Fig. 2 (a) Switching curves (thick lines) and sample growth trajectories (thin lines) for semelparous reproduction, given: the standard specific model of Fig.1 (solid lines); α is increased to 3 (dotted lines); growth variance σ^2 is uniformly reduced by a factor of 10 (dashed lines). The qualitative effects of increased overhead costs or reduced noise level are as described in the Discussion and presented in Fig.1. **(b)** As in panel a, but mortality rate is now size-dependent: $\mu = 0.5e^{-z}$.

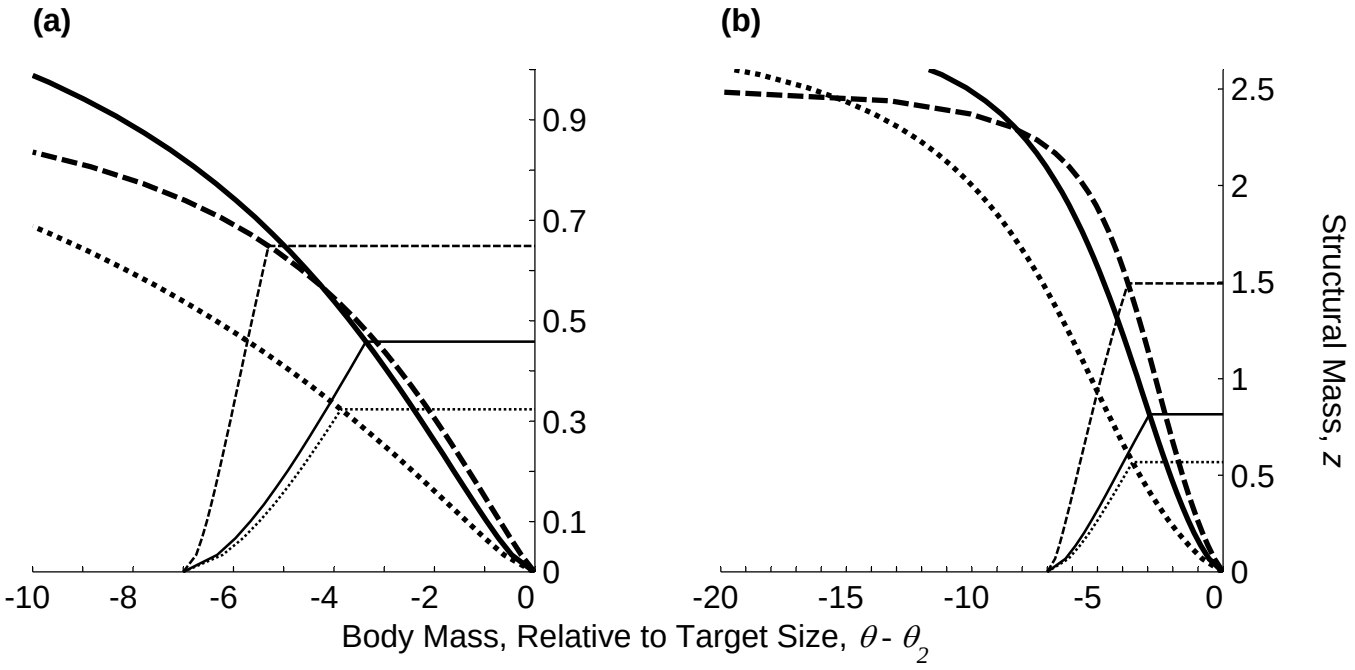

(a)
(b)
0.9
0.7
0.5
0.3
0.1
0
2.5
2
1.5
1
0.5
0
-10
-8
-6
-4
-2
0
-20
-15
-10
-5
0
Structural Mass, z
Body Mass, Relative to Target Size, θ - θ_2

Fig. 3 (a) Switching curves for iteroparous reproduction, given: the standard specific model of Fig.1 (solid); α is increased to 3 (dotted); growth variance σ^2 is uniformly reduced by a factor of 4 (dashed). The amount of reserves retained after reproduction is $y_3 = 4$. The survival probability between reproduction events (s) is bounded by $s_{max} = 0.9$ (see Discussion). **(b)** As in panel a, but mortality rate is now size-dependent: $\mu = 0.5e^{-z}$.

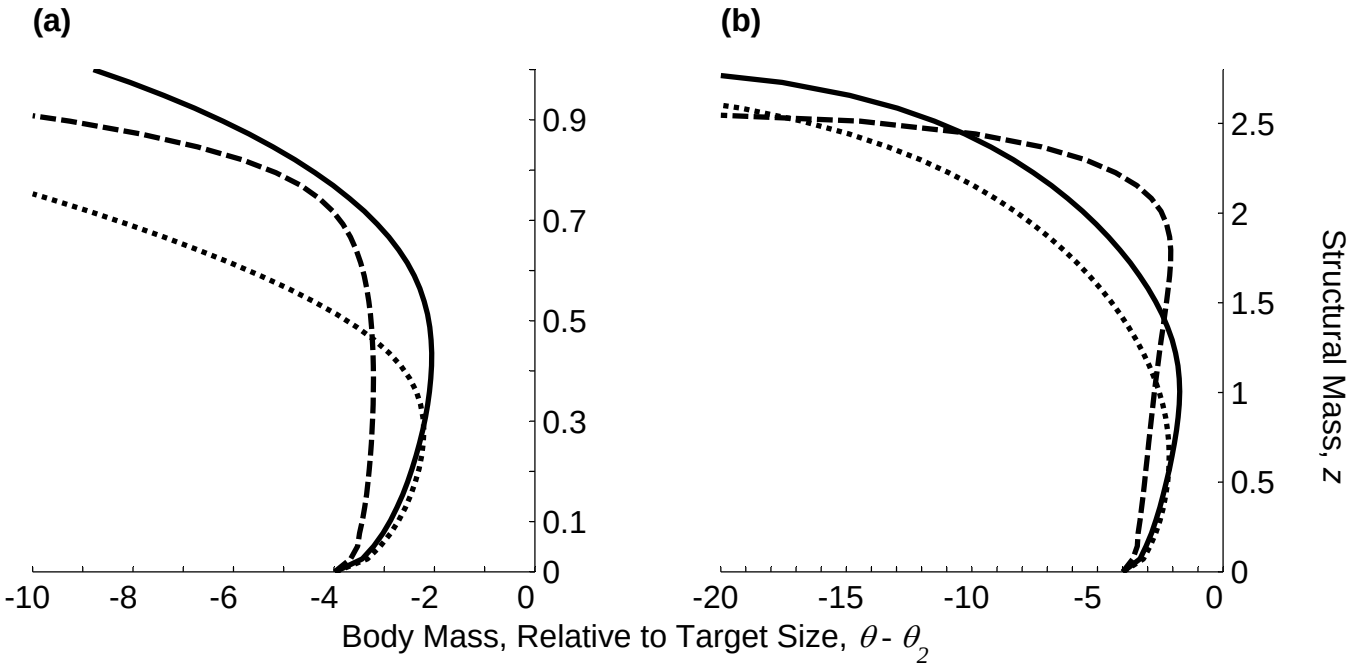

(a)
(b)
0.9
0.7
0.5
0.3
0.1
0
2.5
2
1.5
1
0.5
0
-10
-8
-6
-4
-2
0
-20
-15
-10
-5
0
Structural Mass, z
Body Mass, Relative to Target Size, θ - θ2

Fig. 4 (a) Switching curves for iteroparous reproduction, given the standard specific model of Fig.1, and: $s_{max} = 1$, $a_{egg} = 0$ (solid; i.e., no minimum reproductive expenditure; allows for continuous reproduction); $s_{max} = 0.9$ (dotted); $a_{egg} = 2$ (dashed). The amount of reserves retained after reproduction is $y_3 = 4$. **(b)** Survival probability between reproduction events (s) as a function of final structural mass z_2, for the above three cases.

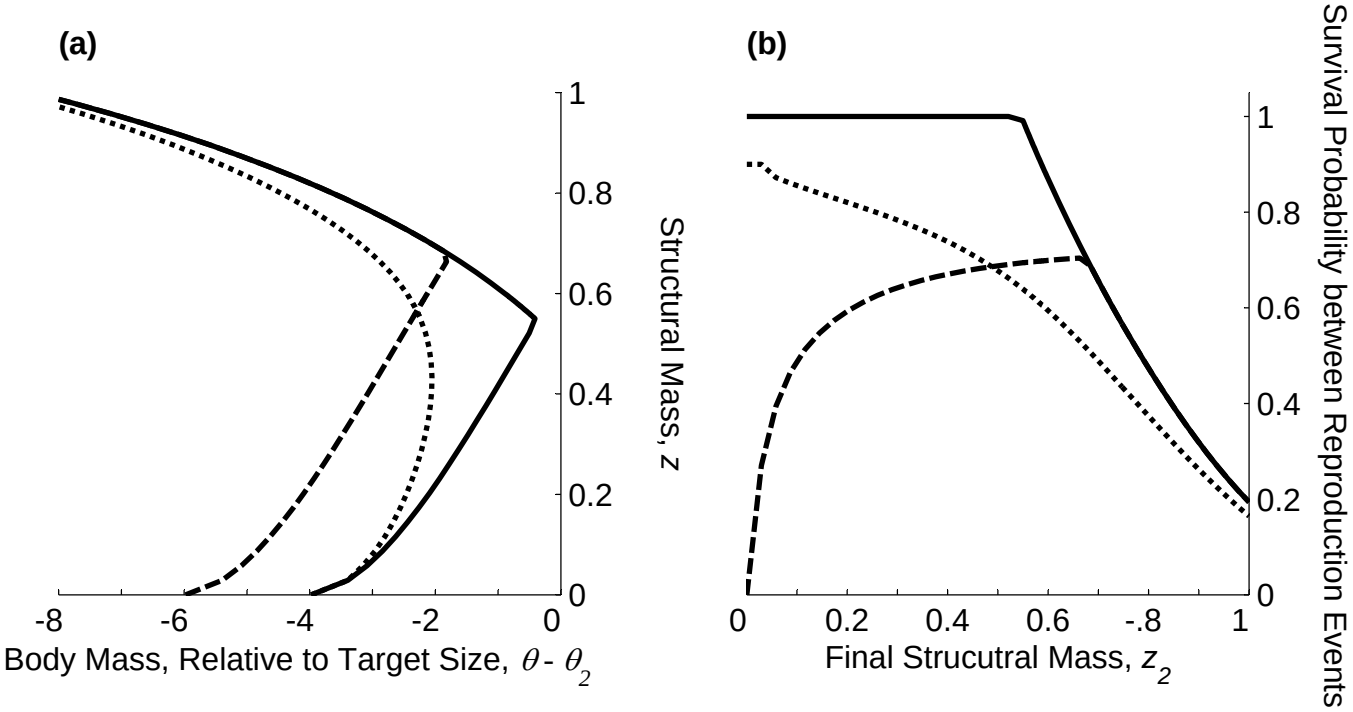
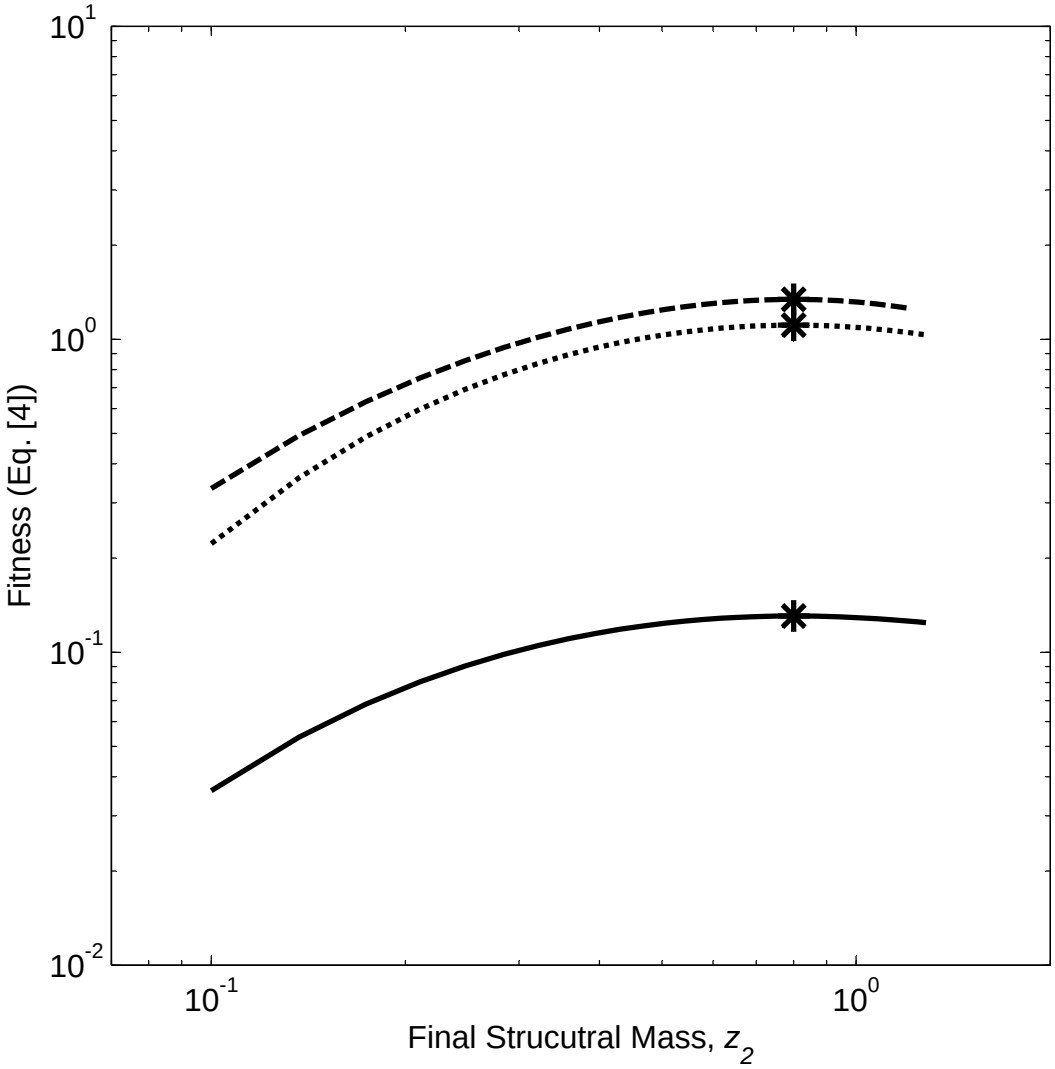

(a)
(b)
1
0.8
0.6
0.4
0.2
0
-8
-6
-4
-2
0
Structural Mass, z
Body Mass, Relative to Target Size, θ - θ2
0.2
0.4
0.6
-.8
1
Final Strucutral Mass, z2
Survival Probability between Reproduction Events

Fig. 5 The fitness effects of adopting suboptimal growth strategies. The figure presents the consequences of switching-off structural growth earlier or later than the optimal switching size. No reproduction (solid). Semelparous reproduction (dotted). Iteroparous reproduction (dashed). In all three cases the optimal final structural mass is $z_2 = 0.8$ (marked by asterisks). For iteroparous reproduction $y_3 = 4$. Note that the abscissa is presented in logarithmic scale.


10^{1}
10^{0}
10^{-1}
10^{-2}
Fitness (Eq. [4])
10^{-1}
10^{0}
Final Strucutral Mass, z_2