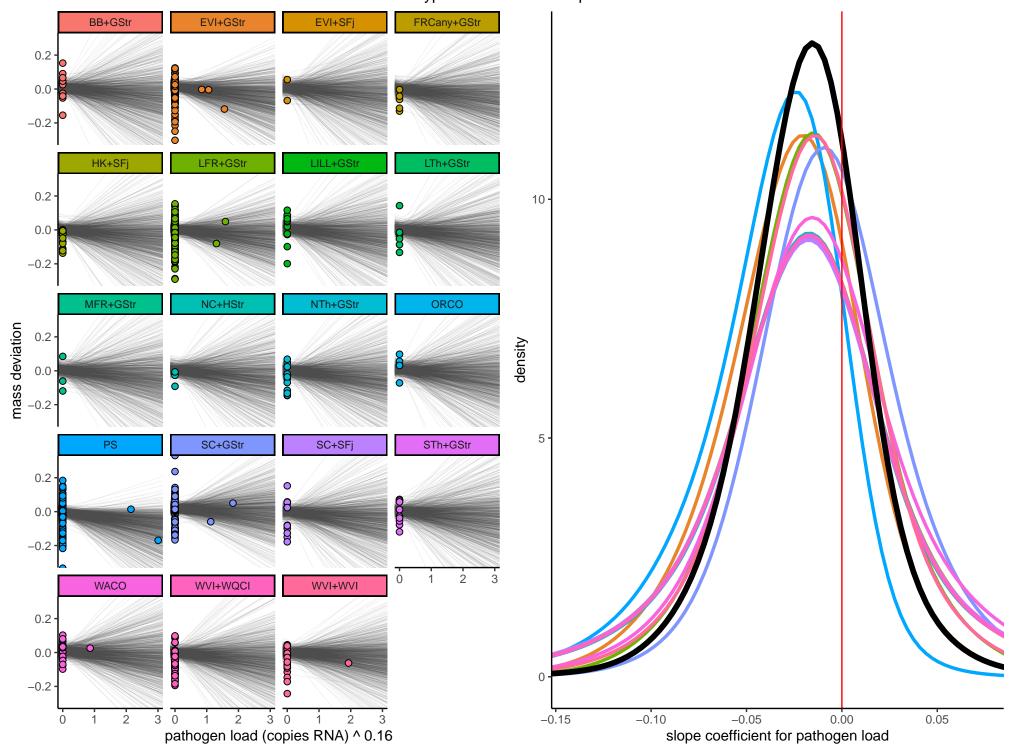
Ceratonova shasta SpSu







Cryptobia salmositica SpSu



Facilispora margolisi SpSu BB+GStr EVI+GStr FRCany+GStr 0.2 15 0.0 -0.2 HK+SFj LFR+GStr LILL+GStr LTh+GStr 0.2 0.0 -0.2 10 MFR+GStr NC+HStr ORCO NTh+GStr mass deviation 0.2 density SC+GStr SC+SFj STh+GStr PS 0.2 -0.0 -0.2 **-**0.0 0.5 1.0 1.5 2.0 WACO WVI+WQCI WVI+WVI 0.2 0.0 -0.2

-0.05

0.05

0.00

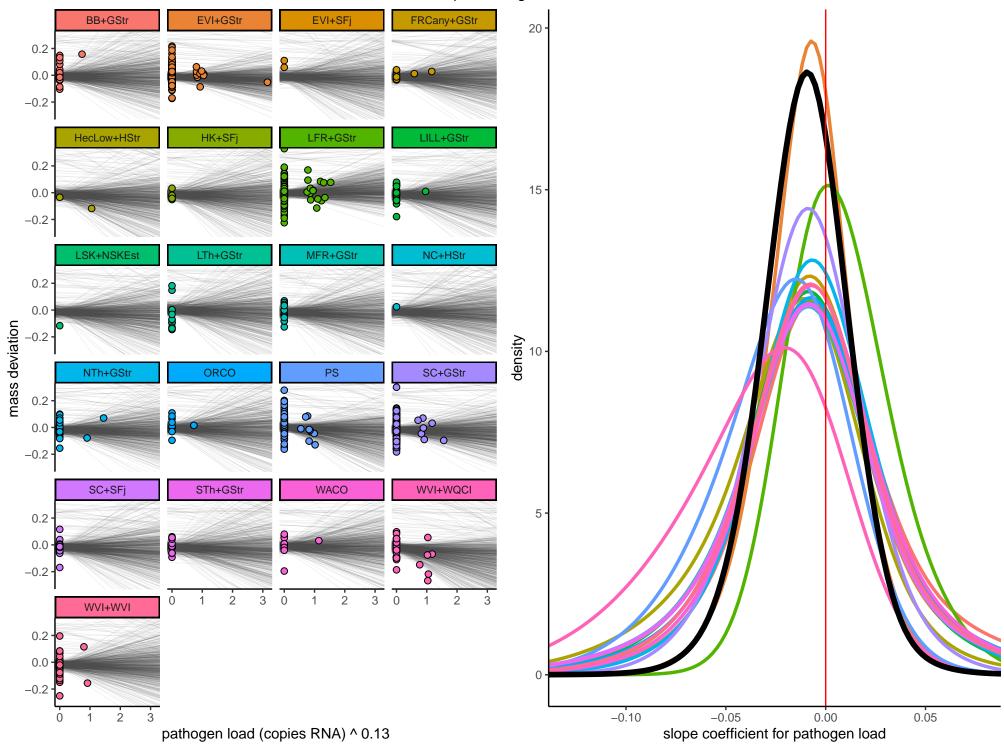
slope coefficient for pathogen load

0.10

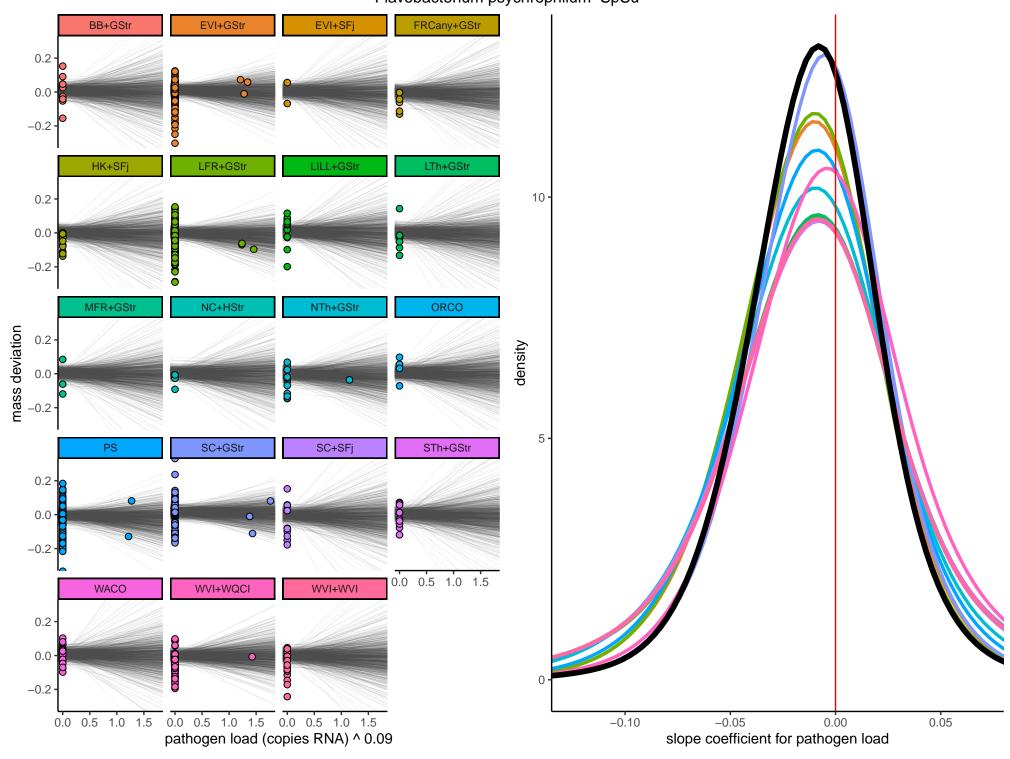
0.0 0.5 1.0 1.5 2.0 0.0 0.5 1.0 1.5 2.0 0.0 0.5 1.0 1.5 2.0

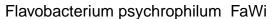
pathogen load (copies RNA) ^ 0.07

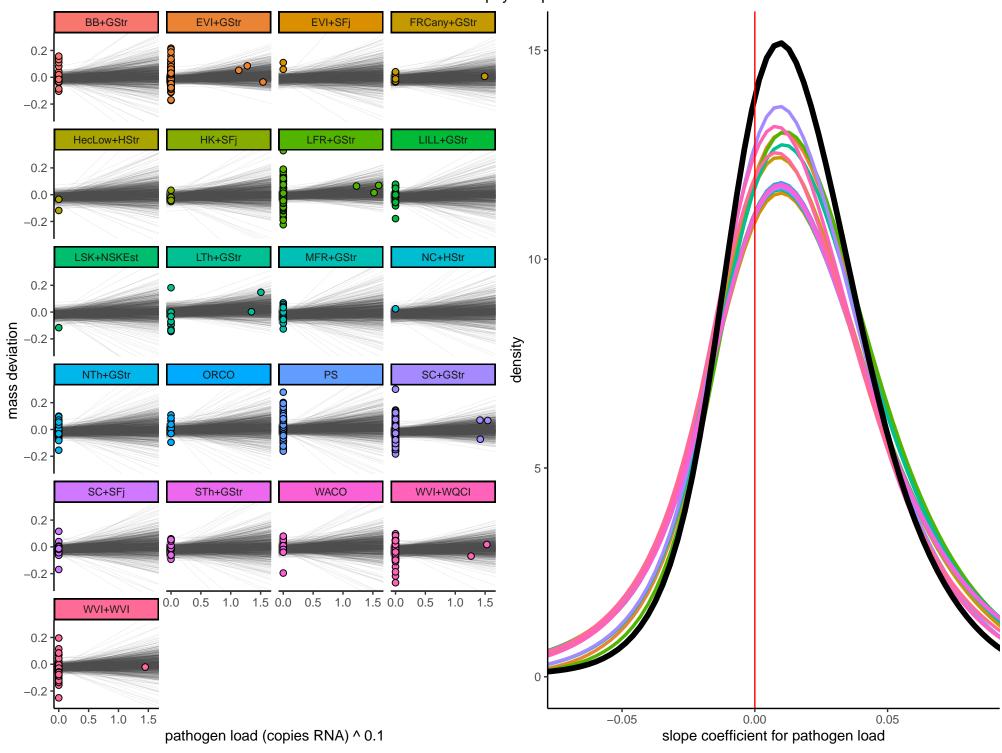
Facilispora margolisi FaWi



Flavobacterium psychrophilum SpSu







Ichthyophonus hoferi SpSu BB+GStr EVI+GStr EVI+SFj FRCany+GStr 0.2 0.0 -0.2 HK+SFj LFR+GStr LILL+GStr LTh+GStr 15 0.2 0.0 --0.2 MFR+GStr NC+HStr NTh+GStr ORCO mass deviation 0.2 density 10 PS SC+GStr SC+SFj STh+GStr 0.2 5 0.0 -0.2 **-**0.0 0.5 1.0 WACO WVI+WQCI WVI+WVI 0.2 0.0 0 -0.2

0.05

slope coefficient for pathogen load

-0.05

0.00

0.15

0.10

0.0

0.5

1.0

0.0

0.5

1.0

0.0

pathogen load (copies RNA) ^ 0.02

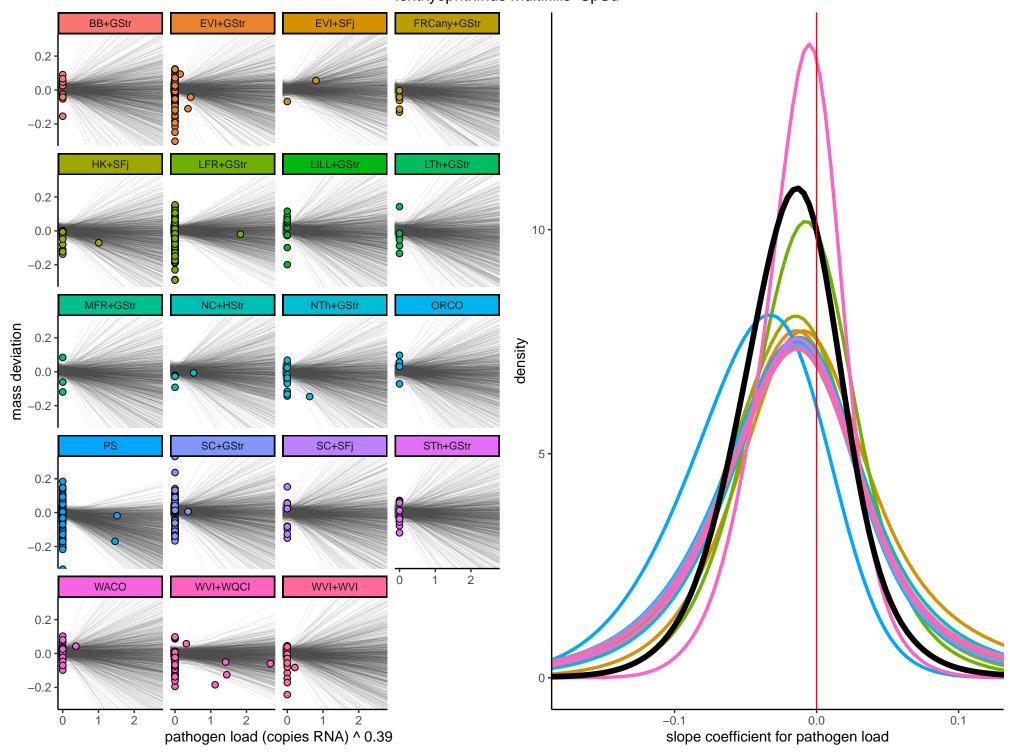
0.5

Ichthyophonus hoferi FaWi BB+GStr EVI+GStr EVI+SF FRCany+GStr 25 0.2 0.0 -0.2HecLow+HStr HK+SFj LFR+GStr LILL+GStr 20 0.2 0.0 -0.2 LSK+NSKEst NC+HStr LTh+GStr MFR+GStr 0.2 15 0.0 mass deviation density NTh+GStr ORCO PS SC+GStr 0.2 10 0.0 -0.2SC+SFj WACO WVI+WQCI STh+GStr 0.2 0.0 --0.2 0.0 0.5 1.0 1.5 2.0 0.0 0.5 1.0 1.5 2.0 0.0 0.5 1.0 1.5 2.0 WVI+WVI 0.2

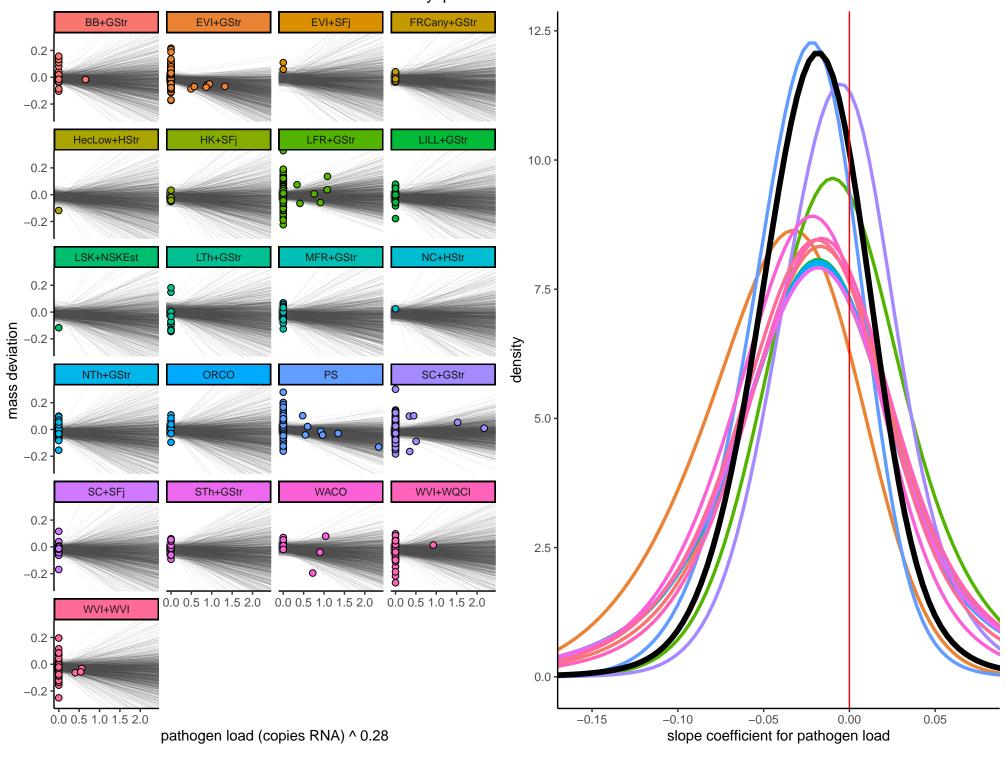
0.0 -0.2

-0.025 0.0 0.5 1.0 1.5 2.0 -0.075 -0.050 0.000 slope coefficient for pathogen load pathogen load (copies RNA) ^ 0.05

Ichthyophthirius multifiliis SpSu



Ichthyophthirius multifiliis FaWi



Kudoa thyrsites SpSu BB+GStr EVI+GStr EVI+SFj FRCany+GStr 0.2 0.0 -0.2 LFR+GStr HK+SFj LILL+GStr LTh+GStr 0.2 10 0.0 --0.2 MFR+GStr NC+HStr NTh+GStr ORCO mass deviation 0.2 density 0.0 -0.2 SC+GStr SC+SFj STh+GStr PS 5 0.2 -0.0 -0.2 **-**0 WACO WVI+WQCI WVI+WVI 0.2 0.0 -0.2

Ö

2

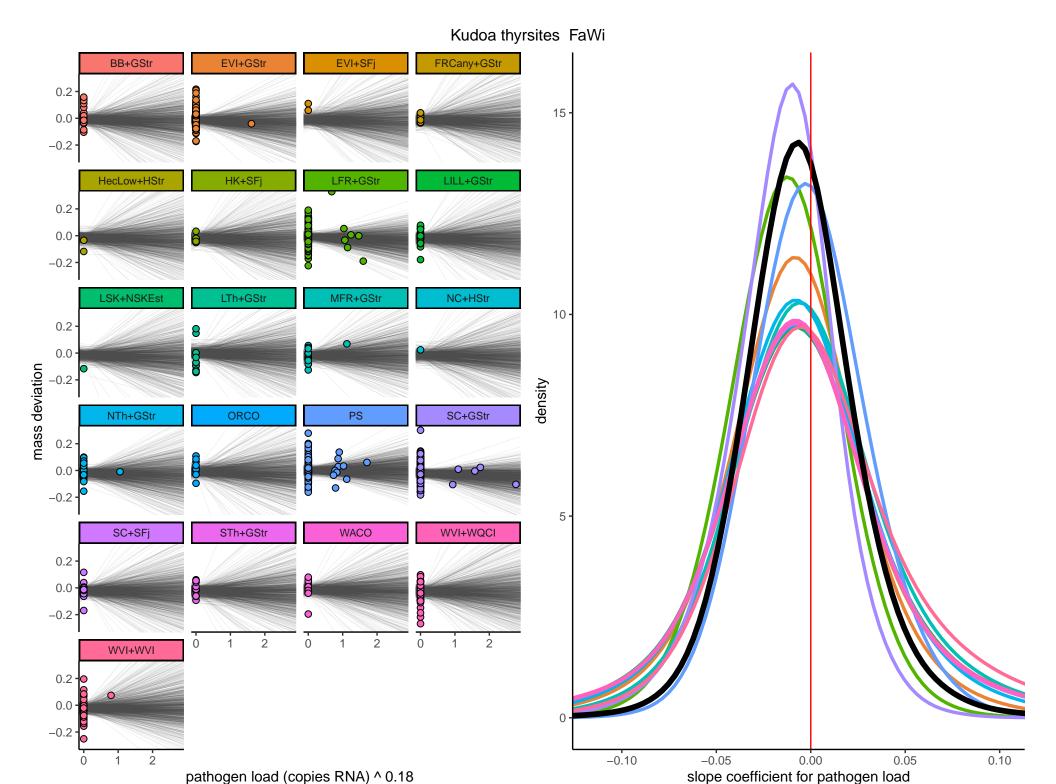
pathogen load (copies RNA) ^ 0.26

-0.1

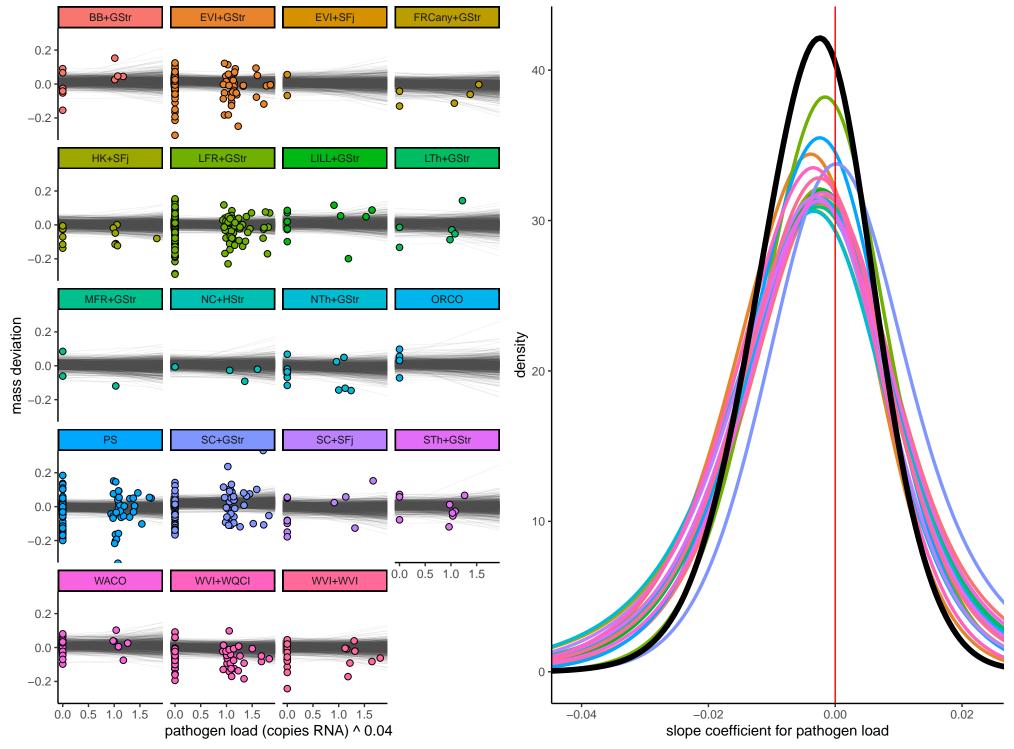
slope coefficient for pathogen load

0.1

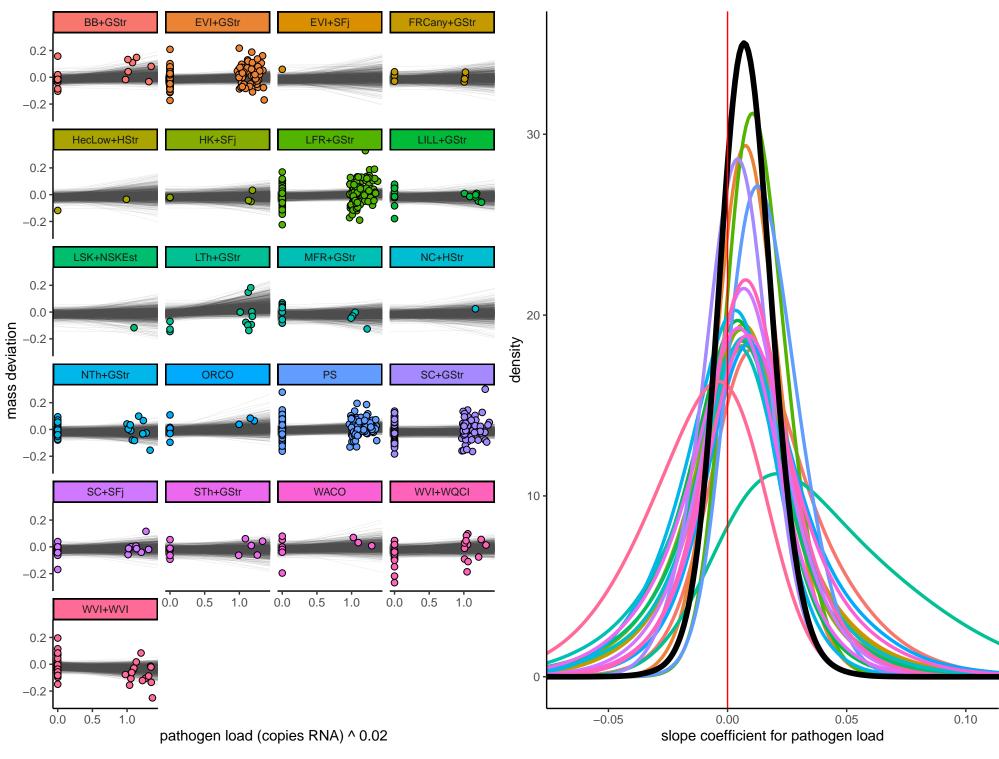
-0.2

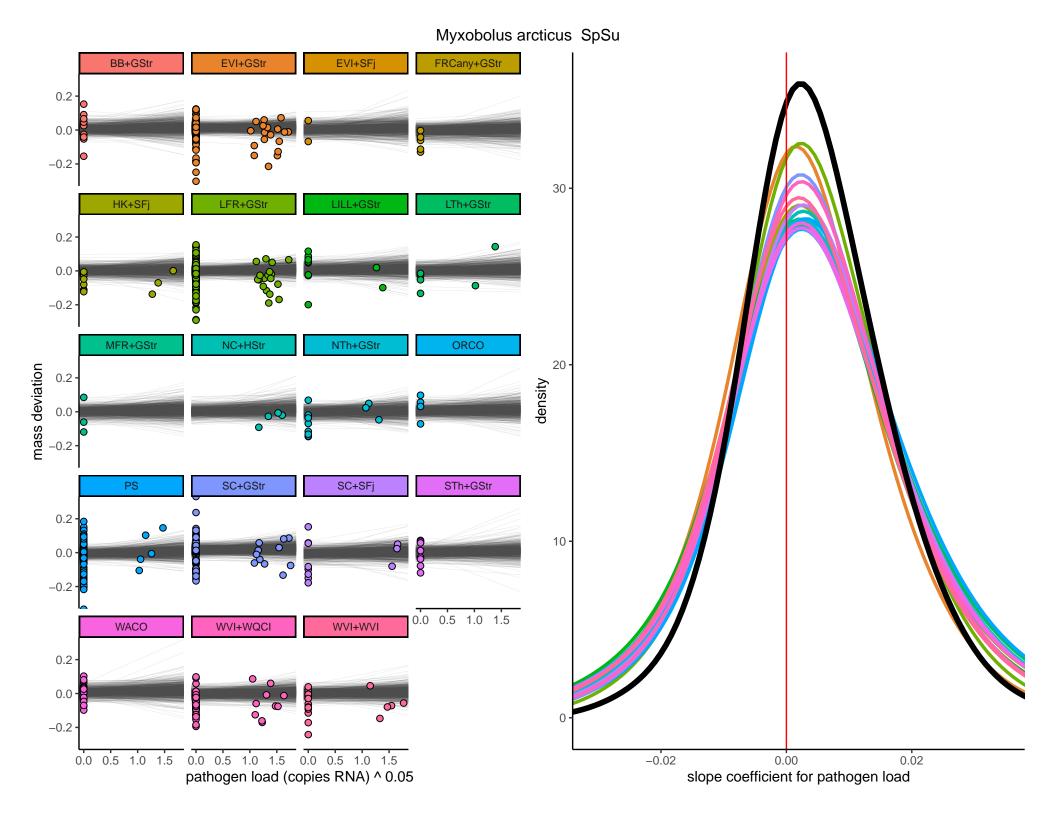


Loma salmonae SpSu

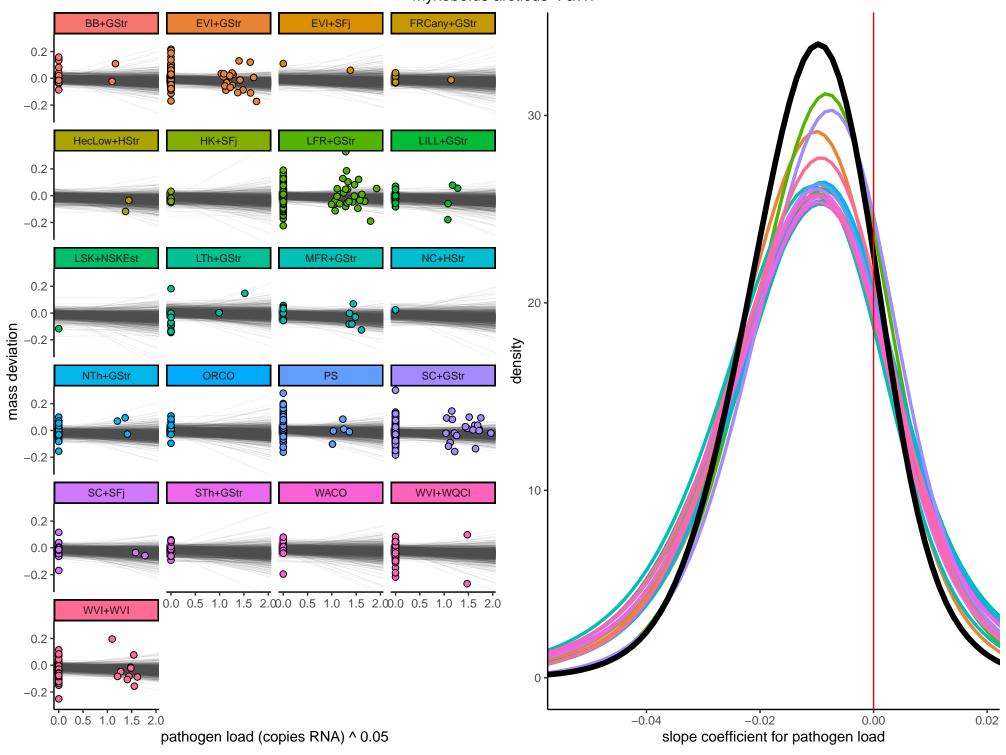


Loma salmonae FaWi

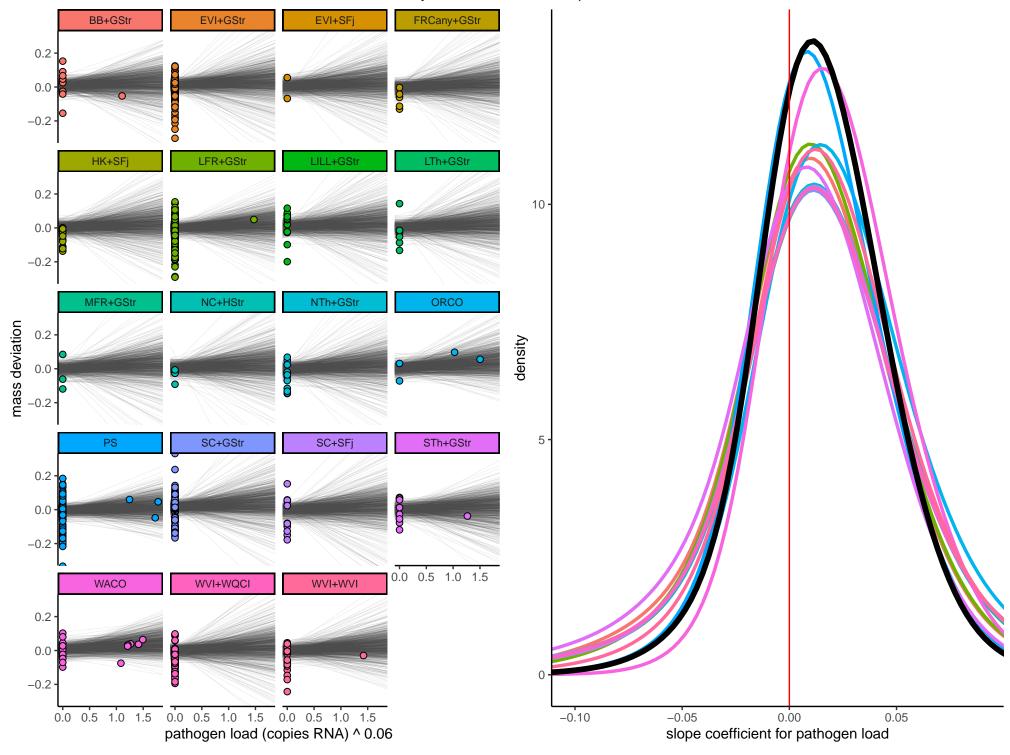


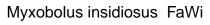


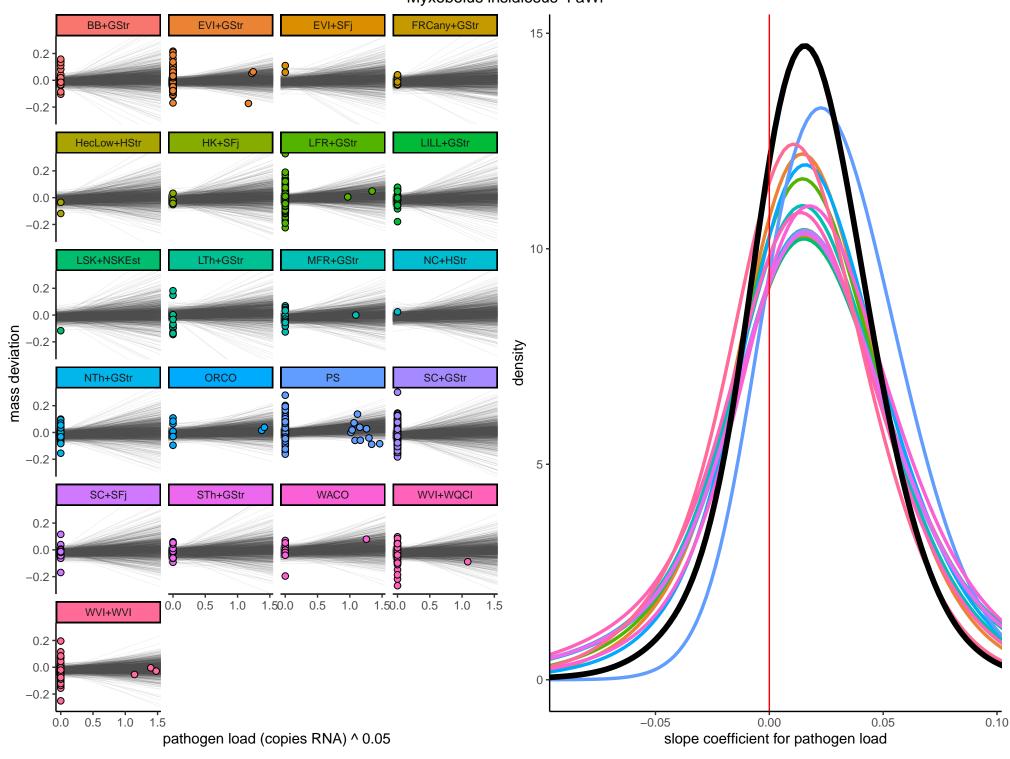
Myxobolus arcticus FaWi

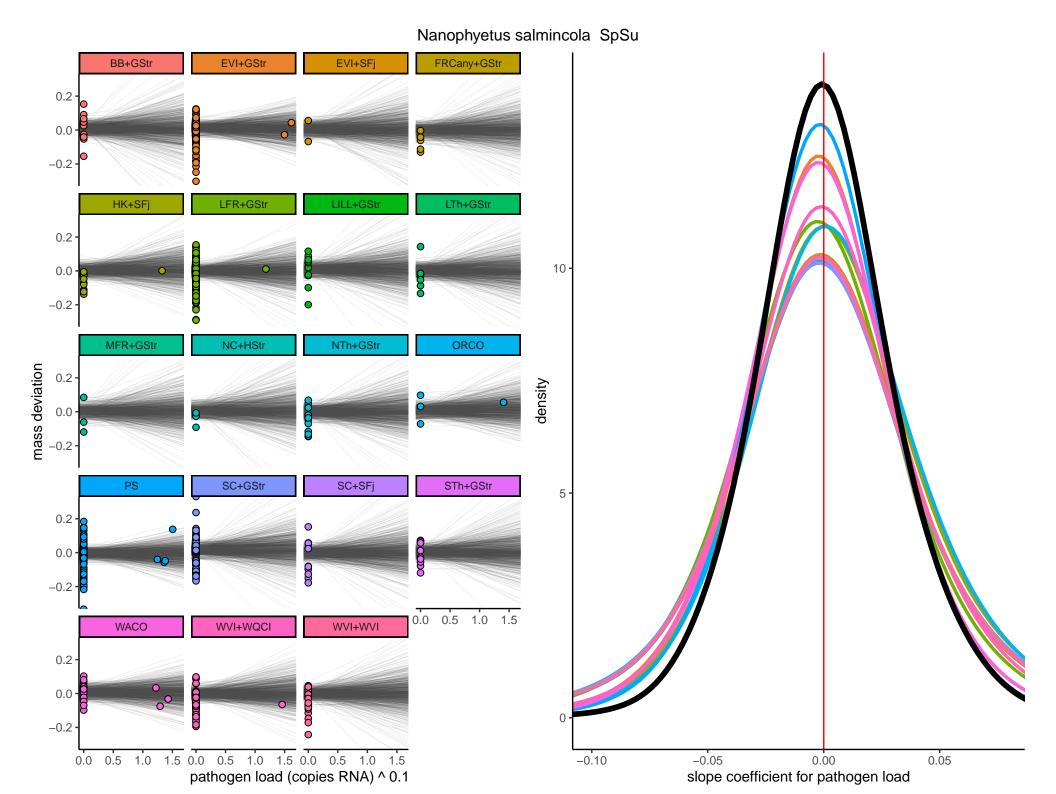


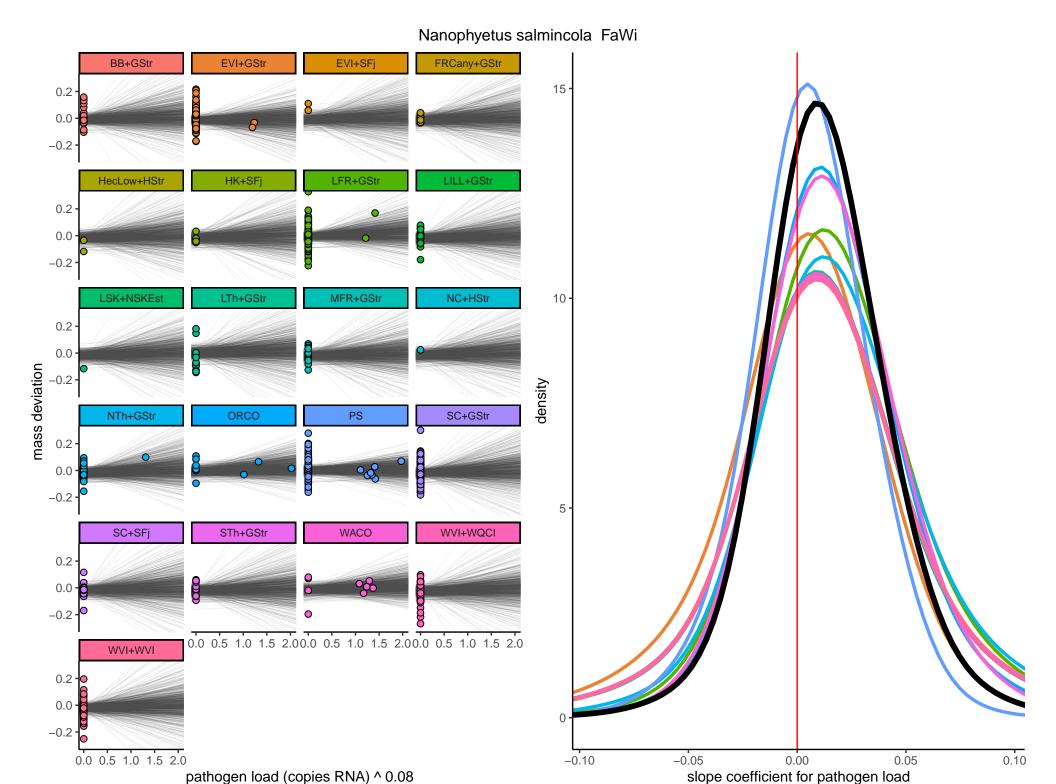
Myxobolus insidiosus SpSu



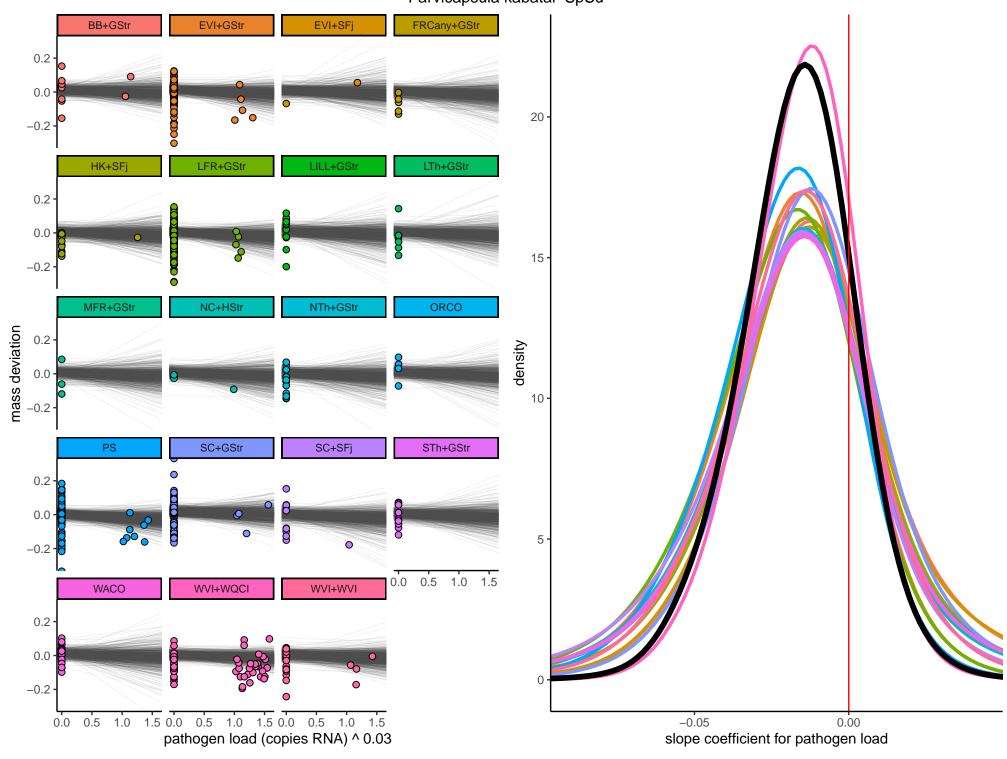


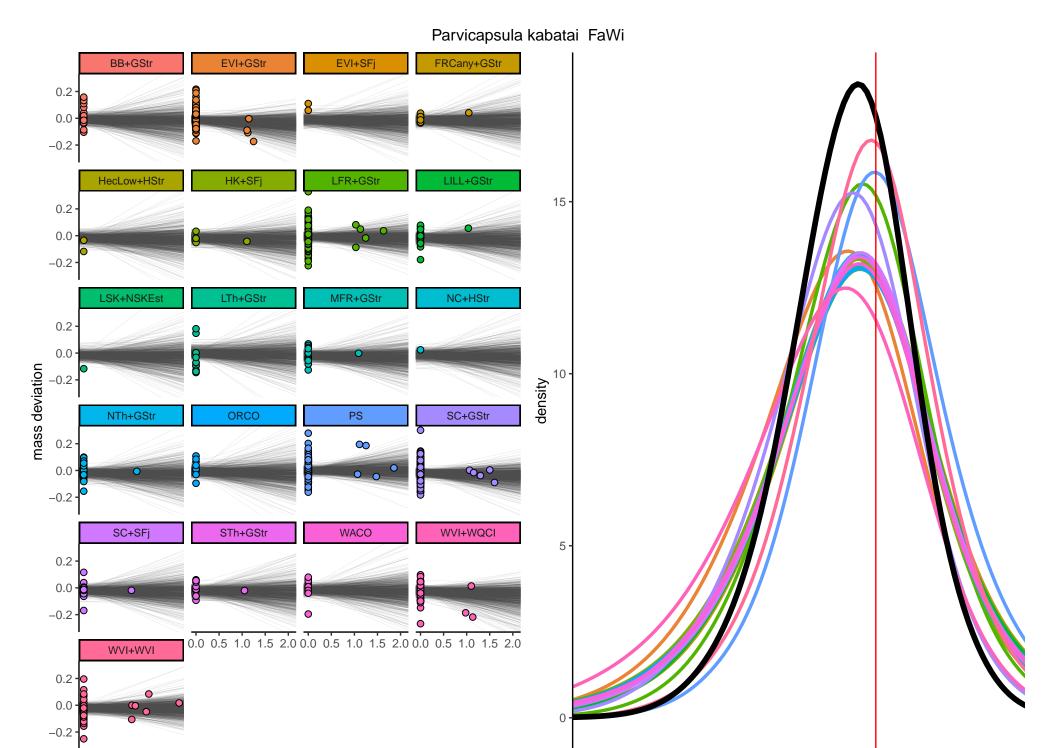






Parvicapsula kabatai SpSu





0.0 0.5 1.0 1.5 2.0

pathogen load (copies RNA) ^ 0.04

-0.05

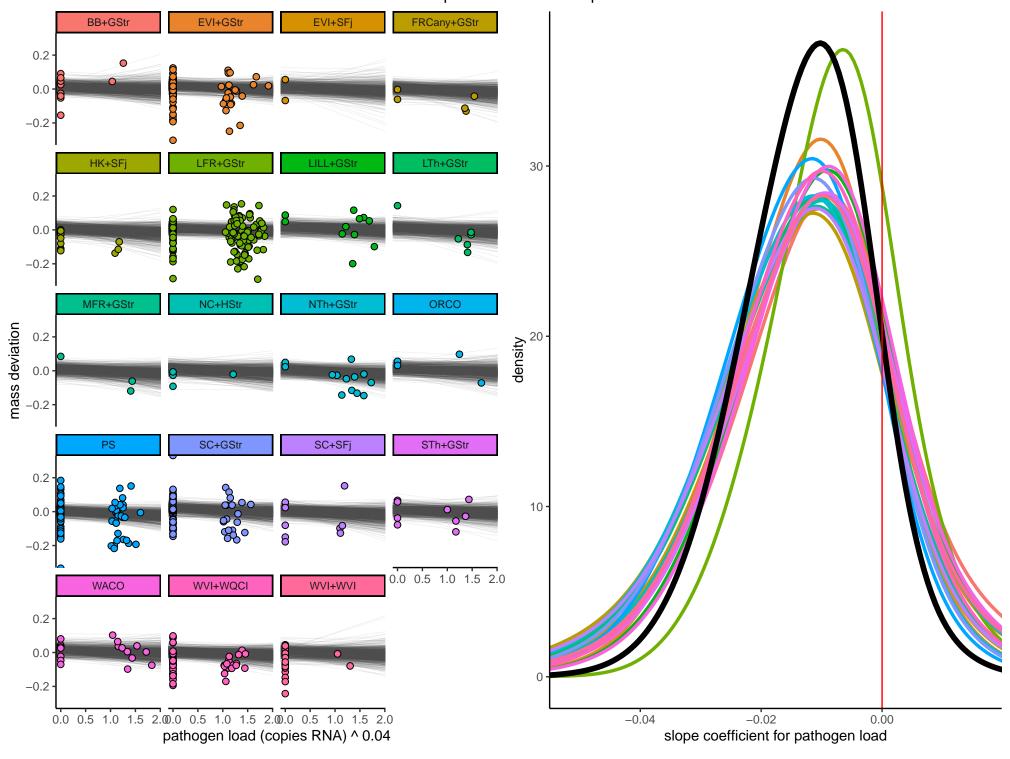
slope coefficient for pathogen load

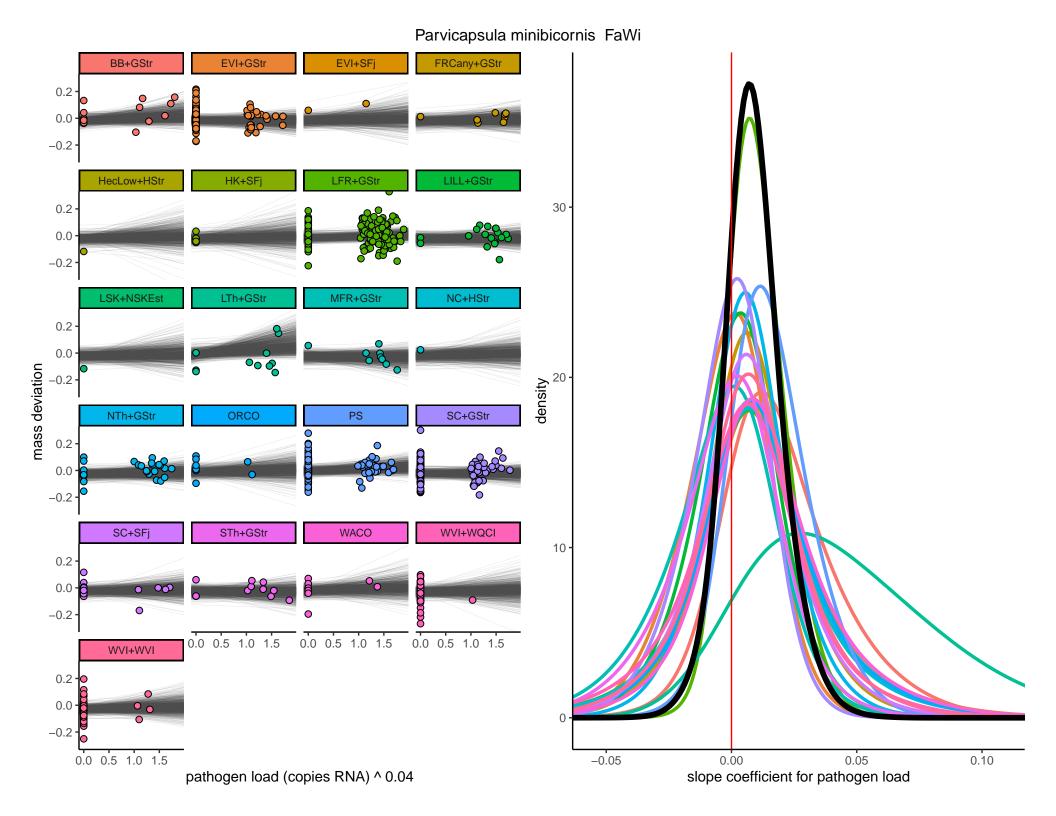
0.00

0.05

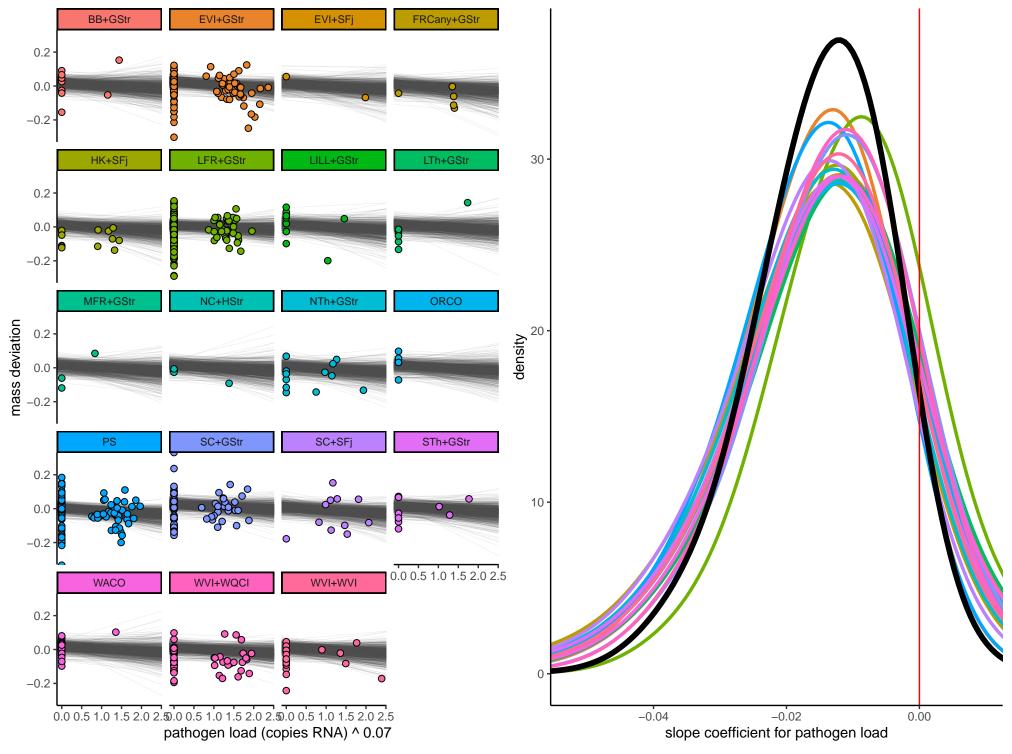
-0.10

Parvicapsula minibicornis SpSu

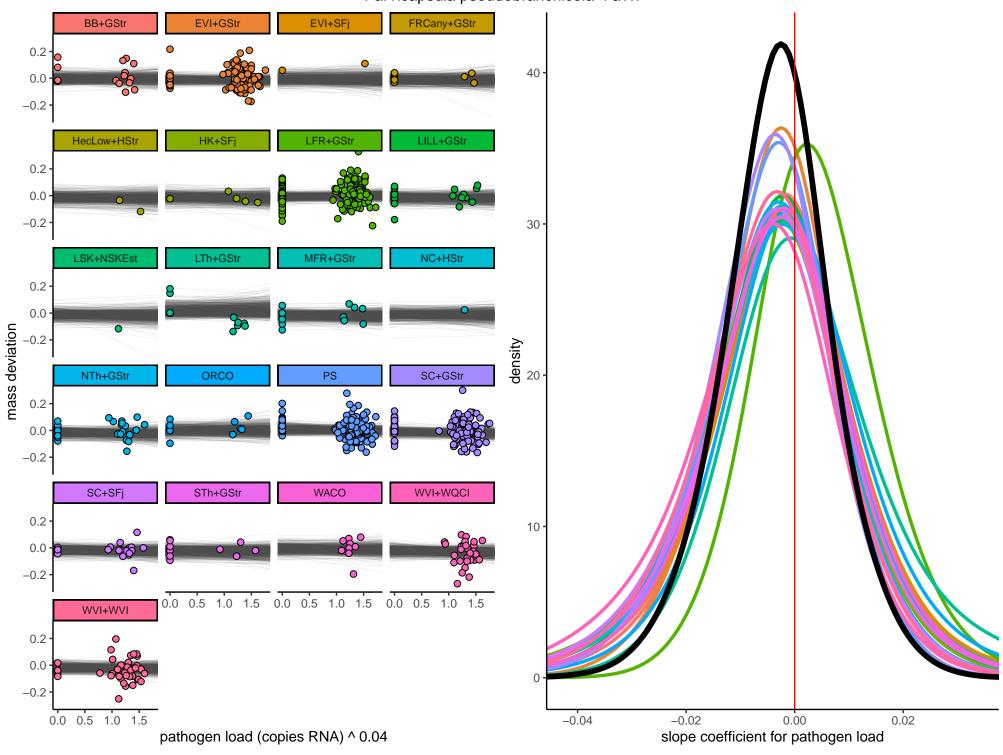


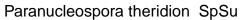


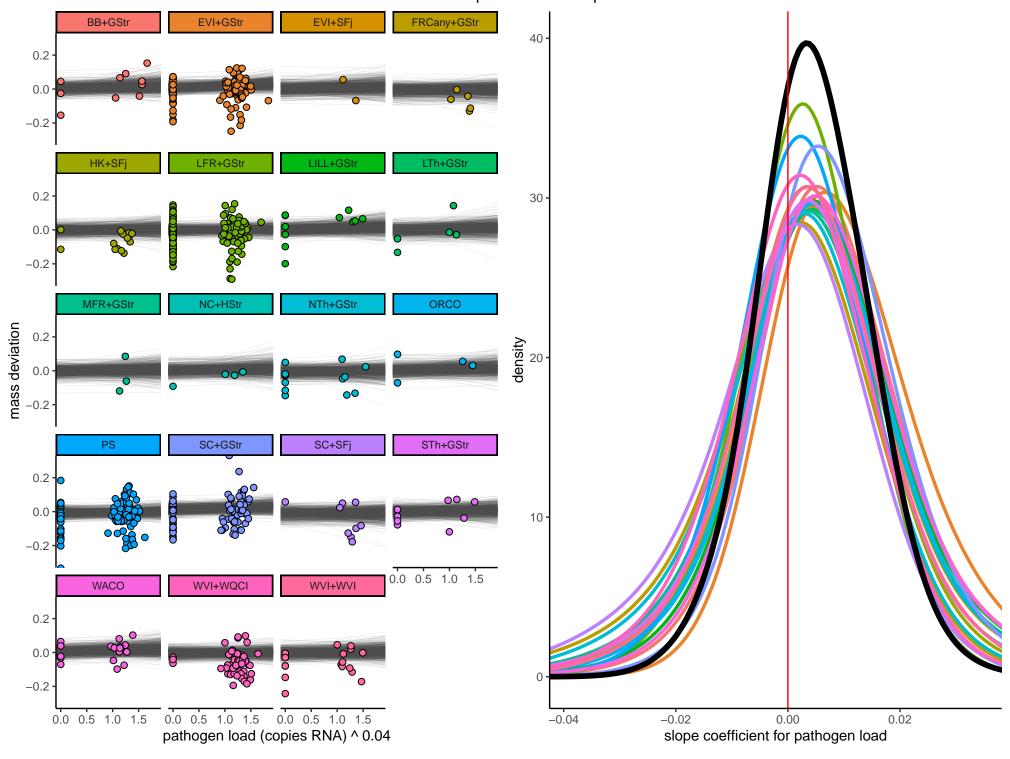
Parvicapsula pseudobranchicola SpSu

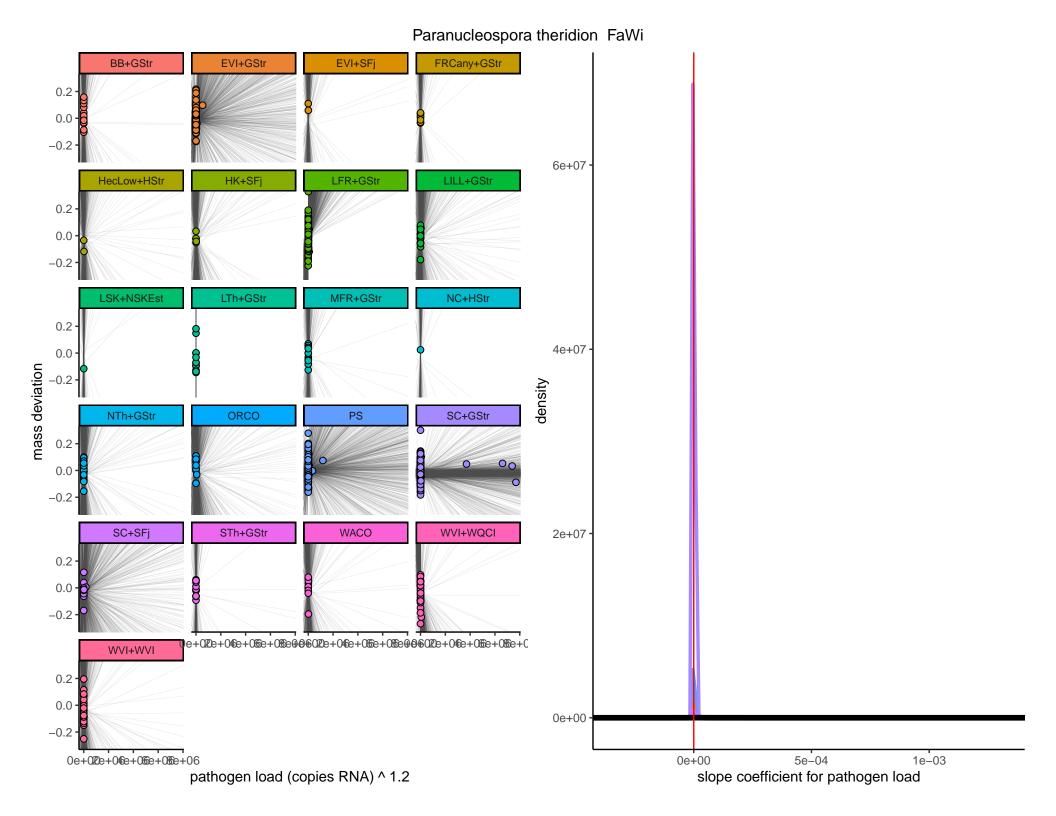


Parvicapsula pseudobranchicola FaWi

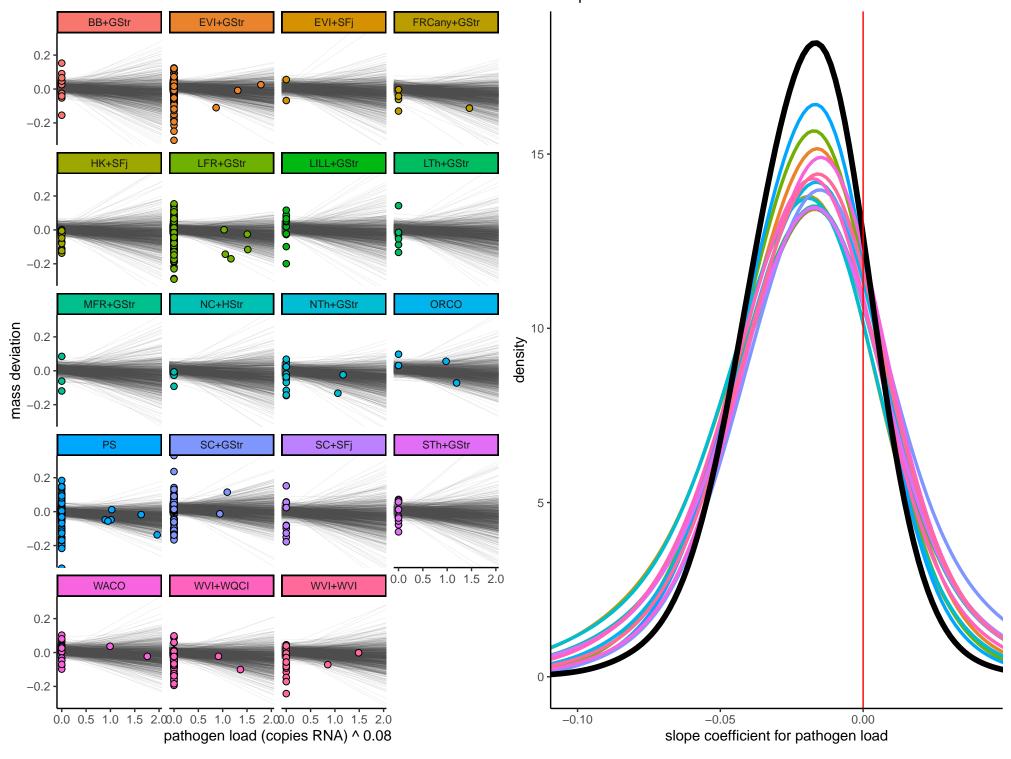




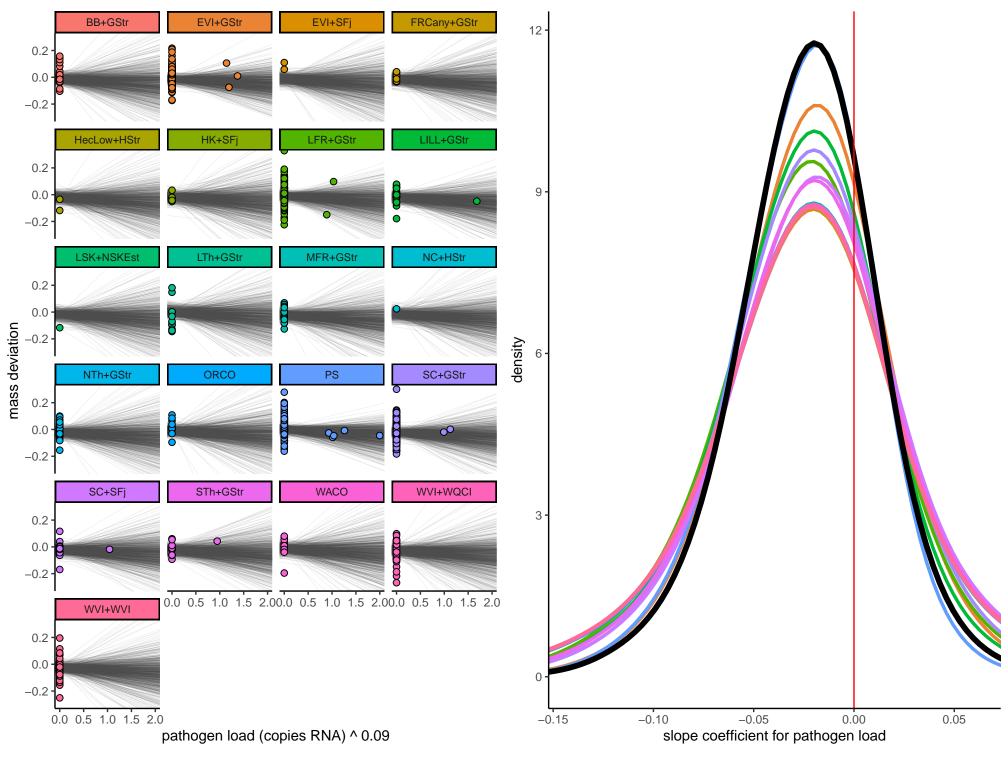




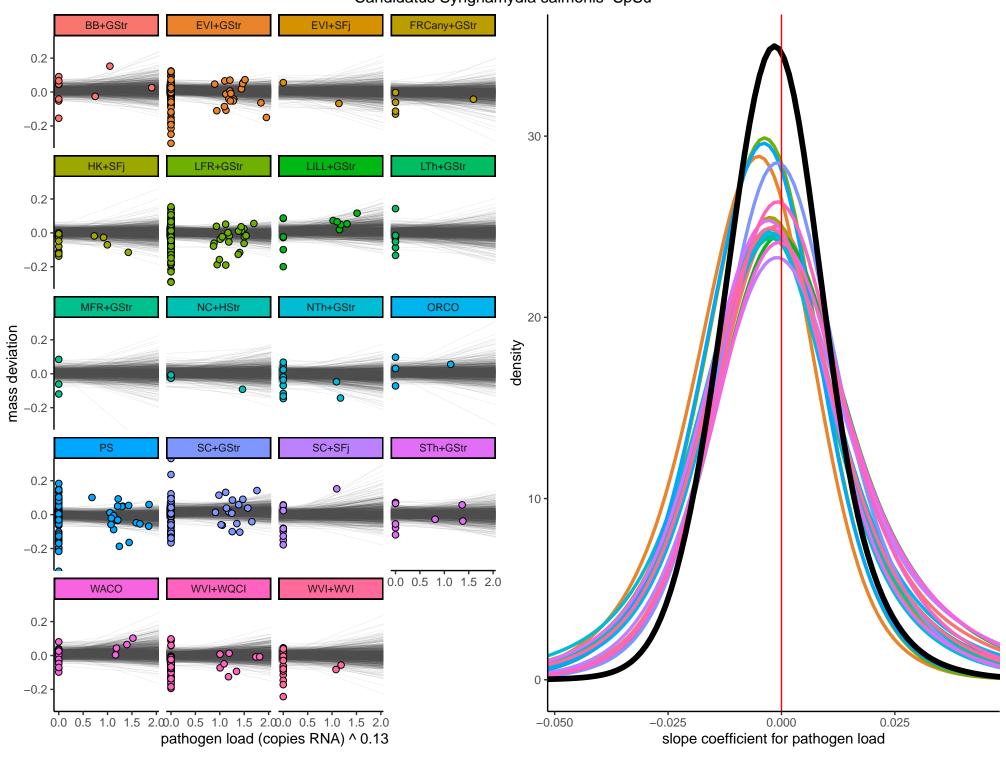
Piscine Orthoreovirus SpSu



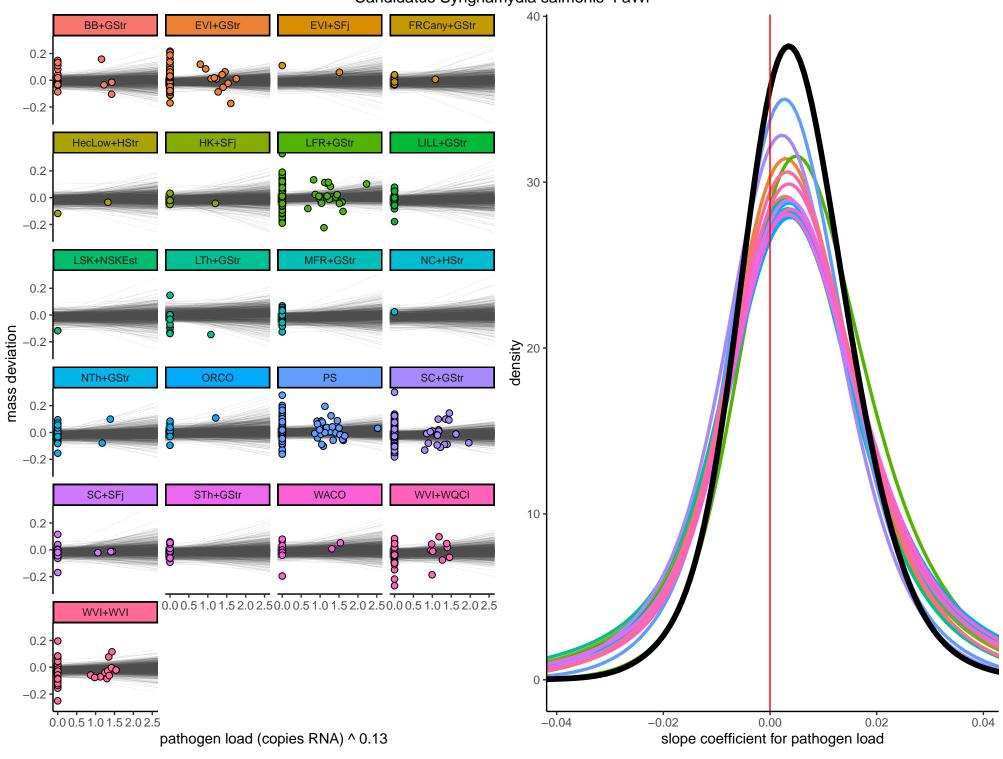
Piscine Orthoreovirus FaWi



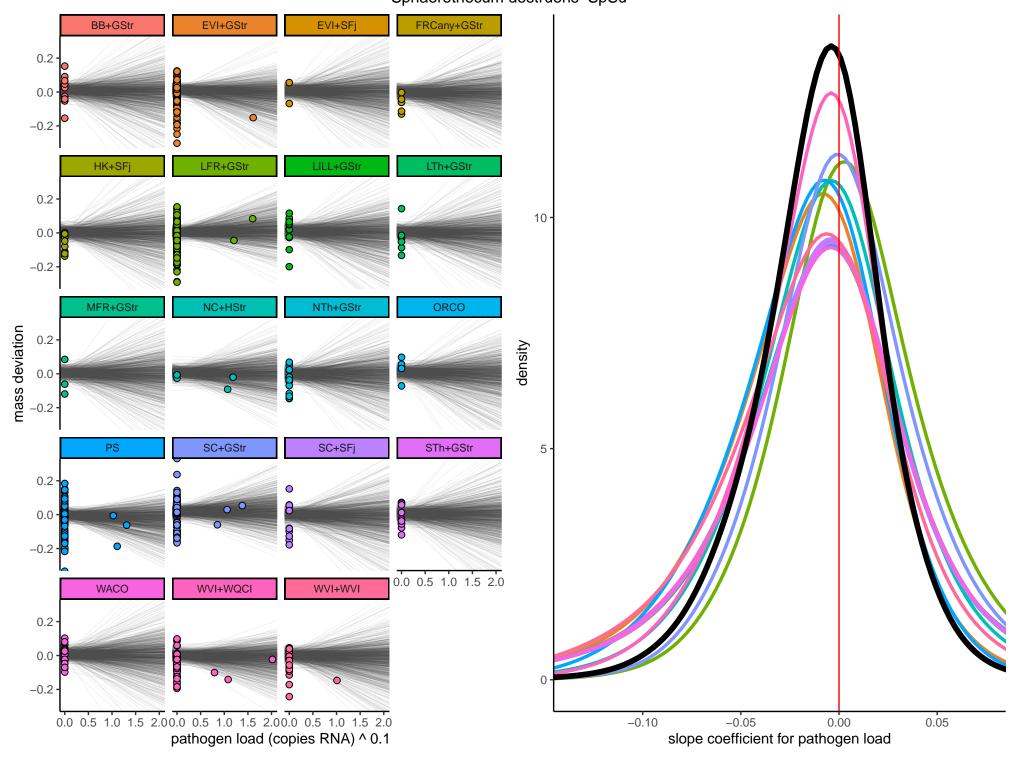
Candidatus Syngnamydia salmonis SpSu

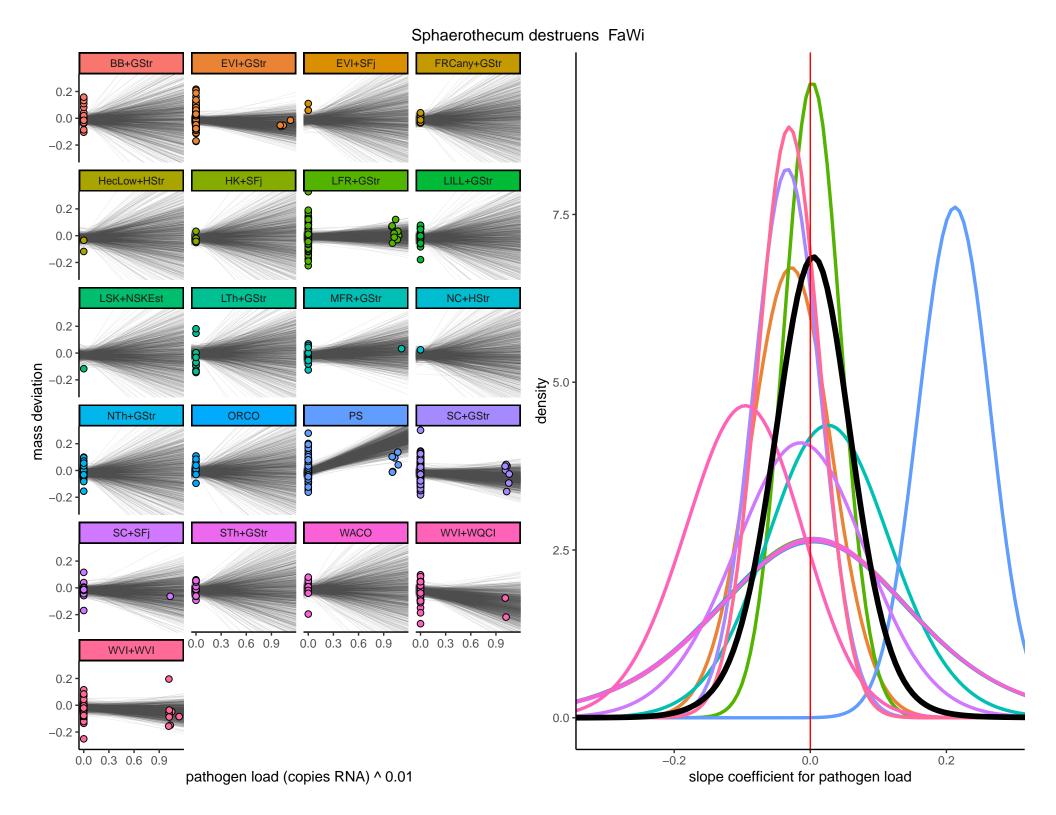


Candidatus Syngnamydia salmonis FaWi

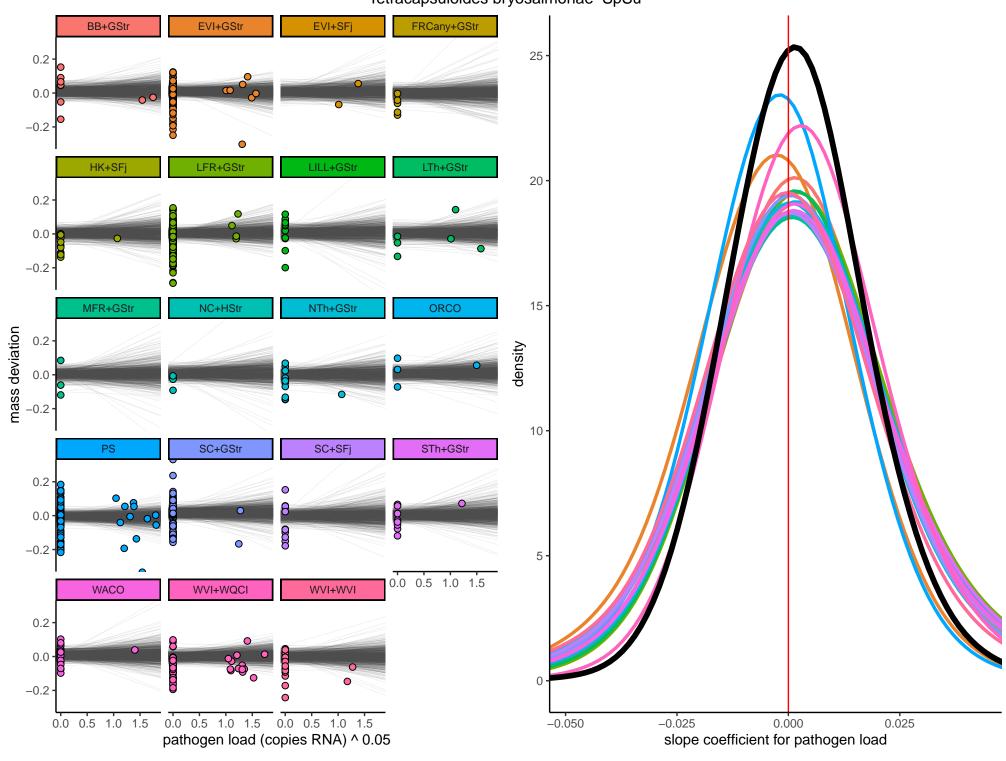


Sphaerothecum destruens SpSu

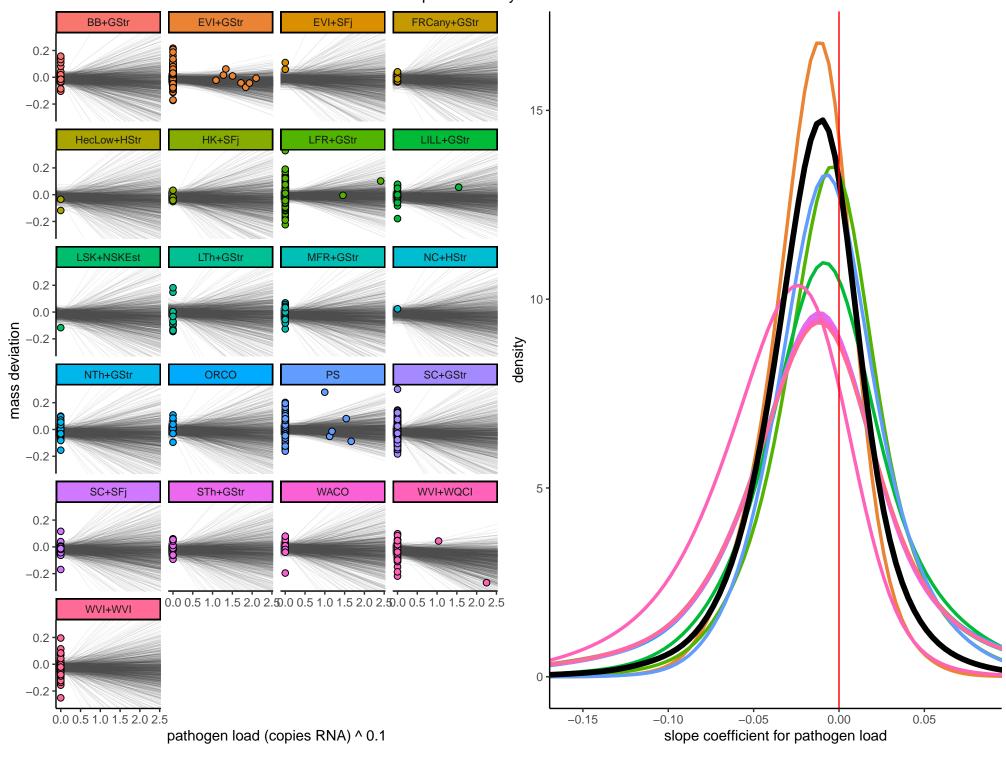


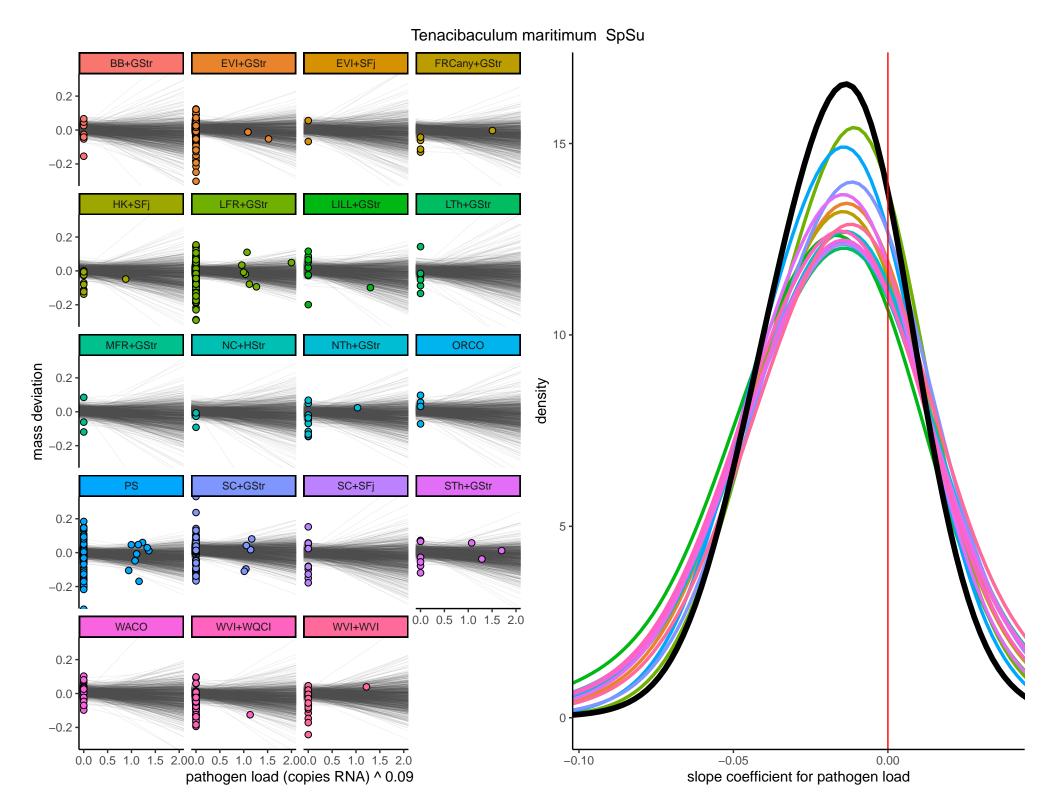


Tetracapsuloides bryosalmonae SpSu

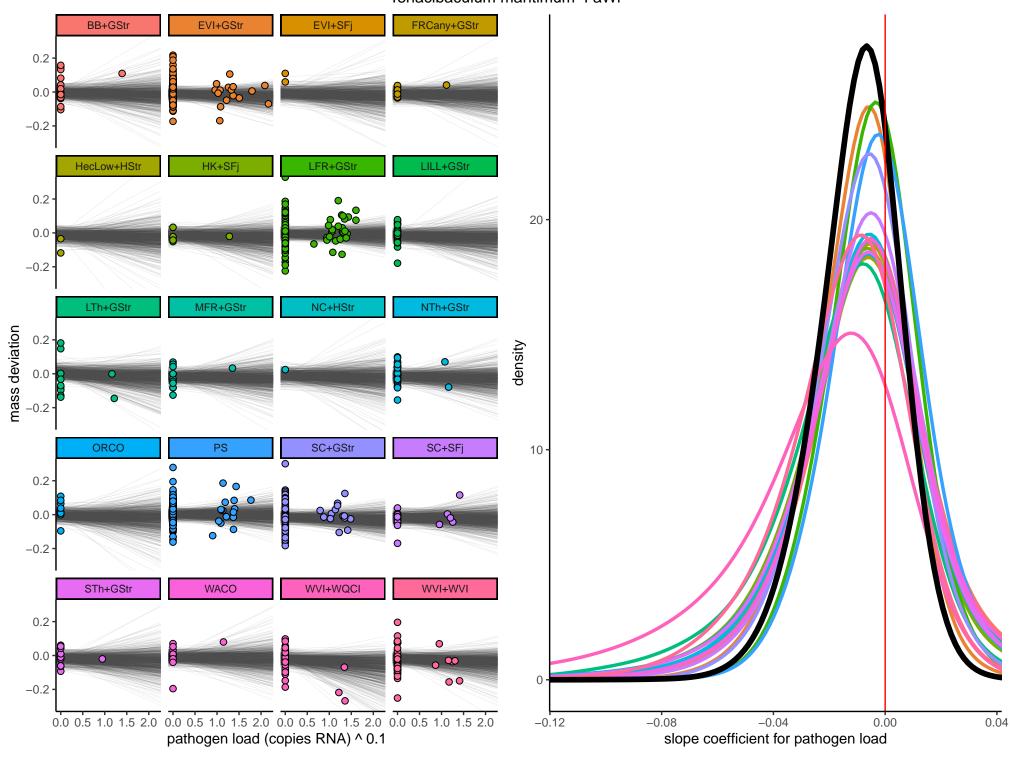


Tetracapsuloides bryosalmonae FaWi

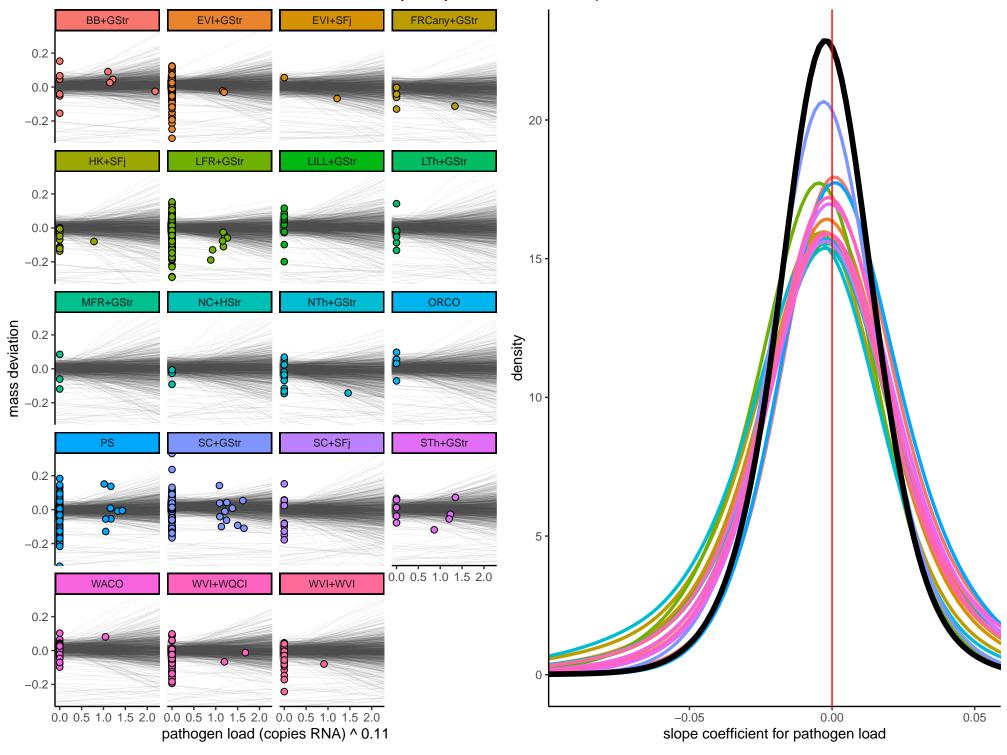




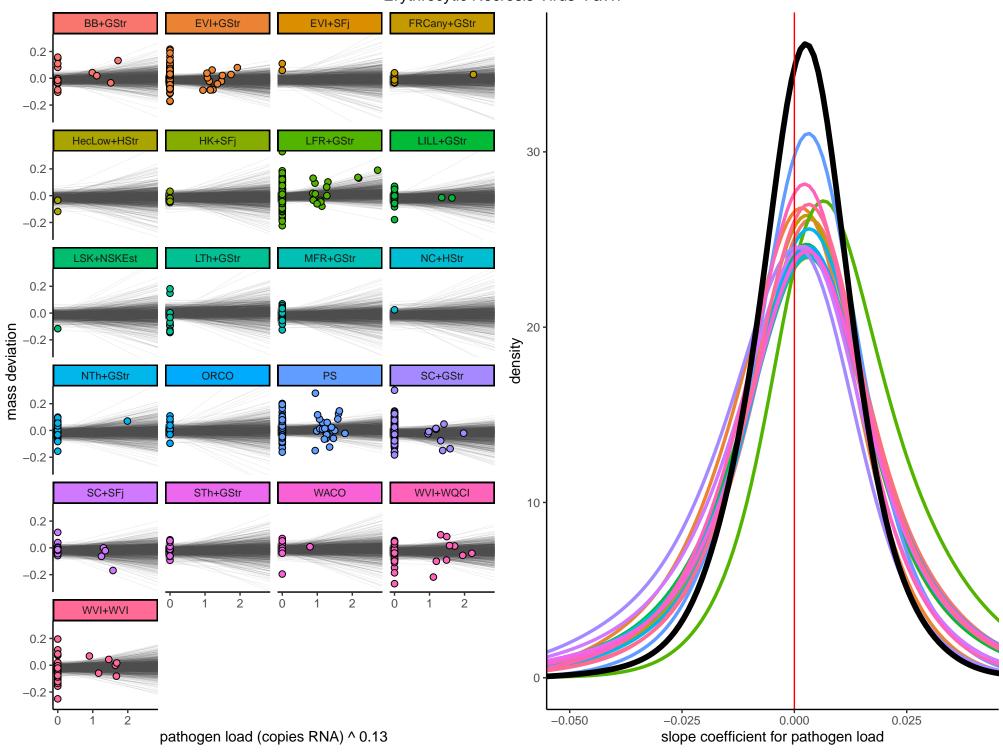
Tenacibaculum maritimum FaWi



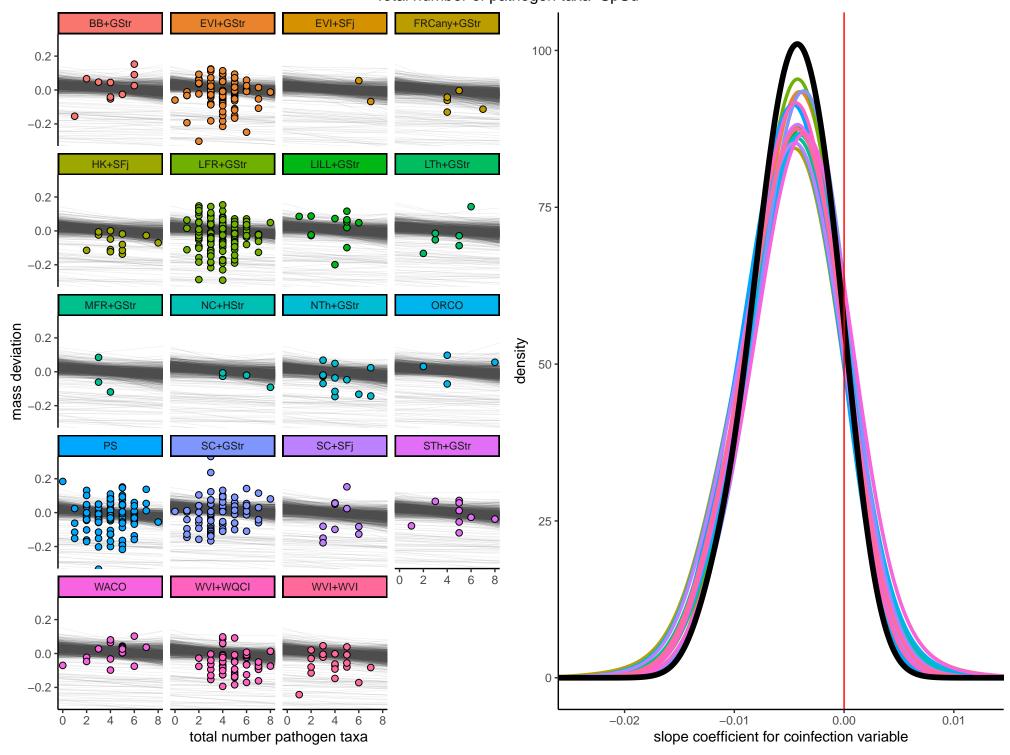
Erythrocytic Necrosis Virus SpSu



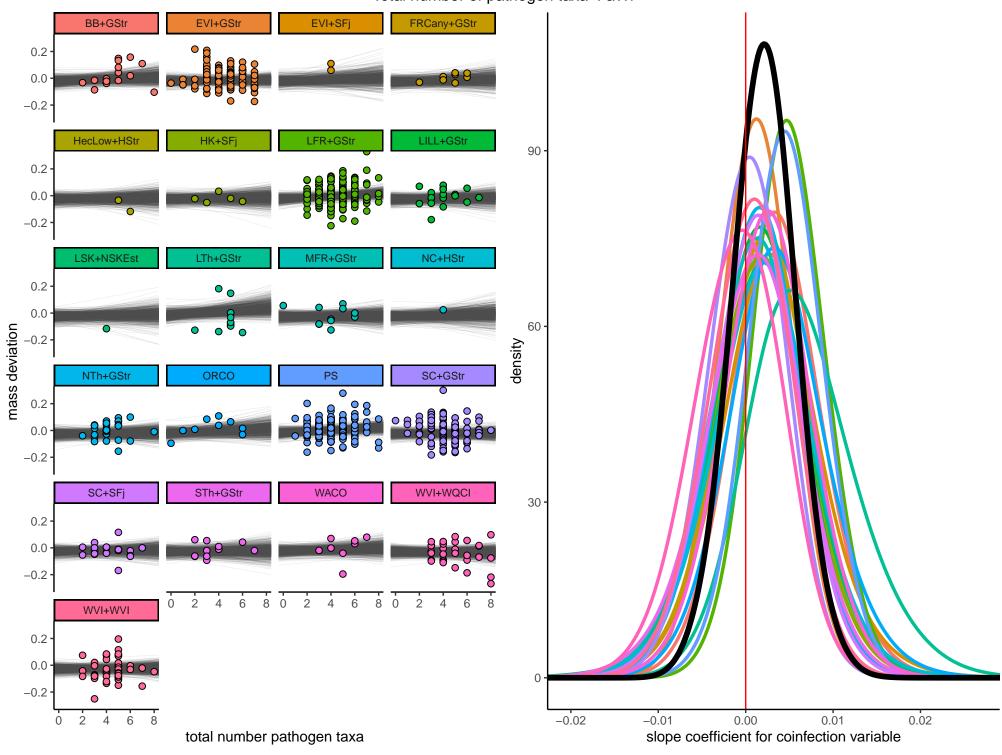




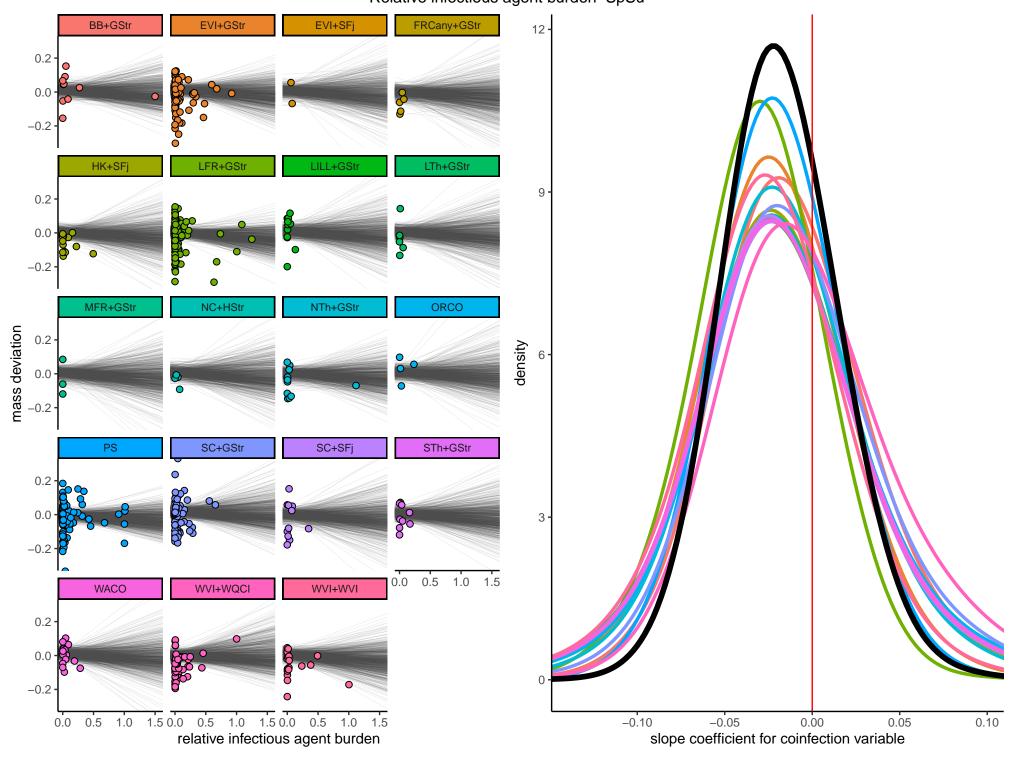
Total number of pathogen taxa SpSu



Total number of pathogen taxa FaWi



Relative infectious agent burden SpSu



Relative infectious agent burden FaWi

