

Appendix S4:

Ecological character displacement destabilizes food webs

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Elements: Figures S1 and S2.

(ignore this blank page for the moment. Rmarkdown can be a pain in the ass.)

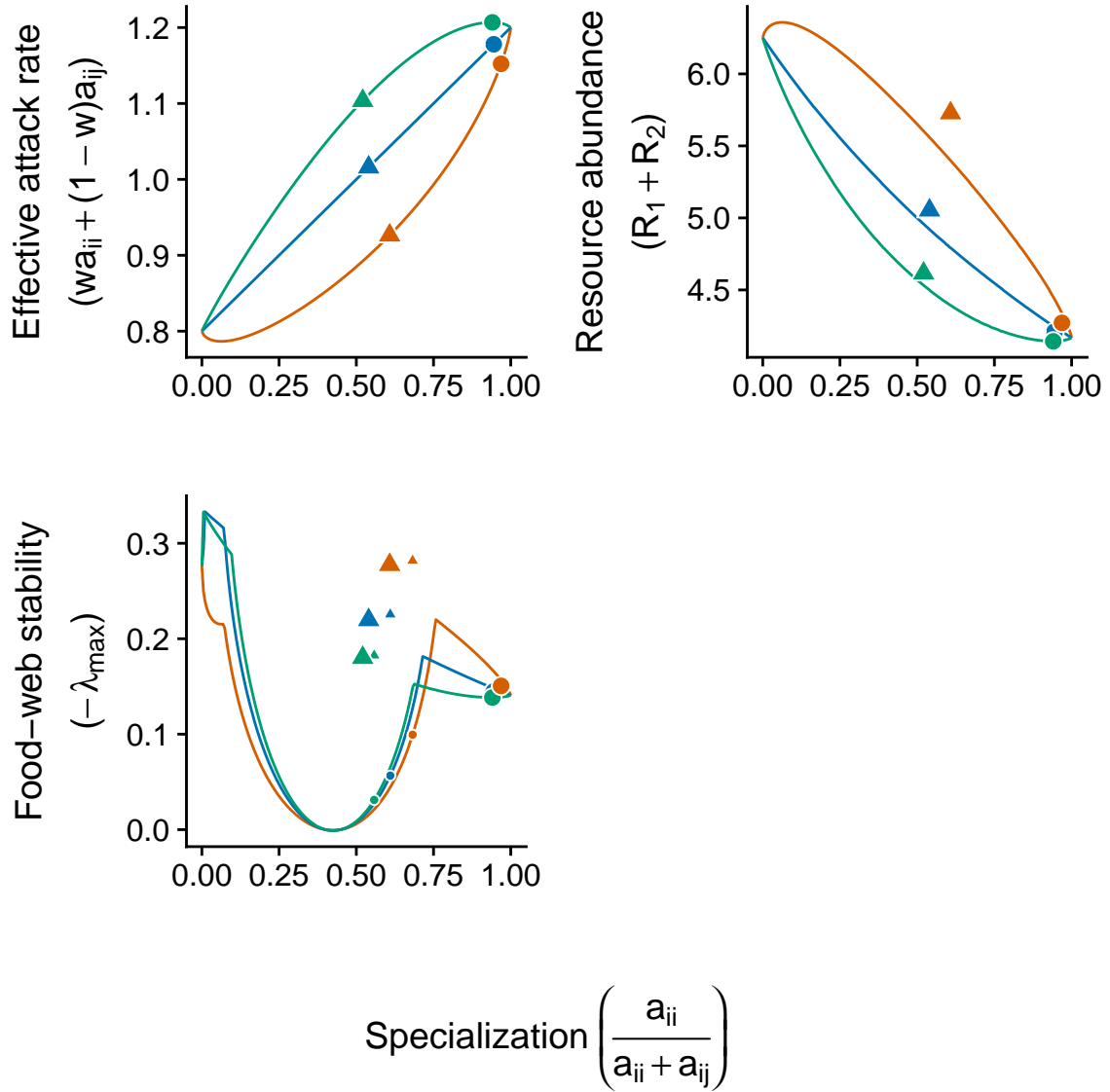


Figure S1: **Effect of character displacement when consumers exhibit a more realistic functional response.** Different line colors correspond to different tradeoff values (green, $n = 1.15$; blue, $n = 1$; orange, $n = 0.85$). Large circles (two consumers) and triangles (one consumer) correspond to the end points of the eco-evolutionary simulation, whereas as small shapes correspond to the starting points (only in stability panel). This figure illustrates how, regardless of the tradeoff, character displacement increases the effective attack rate of consumers. This always resulted in a suppression of resource abundances and concomitant decrease in food-web stability. Initial parameter and state variables are given in the main text.

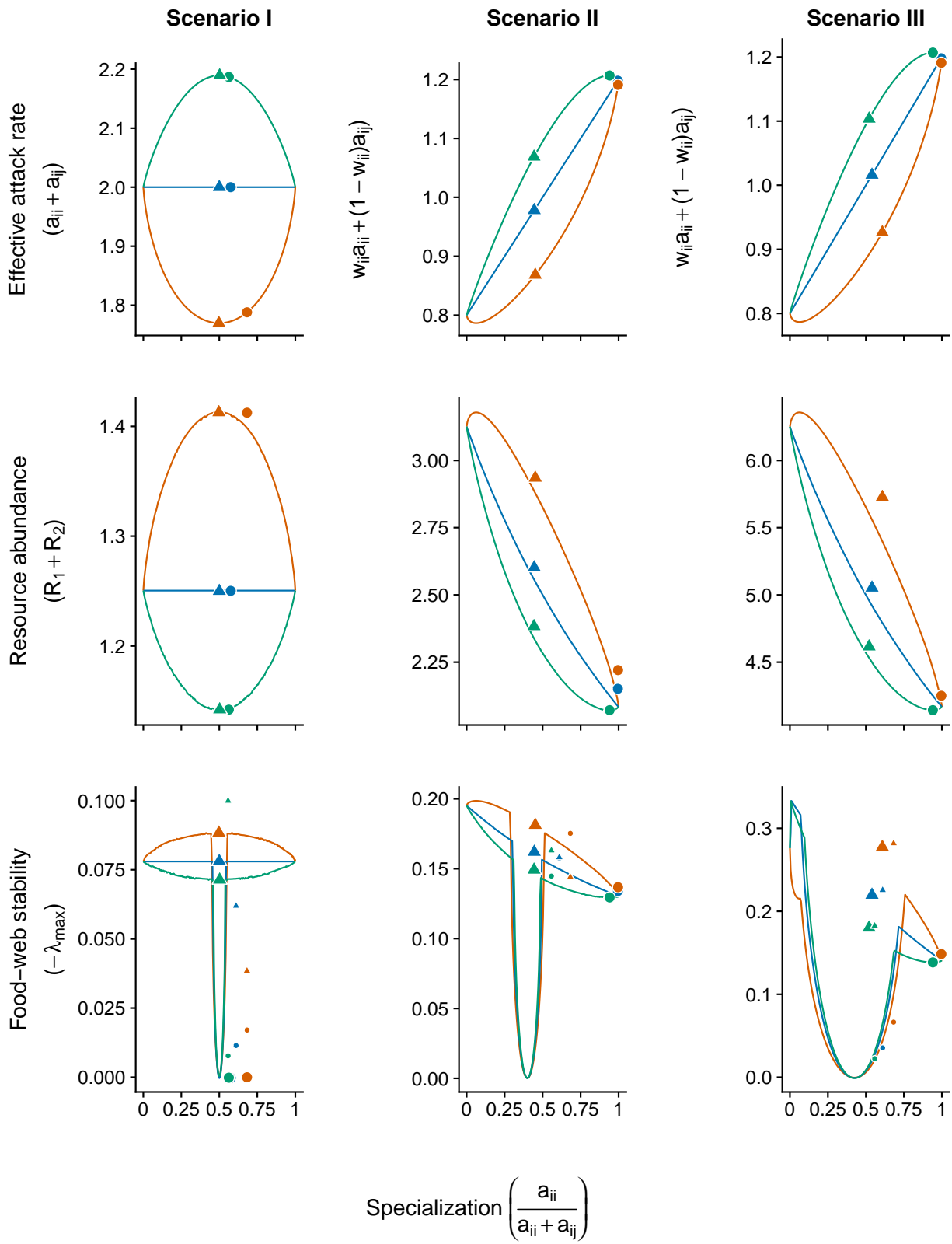


Figure S2: **Robustness to consumer asymmetry.** Scenarios correspond to: (I) resources occur in the same habitat and consumer(s) exhibits a linear functional response; (II) resources occur in different habitats and consumer(s) exhibits a linear functional response; (III) resources occur in different habitats and consumer(s) exhibits a more realistic functional response (details in main text). Different line colors correspond to different tradeoff values (green, $n = 1.15$; blue, $n = 1$; orange, $n = 0.85$). Large circles (two consumers) and triangles (one consumer) correspond to the end points of the eco-evolutionary simulation, whereas as small shapes correspond to the starting points (only in stability panels). The similarity with fig. S1 and fig. 2 (main text) show that adding an asymmetry in consumer attack rates does not alter the conclusions reported in the main text. If anything, it is more likely that an asymmetry will push the system toward the boundary of stability (note position of large circles in stability panel of Scenario I). Details of the consumer asymmetry simulation are given in the main text.