APPENDIX 1: EQUATIONS FOR TWO SYMBIONT STRAINS

Hawkes, Bull, Lau. Symbiosis and stress: how plant microbiomes affect host evolution. Phil. Trans. R. Soc. B

$$\dot{P}_u = b_p - \beta S_B P_u - \beta S_G P_u - d_u P_u$$

$$\dot{P}_G = \beta S_G P_u - d_G P_G$$

$$\dot{P}_B = \beta S_B P_u - d_B P_B$$

$$\dot{S}_G = b_s P_G - \beta S_G P_u - d_s S_G$$

$$\dot{S}_B = b_s P_B - \beta S_B P_u - d_s S_B$$

Notation is given in the following table but generally parallels that in the text.

Table S1. Model variables and parameters

Notation	Description
Variables	
P_u	density of naïve plants lacking symbionts
P_G	density of plants infected with good symbionts
P_B	density of plants infected with bad symbionts
S_G	density of good free-living symbionts
S_B	density of bad free-living symbionts
Parameters	
b_p	birth rate of plants, independent of plant density, born naive
b_s	birth rate of symbionts from symbiont-infected plants
β	rate parameter of symbionts infecting plants
d_u	death rate of uninfected plants
d_G	death rate of plants infected with a good symbiont
d_B	death rate of plants infected with a bad symbiont
d_s	death rate of free symbionts (regardless of type)