

Figure S1. The effect of trait distribution and compensation in communities where trait covariation is 1 on the relationship between initial community vulnerability properties (V_{TOT} : total initial community vulnerability; V_{SD} : initial community trait standard deviation; V_{Mean} : initial mean community vulnerability) and ecosystem vulnerability, measured as the number of species needed to maintain function above 75% of initial ecosystem function. Each point is a result of one simulation, with colors representing the effects of different compensation scenarios (black: no replacement; red: random replacement; green: uncorrelated trophic-guild replacement; blue: correlated trophic-guild replacement).

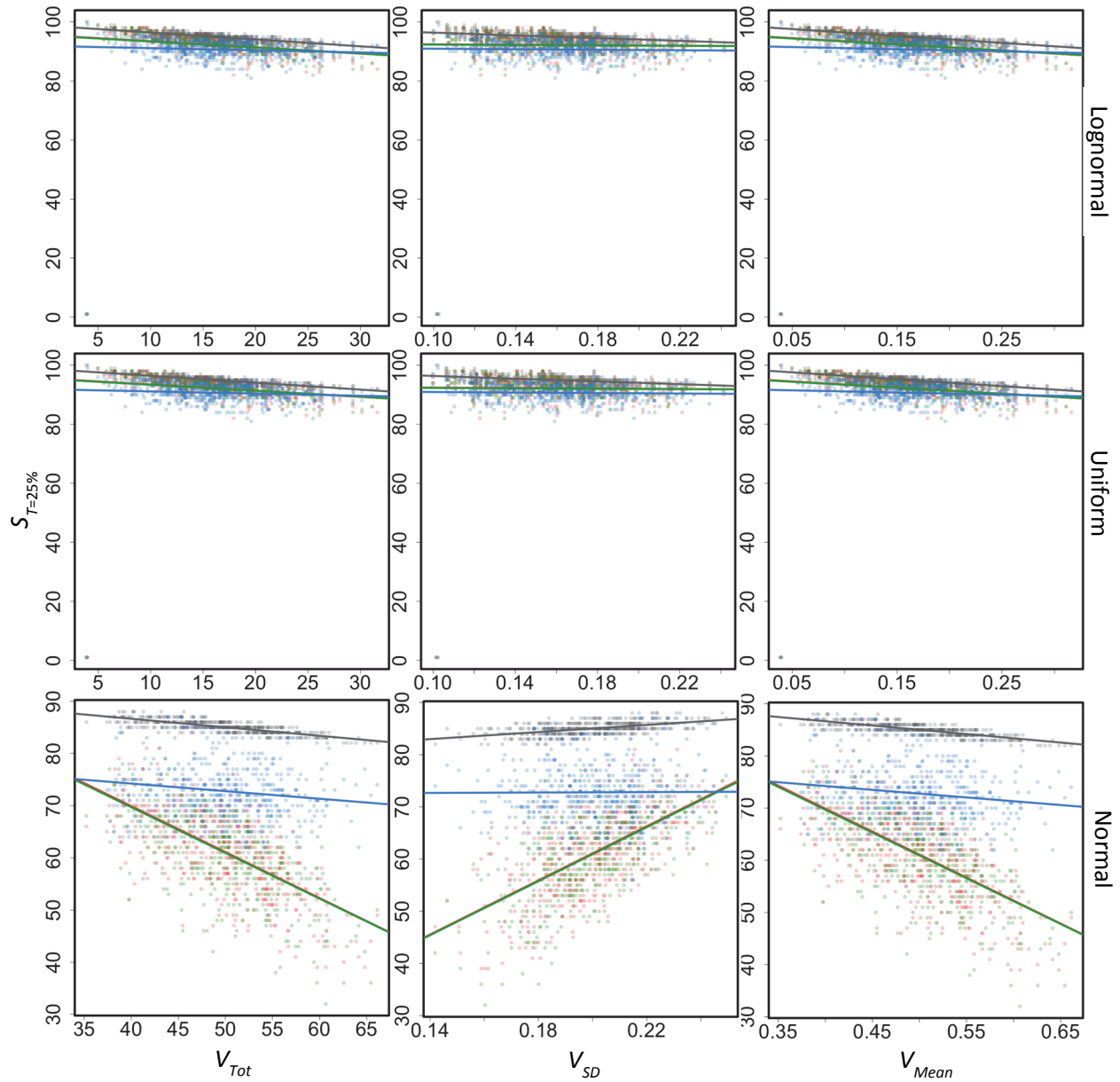


Figure S2. The effect of trait distribution and compensation in communities where trait covariation is 1 on the relationship between initial community vulnerability properties (V_{TOT} : total initial community vulnerability; V_{SD} : initial community trait standard deviation; V_{Mean} : initial mean community vulnerability) and ecosystem vulnerability, measured as the number of species needed to maintain function above 25% of initial ecosystem function. Each point is a result of one simulation, with colors representing the effects of different compensation scenarios (black: no replacement; red: random replacement; green: uncorrelated trophic-guild replacement; blue: correlated trophic-guild replacement).

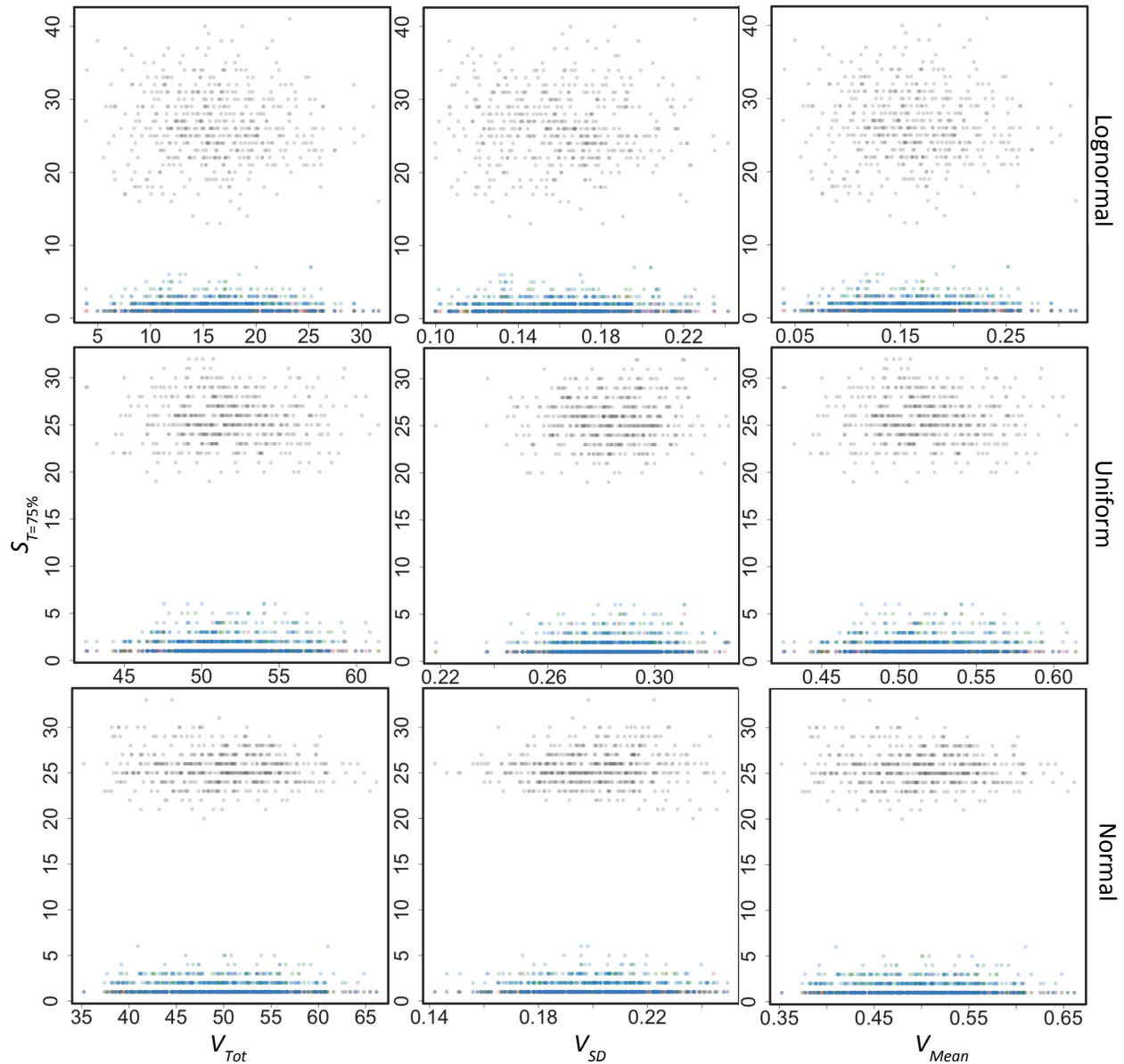


Figure S3. The effect of trait distribution and compensation in communities where trait covariation is 0 on the relationship between initial community vulnerability properties (V_{TOT} : total initial community vulnerability; V_{SD} : initial community trait standard deviation; V_{Mean} : initial mean community vulnerability) and ecosystem vulnerability, measured as the number of species needed to maintain function above 75% of initial ecosystem function. Each point is a result of one simulation, with colors representing the effects of different compensation scenarios (black: no replacement; red: random replacement; green: uncorrelated trophic-guild replacement; blue: correlated trophic-guild replacement).

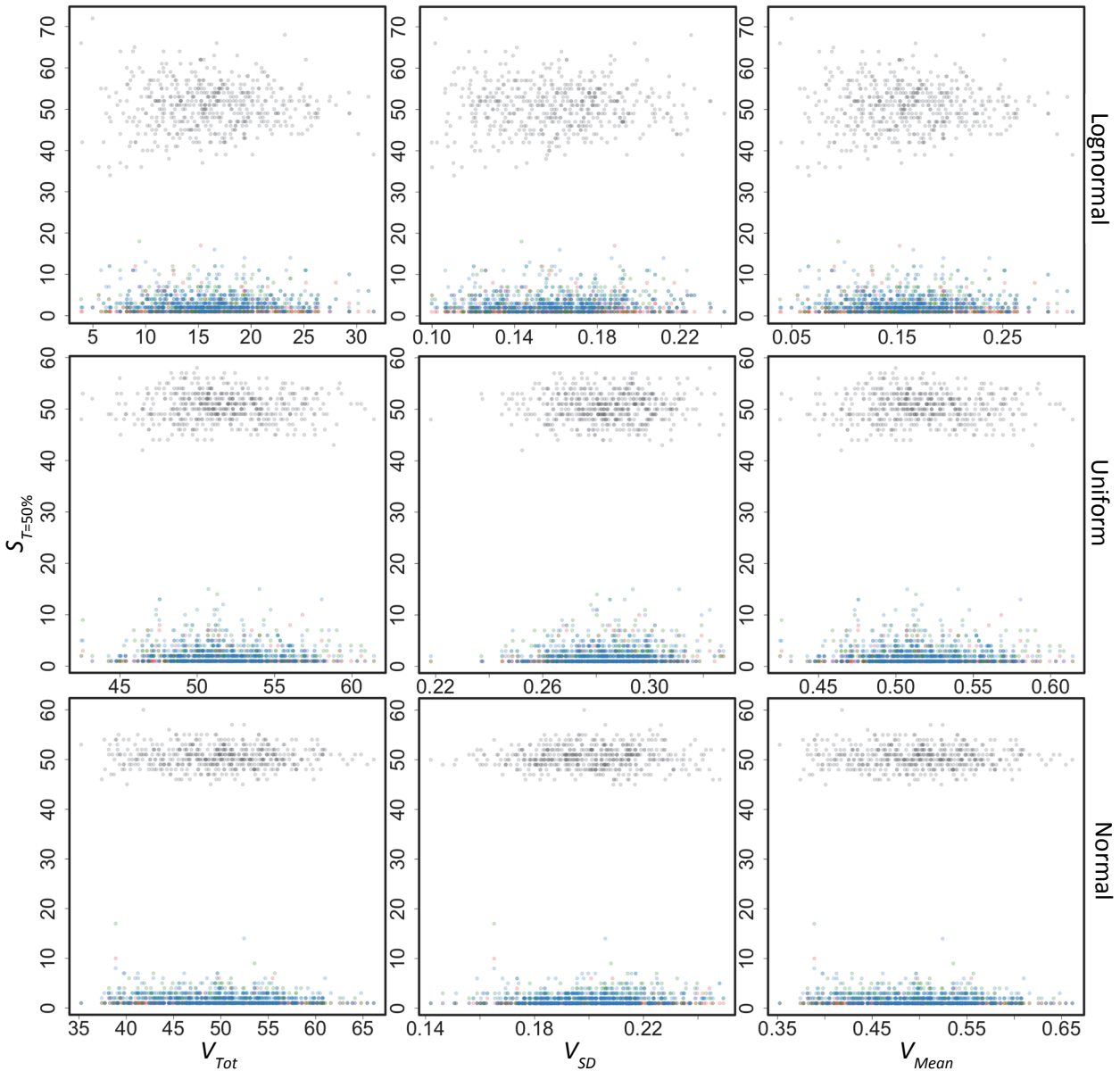


Figure S4. The effect of trait distribution and compensation in communities where trait covariation is 0 on the relationship between initial community vulnerability properties (V_{TOT} : total initial community vulnerability; V_{SD} : initial community trait standard deviation; V_{Mean} : initial mean community vulnerability) and ecosystem vulnerability, measured as the number of species needed to maintain function above 50% of initial ecosystem function. Each point is a result of one simulation, with colors representing the effects of different compensation scenarios (black: no replacement; red: random replacement; green: uncorrelated trophic-guild replacement; blue: correlated trophic-guild replacement).

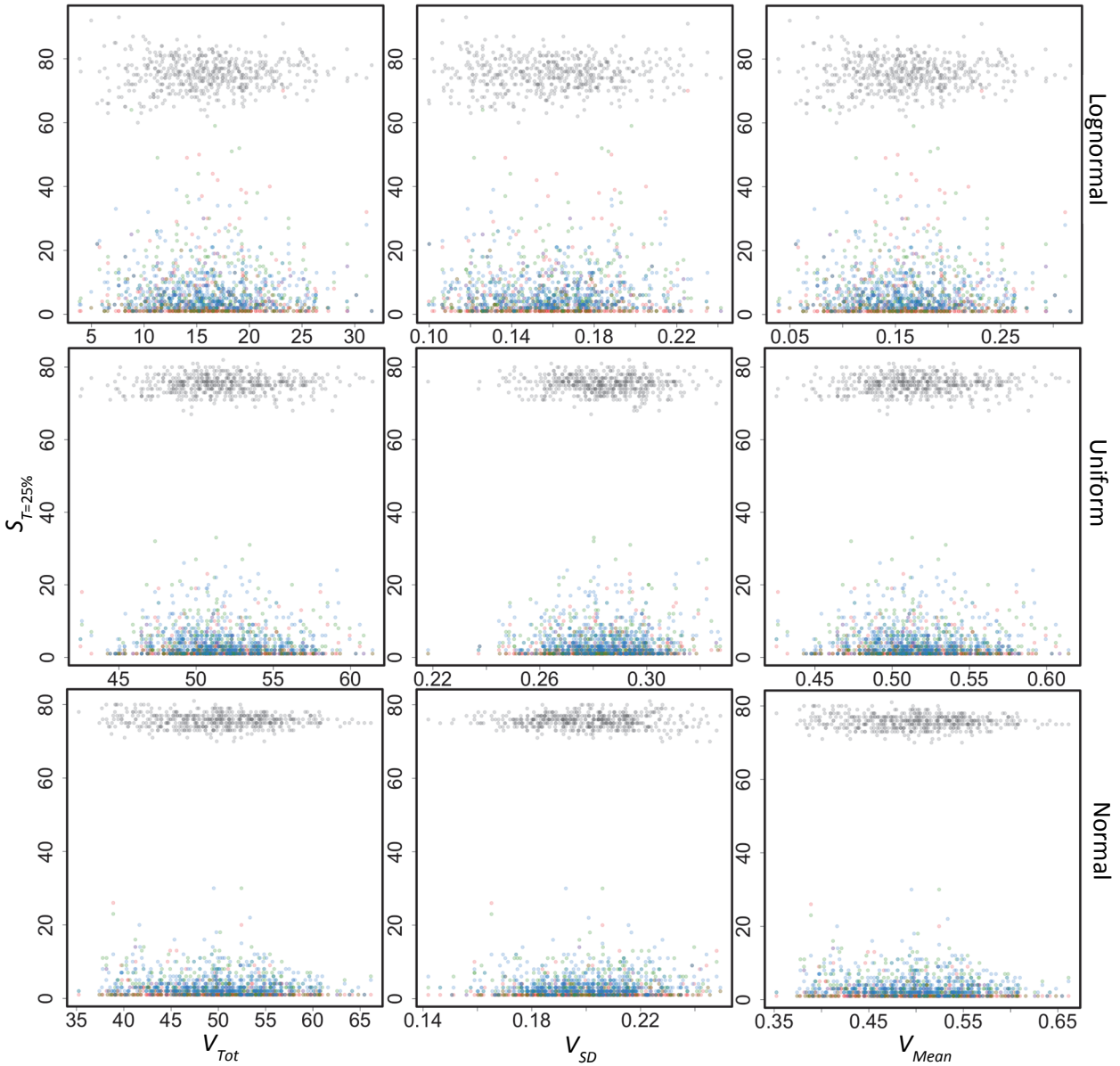


Figure S5. The effect of trait distribution and compensation in communities where trait covariation is 0 on the relationship between initial community vulnerability properties (V_{TOT} : total initial community vulnerability; V_{SD} : initial community trait standard deviation; V_{Mean} : initial mean community vulnerability) and ecosystem vulnerability, measured as the number of species needed to maintain function above 25% of initial ecosystem function. Each point is a result of one simulation, with colors representing the effects of different compensation scenarios (black: no replacement; red: random replacement; green: uncorrelated trophic-guild replacement; blue: correlated trophic-guild replacement).

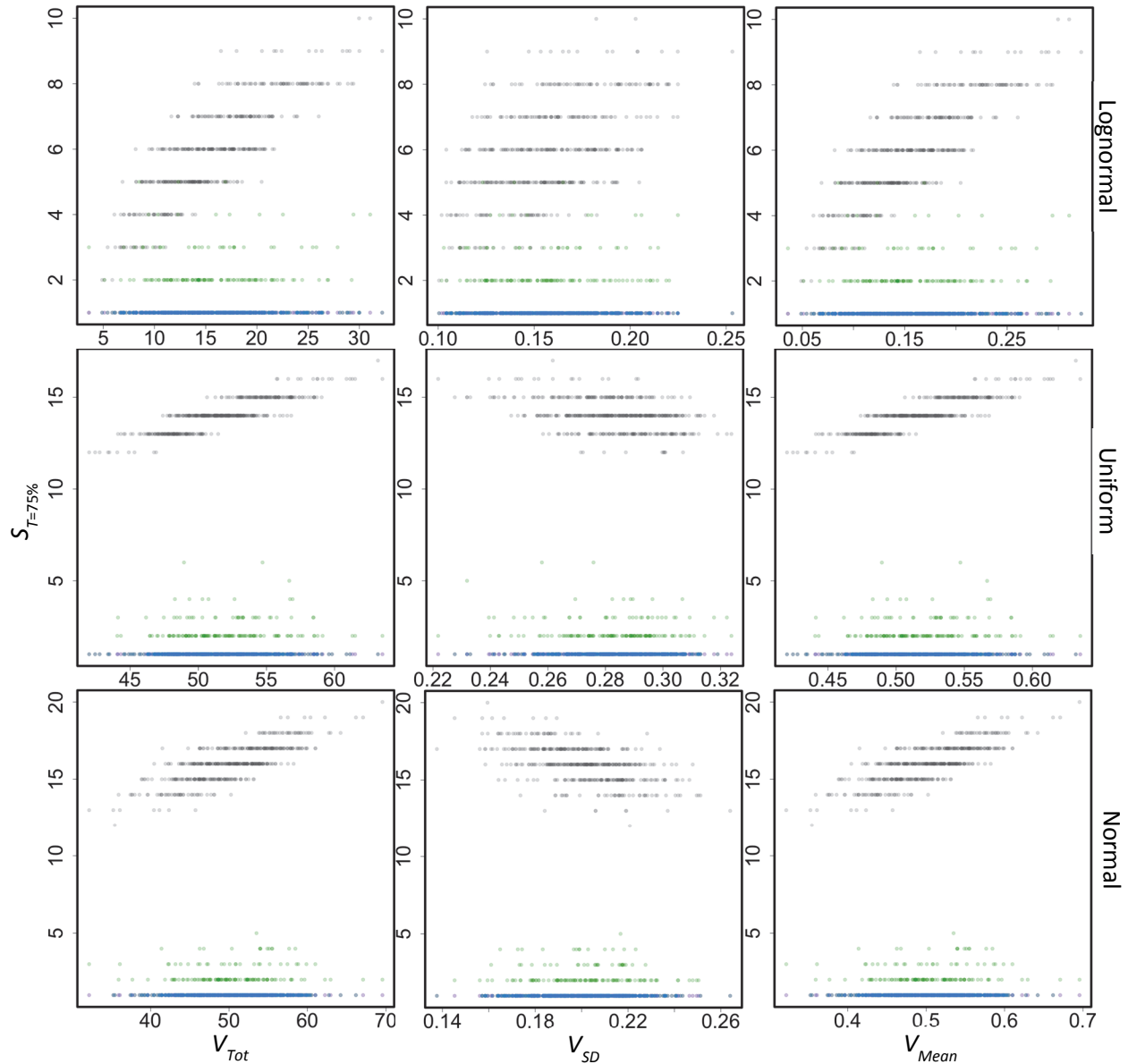


Figure S6. The effect of trait distribution and compensation in communities where trait covariation is -1 on the relationship between initial community vulnerability properties (V_{TOT} : total initial community vulnerability; V_{SD} : initial community trait standard deviation; V_{Mean} : initial mean community vulnerability) and ecosystem vulnerability, measured as the number of species needed to maintain function above 75% of initial ecosystem function. Each point is a result of one simulation, with colors representing the effects of different compensation scenarios (black: no replacement; red: random replacement; green: uncorrelated trophic-guild replacement; blue: correlated trophic-guild replacement).

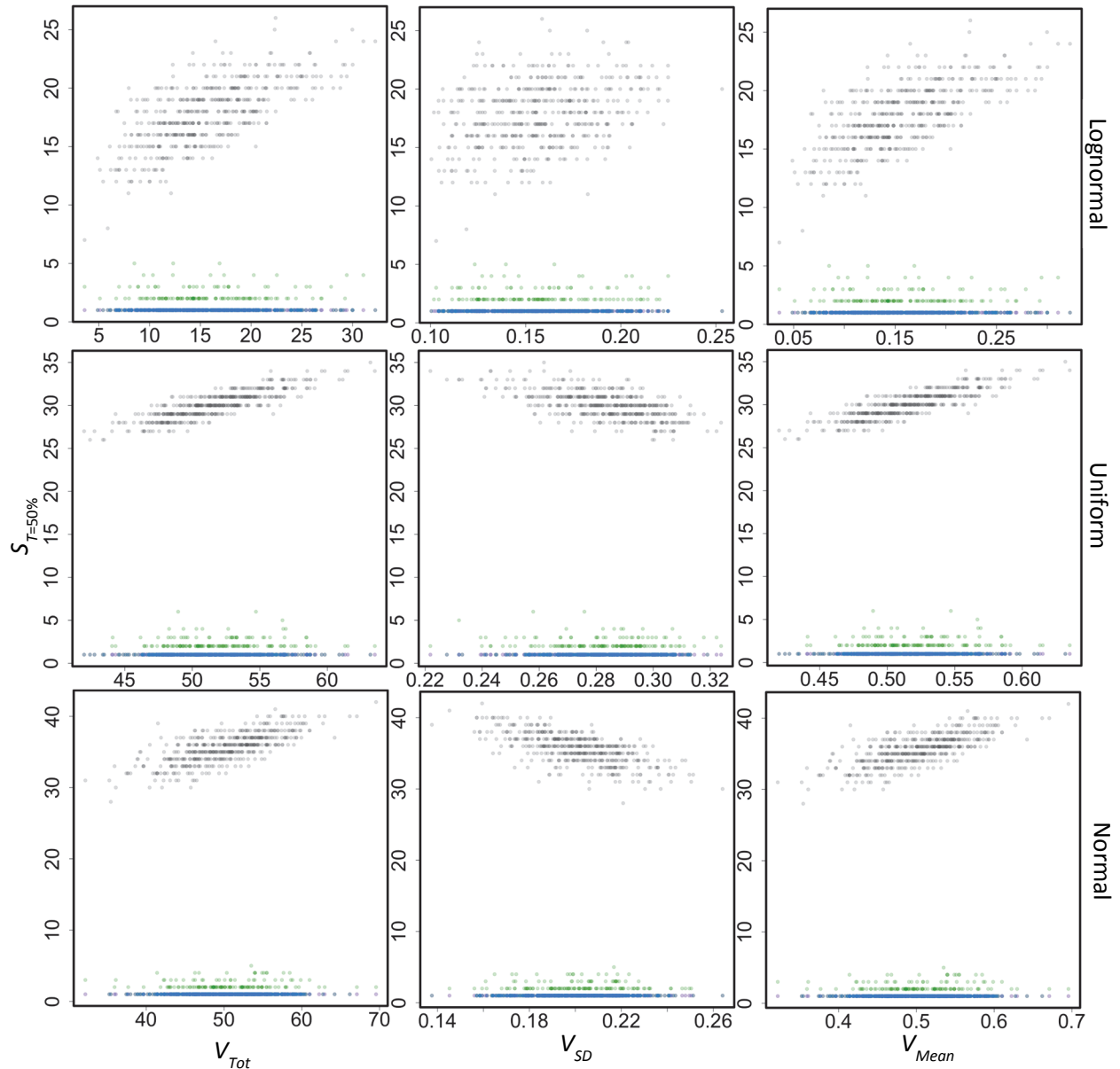


Figure S7. The effect of trait distribution and compensation in communities where trait covariation is -1 on the relationship between initial community vulnerability properties (V_{TOT} : total initial community vulnerability; V_{SD} : initial community trait standard deviation; V_{Mean} : initial mean community vulnerability) and ecosystem vulnerability, measured as the number of species needed to maintain function above 50% of initial ecosystem function. Each point is a result of one simulation, with colors representing the effects of different compensation scenarios (black: no replacement; red: random replacement; green: uncorrelated trophic-guild replacement; blue: correlated trophic-guild replacement).

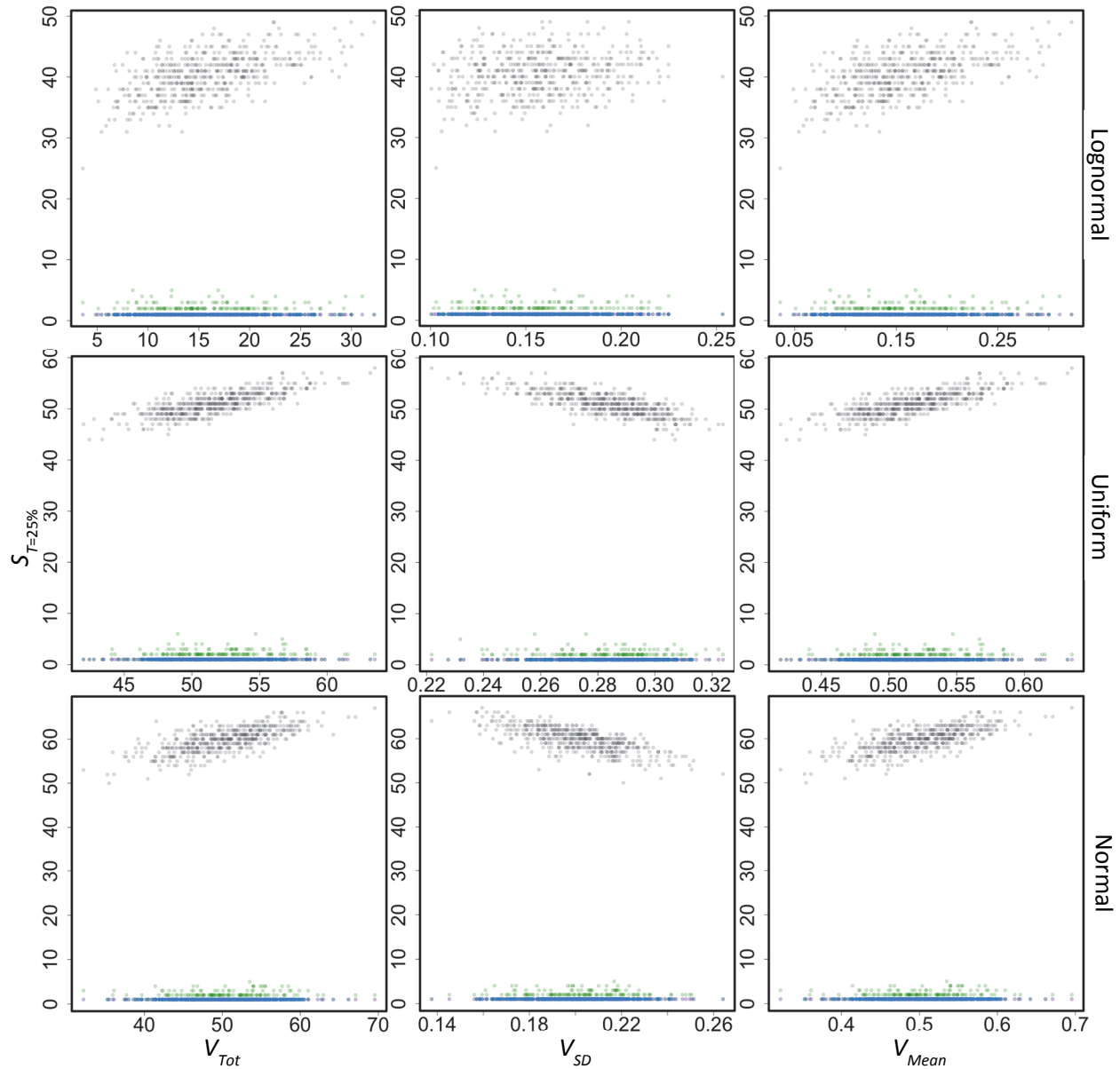


Figure S8. The effect of trait distribution and compensation in communities where trait covariation is -1 on the relationship between initial community vulnerability properties (V_{TOT} : total initial community vulnerability; V_{SD} : initial community trait standard deviation; V_{Mean} : initial mean community vulnerability) and ecosystem vulnerability, measured as the number of species needed to maintain function above 25% of initial ecosystem function. Each point is a result of one simulation, with colors representing the effects of different compensation scenarios (black: no replacement; red: random replacement; green: uncorrelated trophic-guild replacement; blue: correlated trophic-guild replacement).