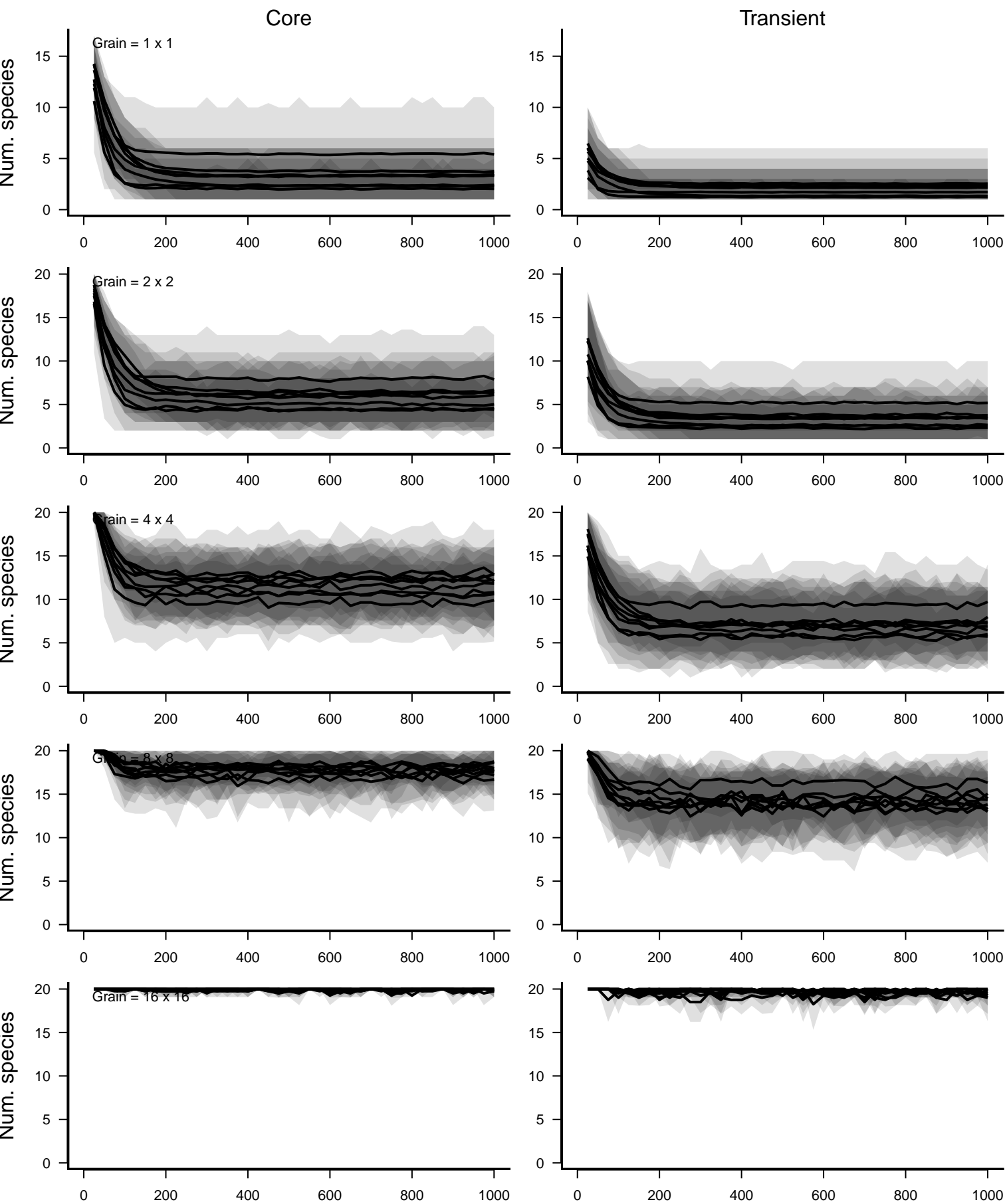
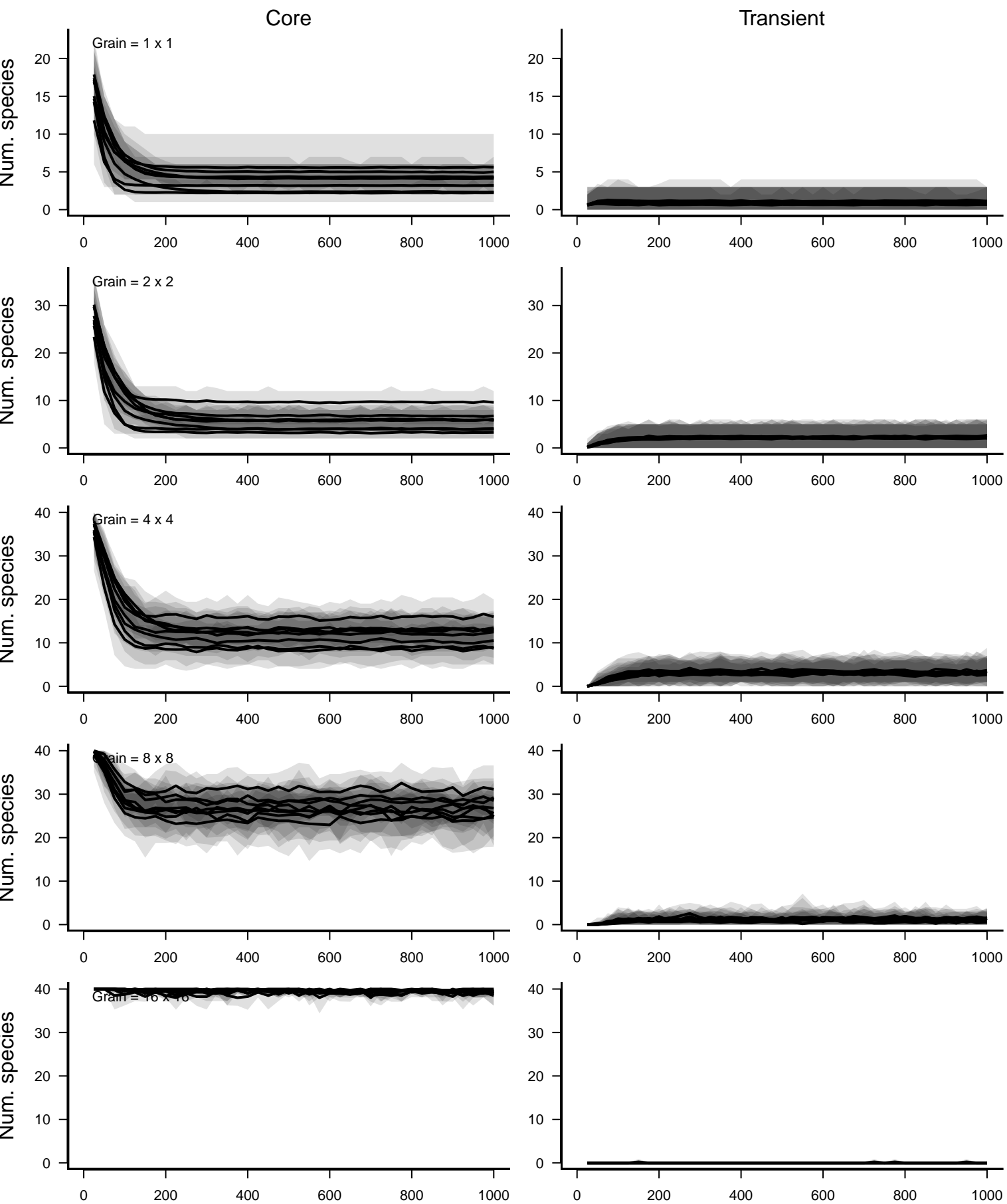


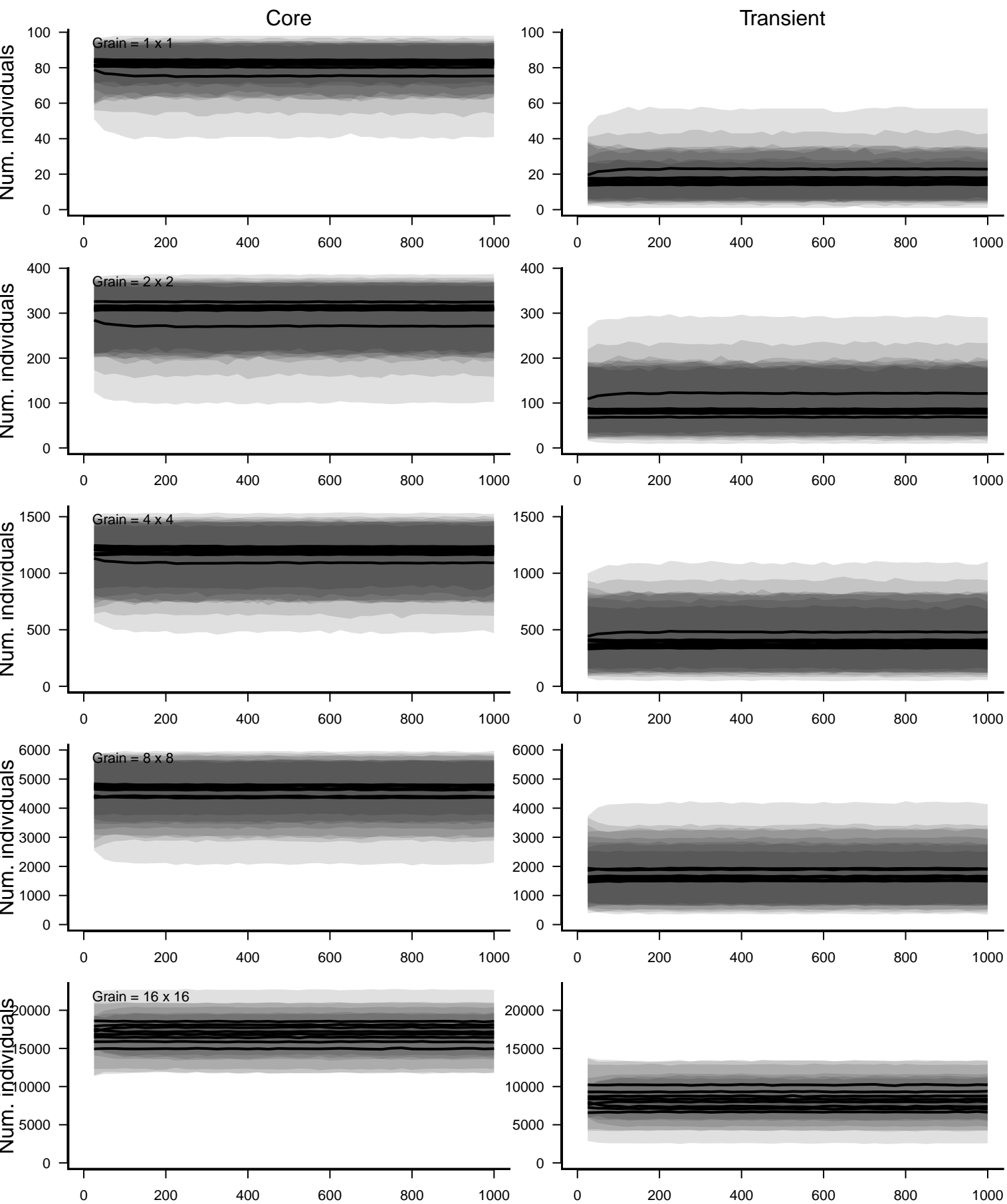
Birth rate–based categories: detection prob. = 1



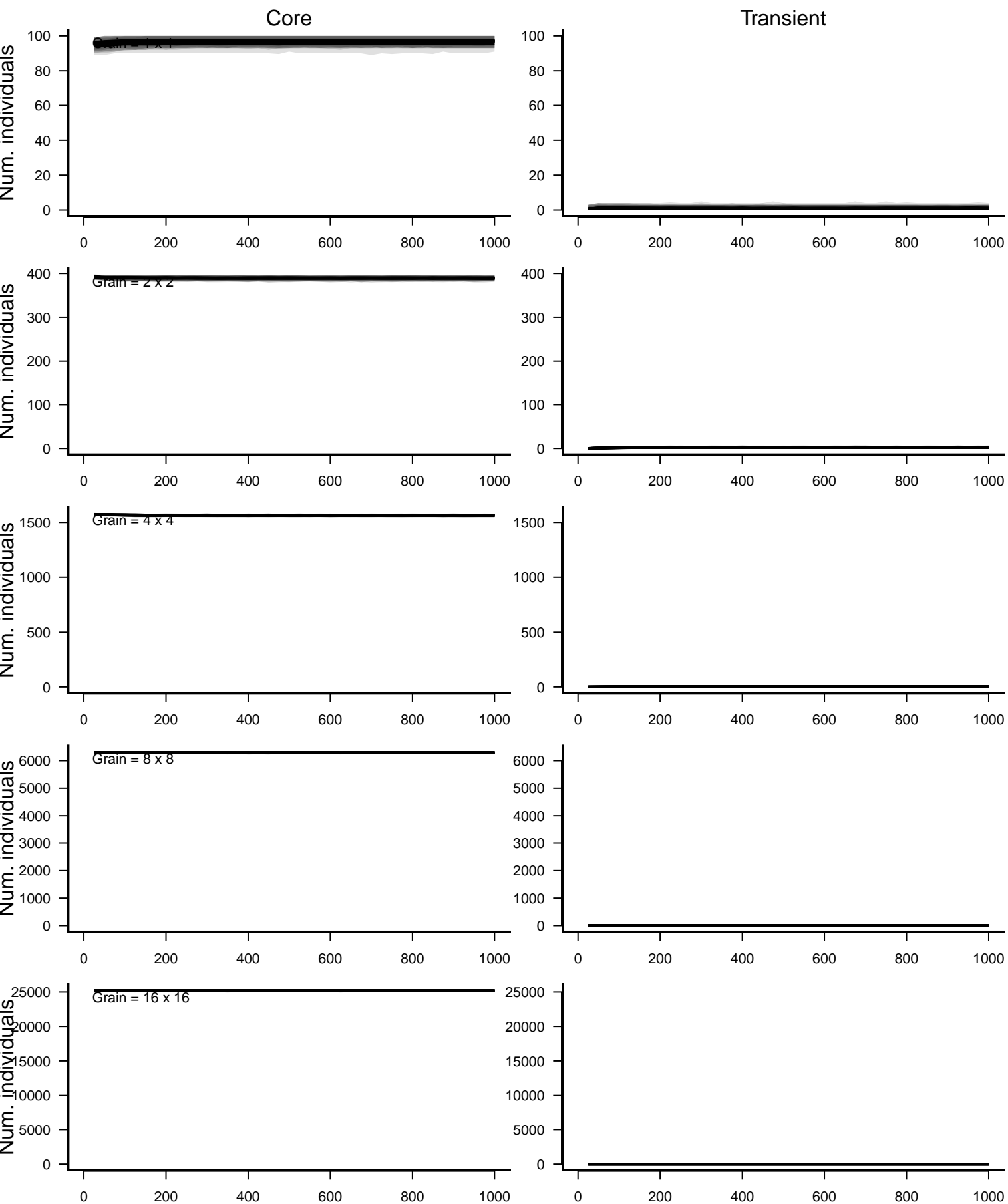
Temporal occupancy-based categories: detection prob. = 1



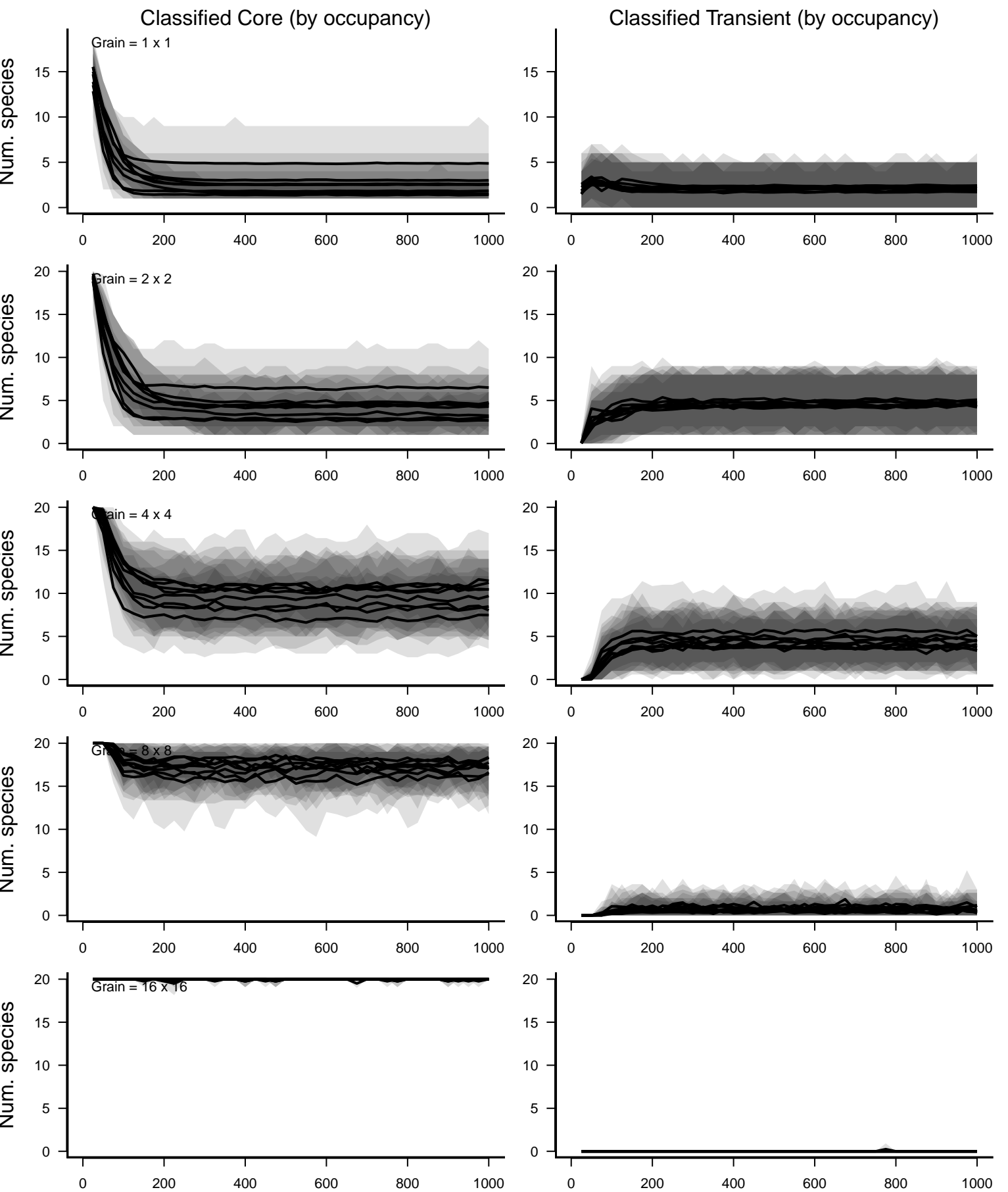
Birth rate–based categories: detection prob. = 1



Temporal occupancy-based categories: detection prob. = 1

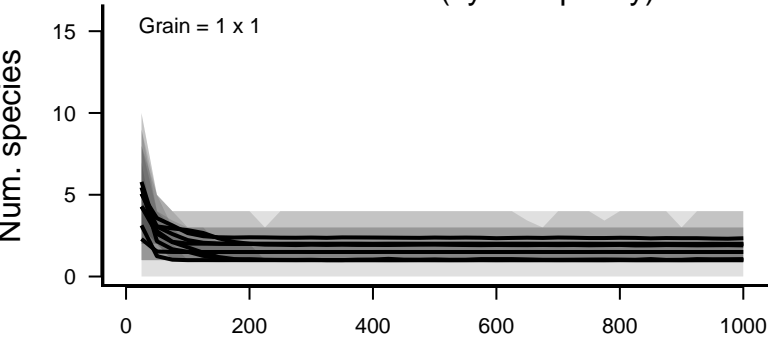


Birth rate–based Core Species: detection prob. = 1

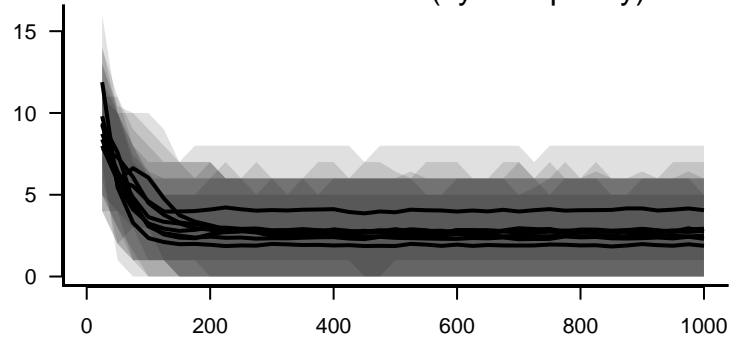


Birth rate–based Transient Species: detection prob. = 1

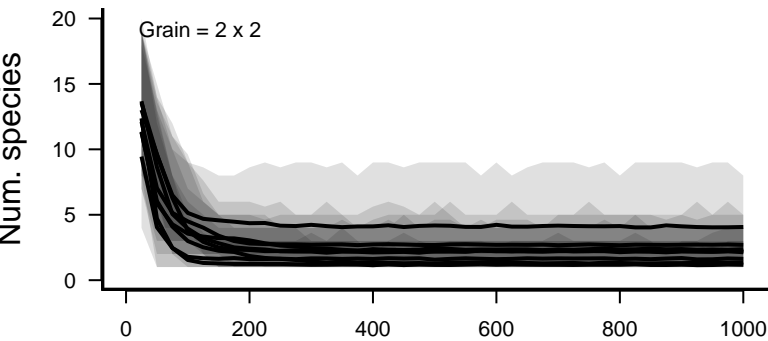
Classified Core (by occupancy)



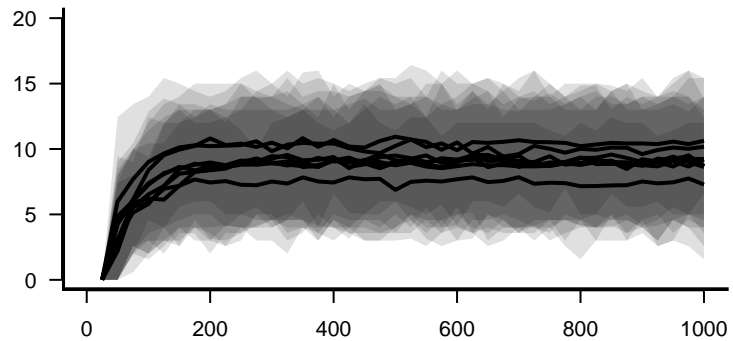
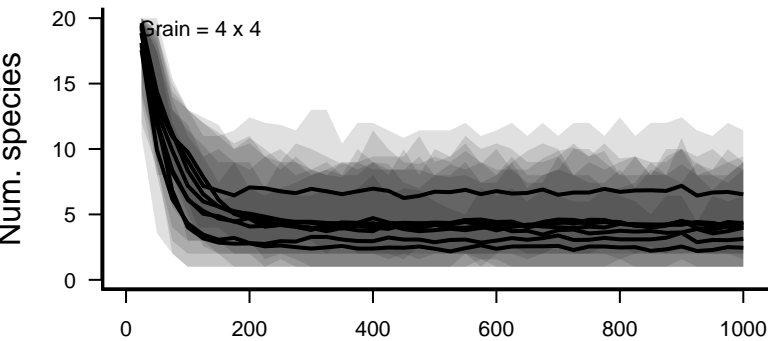
Classified Transient (by occupancy)



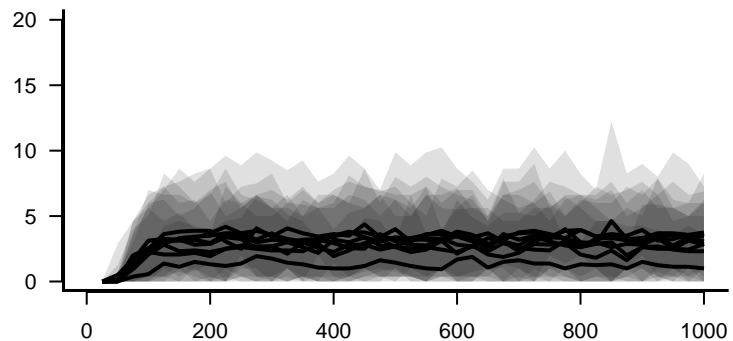
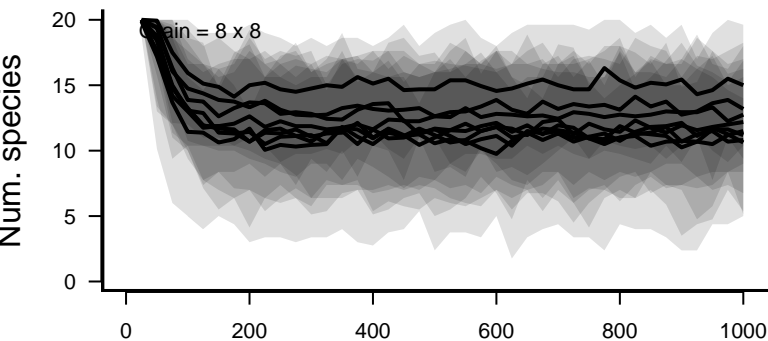
Grain = 2 x 2



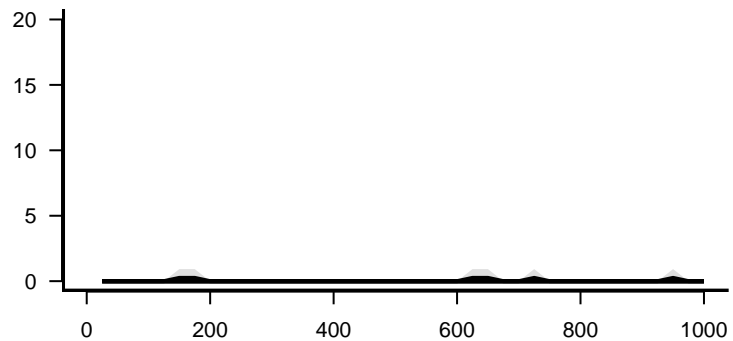
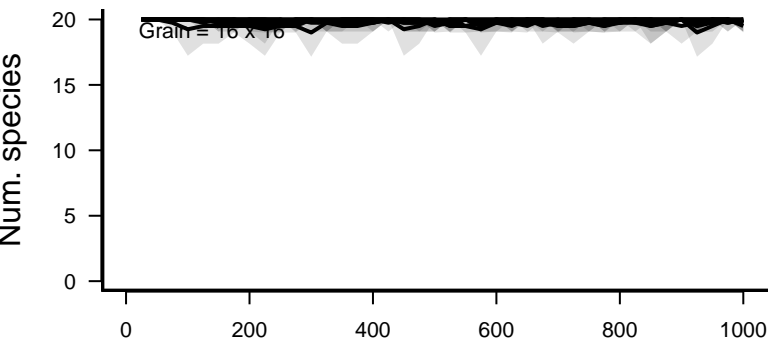
Grain = 4 x 4



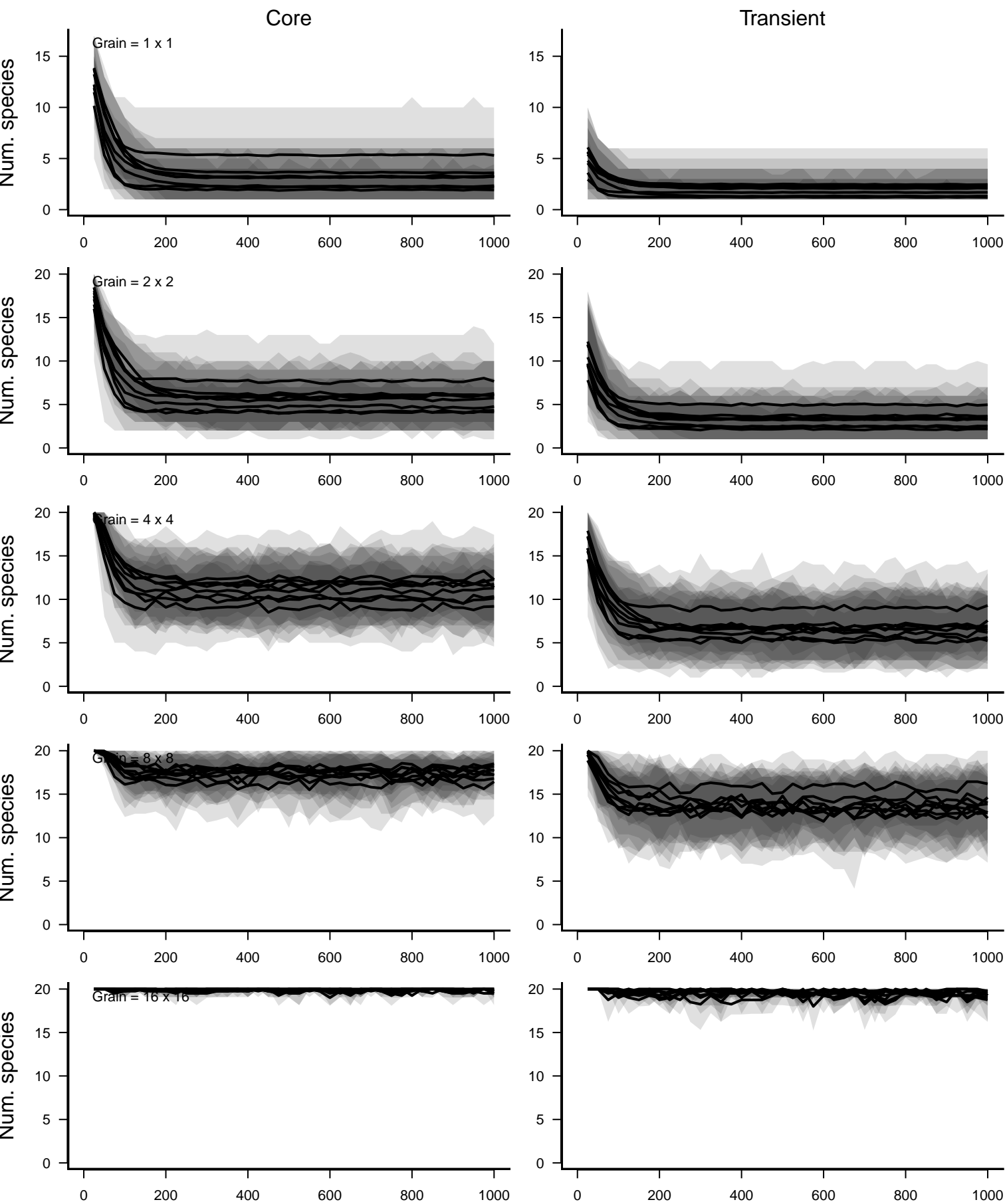
Chain = 8 x 8



Grain = 16 x



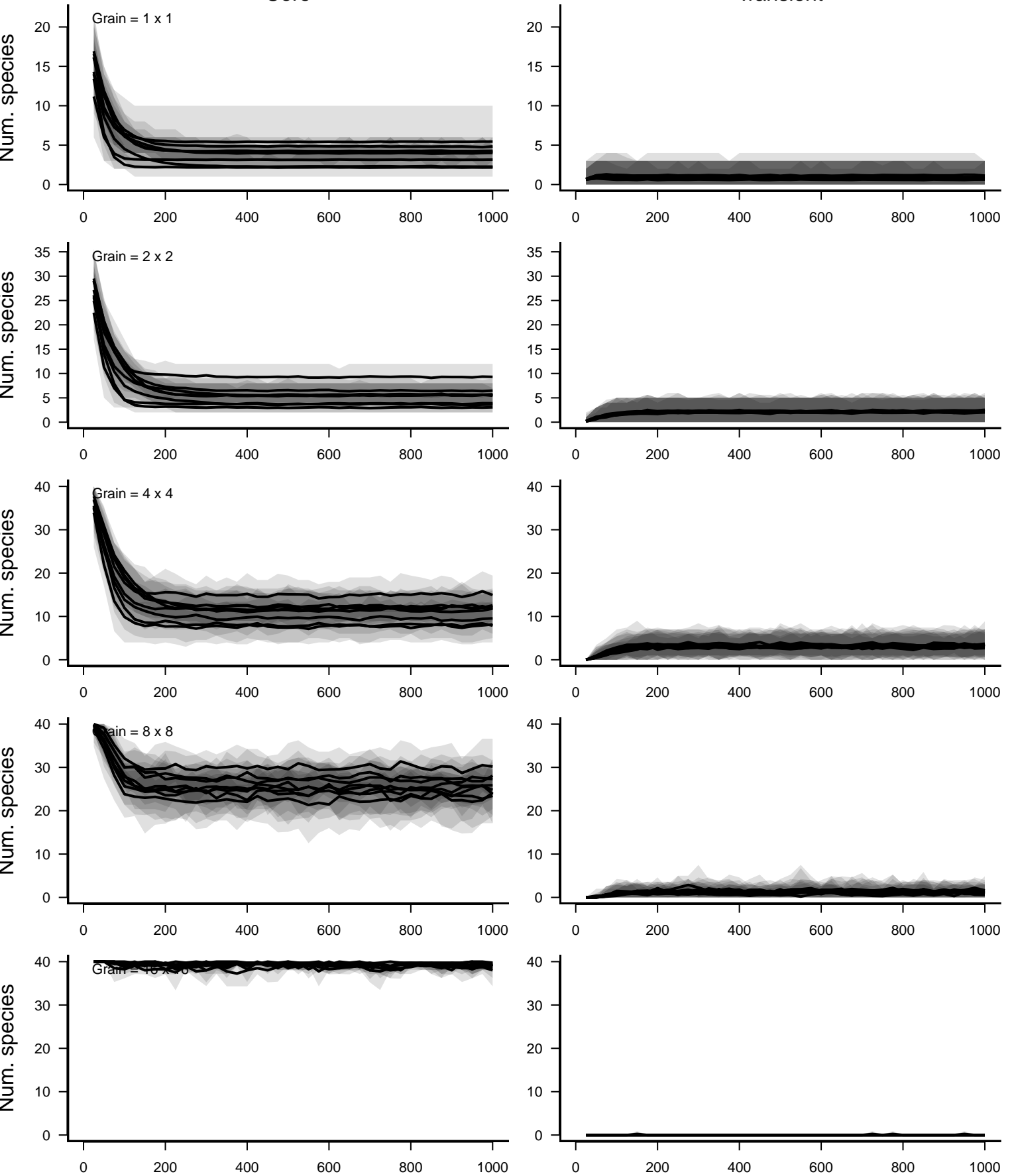
Birth rate-based categories: detection prob. = 0.9



Temporal occupancy-based categories: detection prob. = 0.9

Core

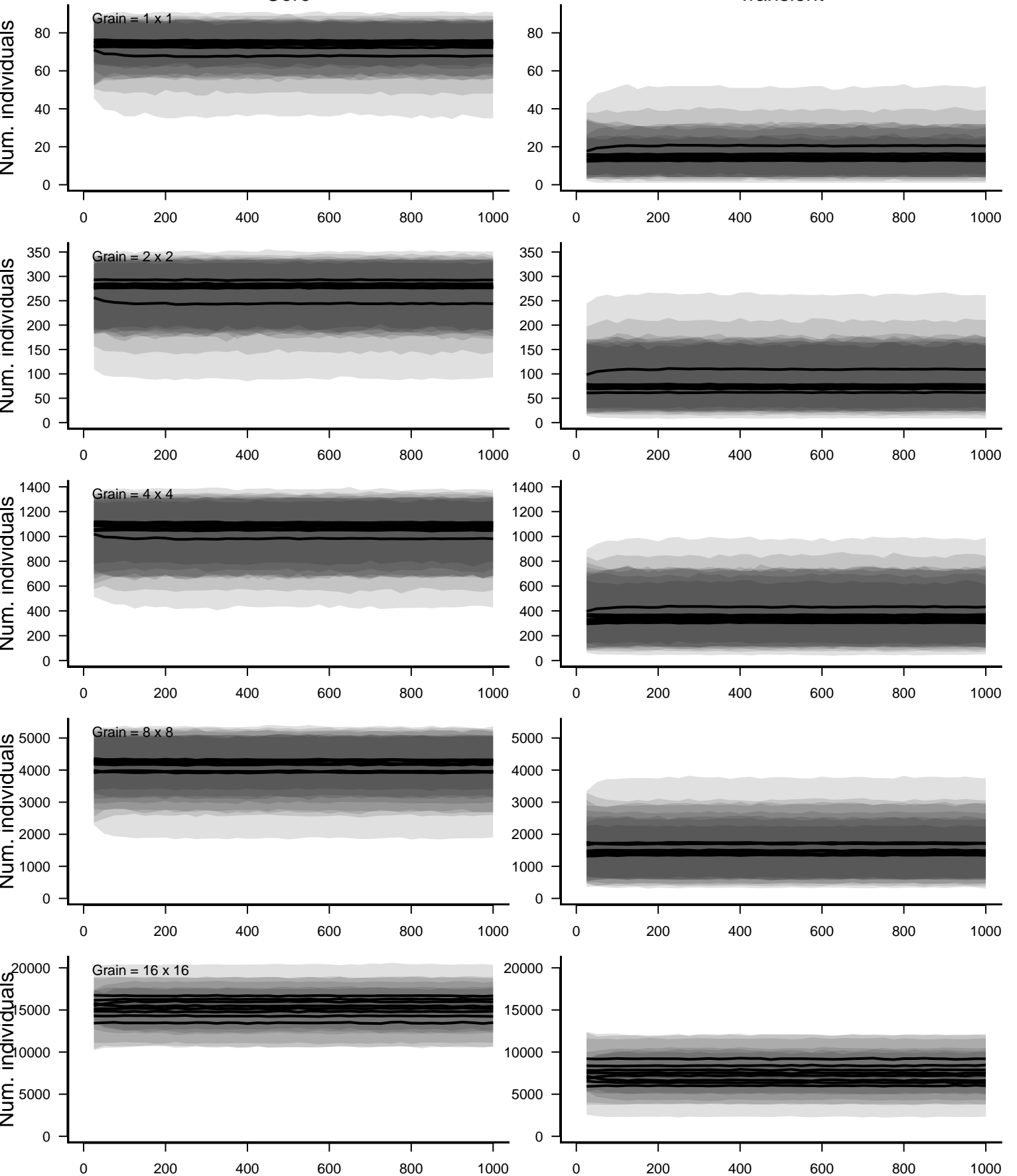
Transient



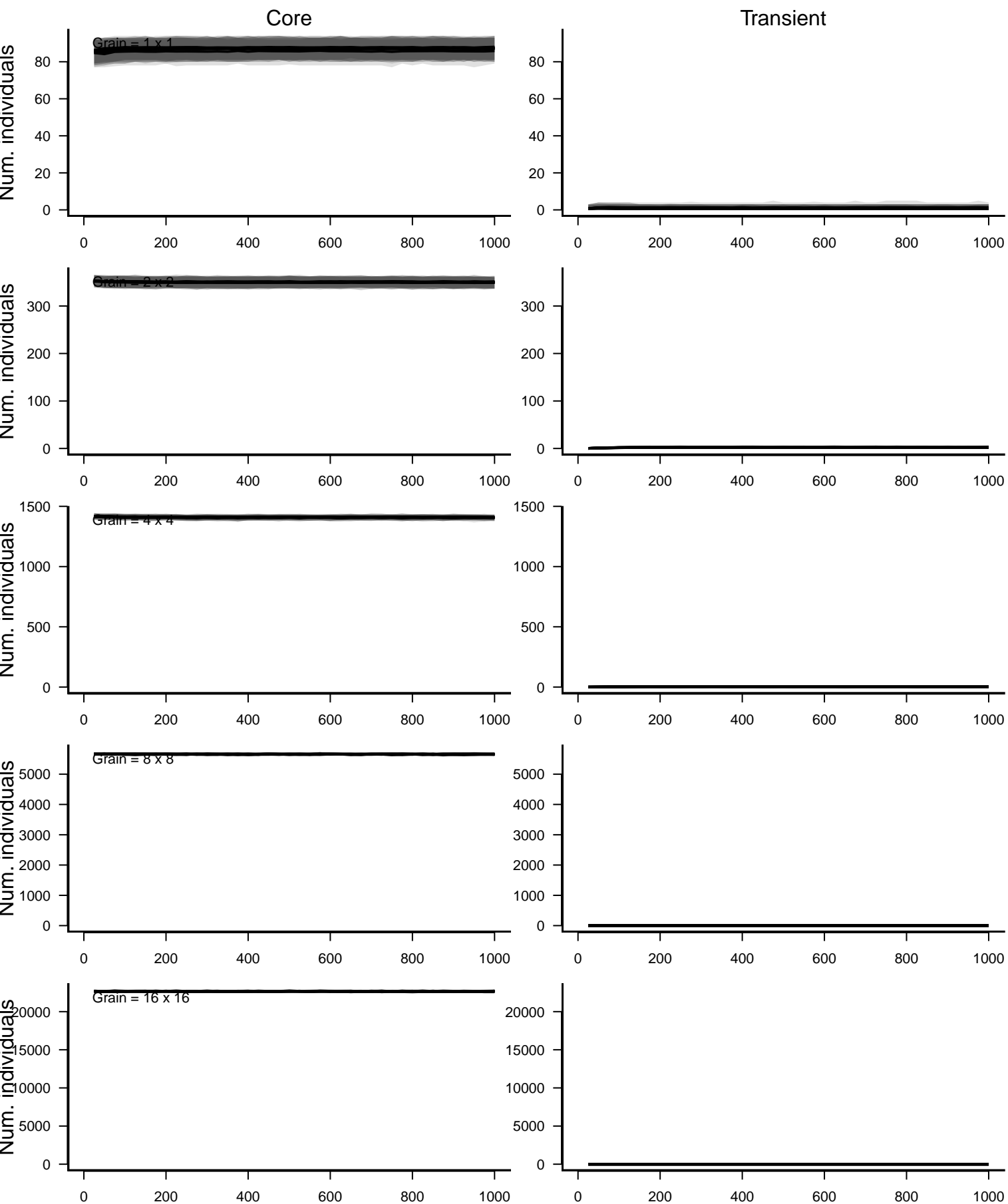
Birth rate–based categories: detection prob. = 0.9

Core

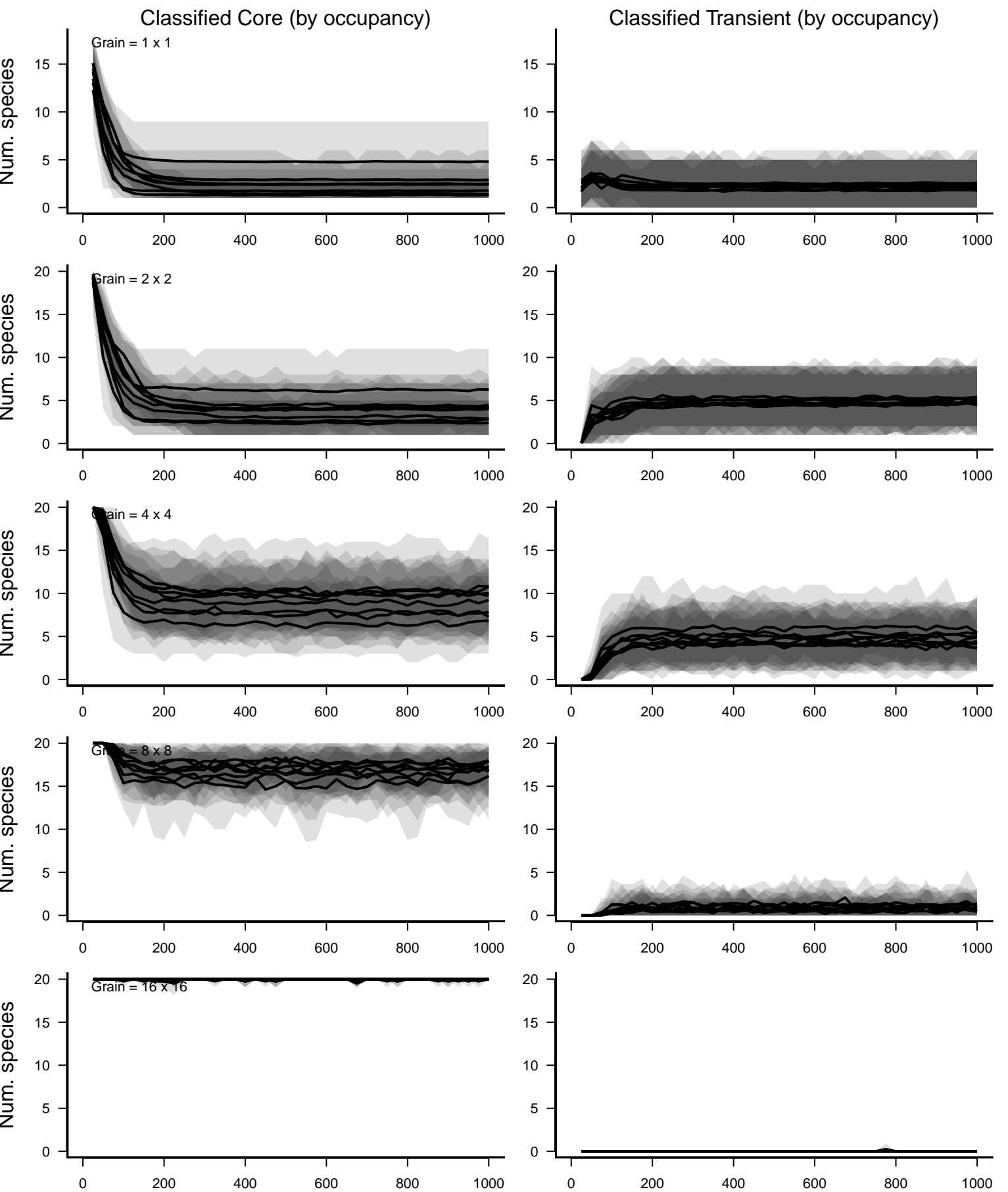
Transient



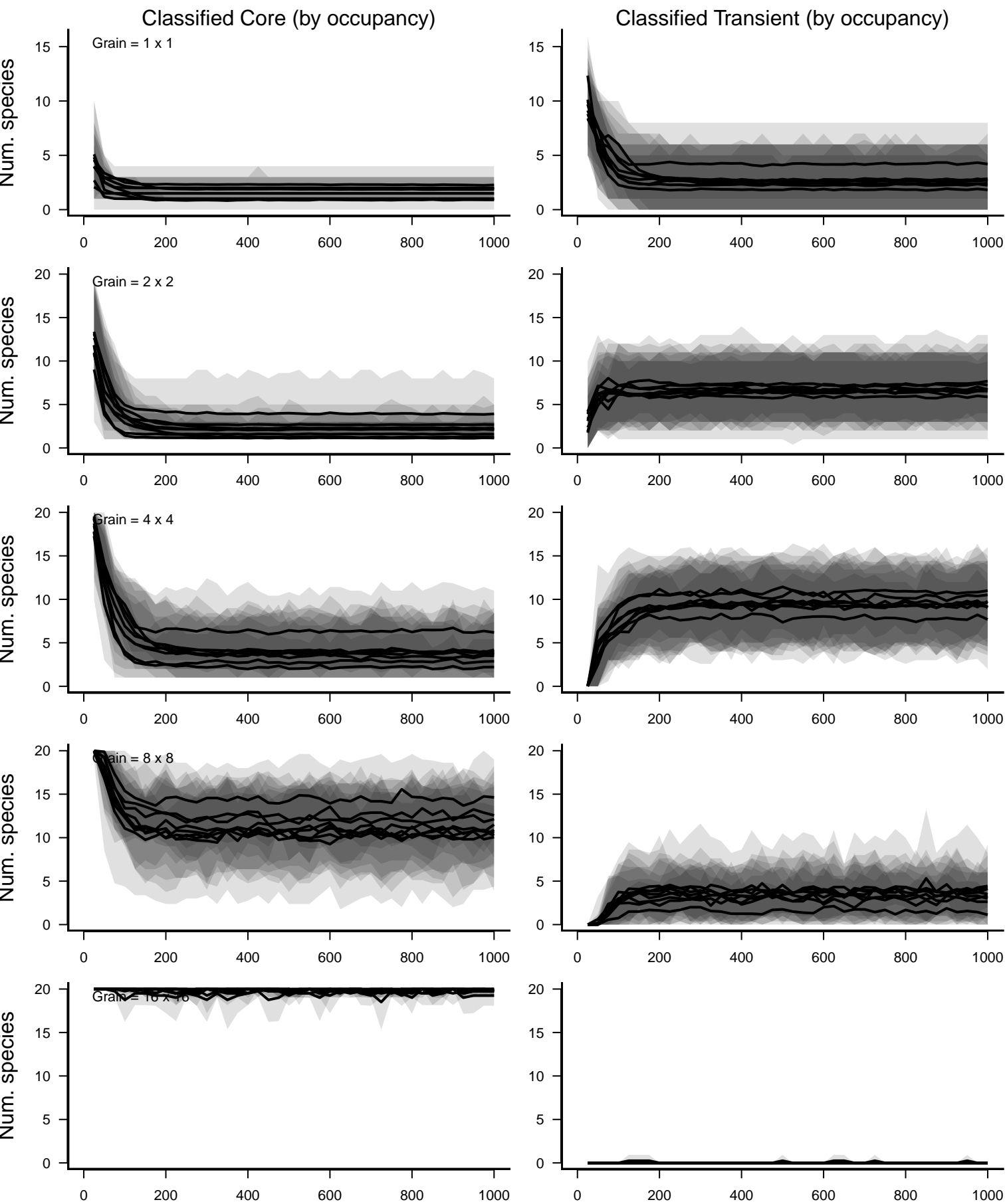
Temporal occupancy-based categories: detection prob. = 0.9



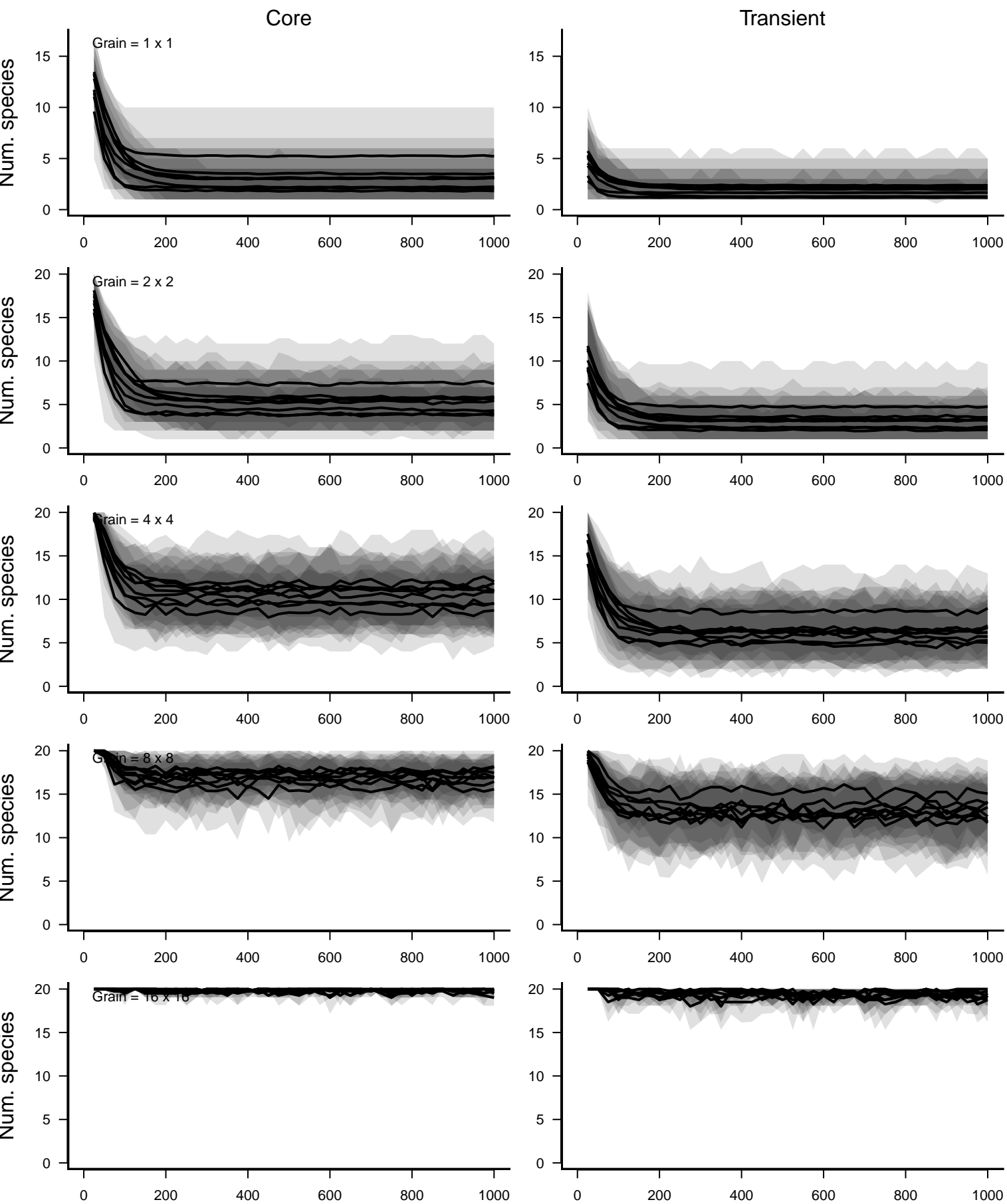
Birth rate–based Core Species: detection prob. = 0.9



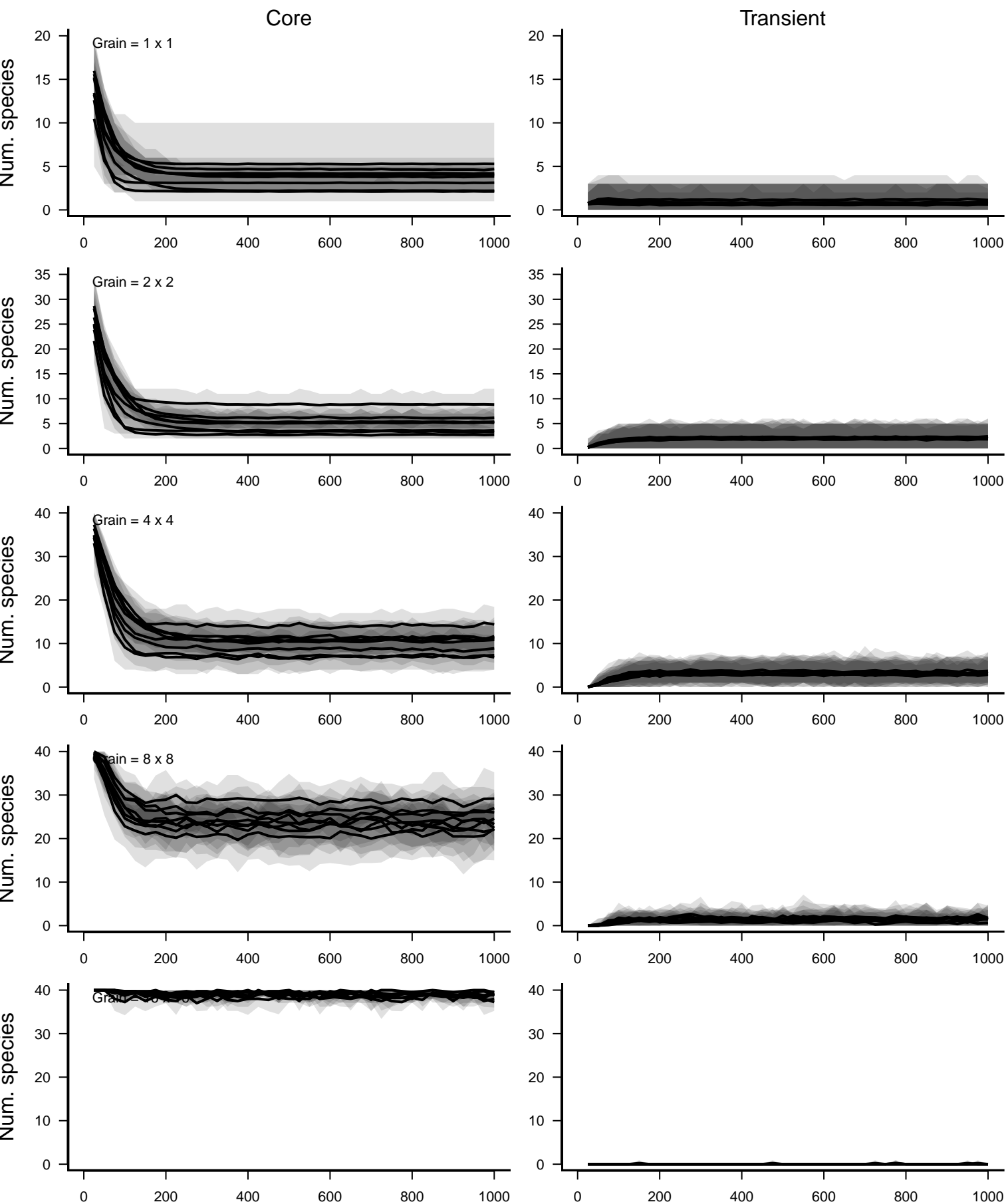
Birth rate–based Transient Species: detection prob. = 0.9



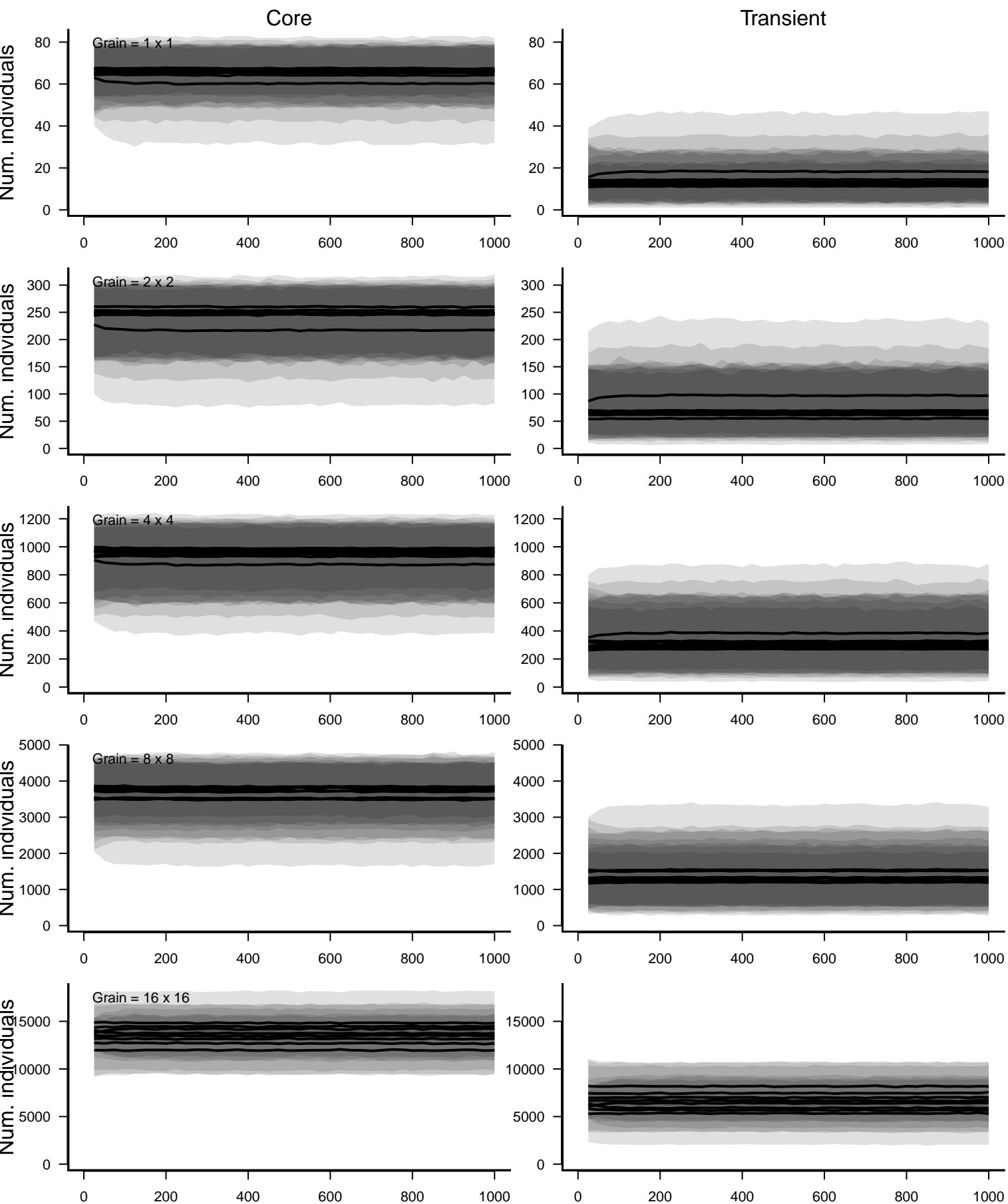
Birth rate-based categories: detection prob. = 0.8



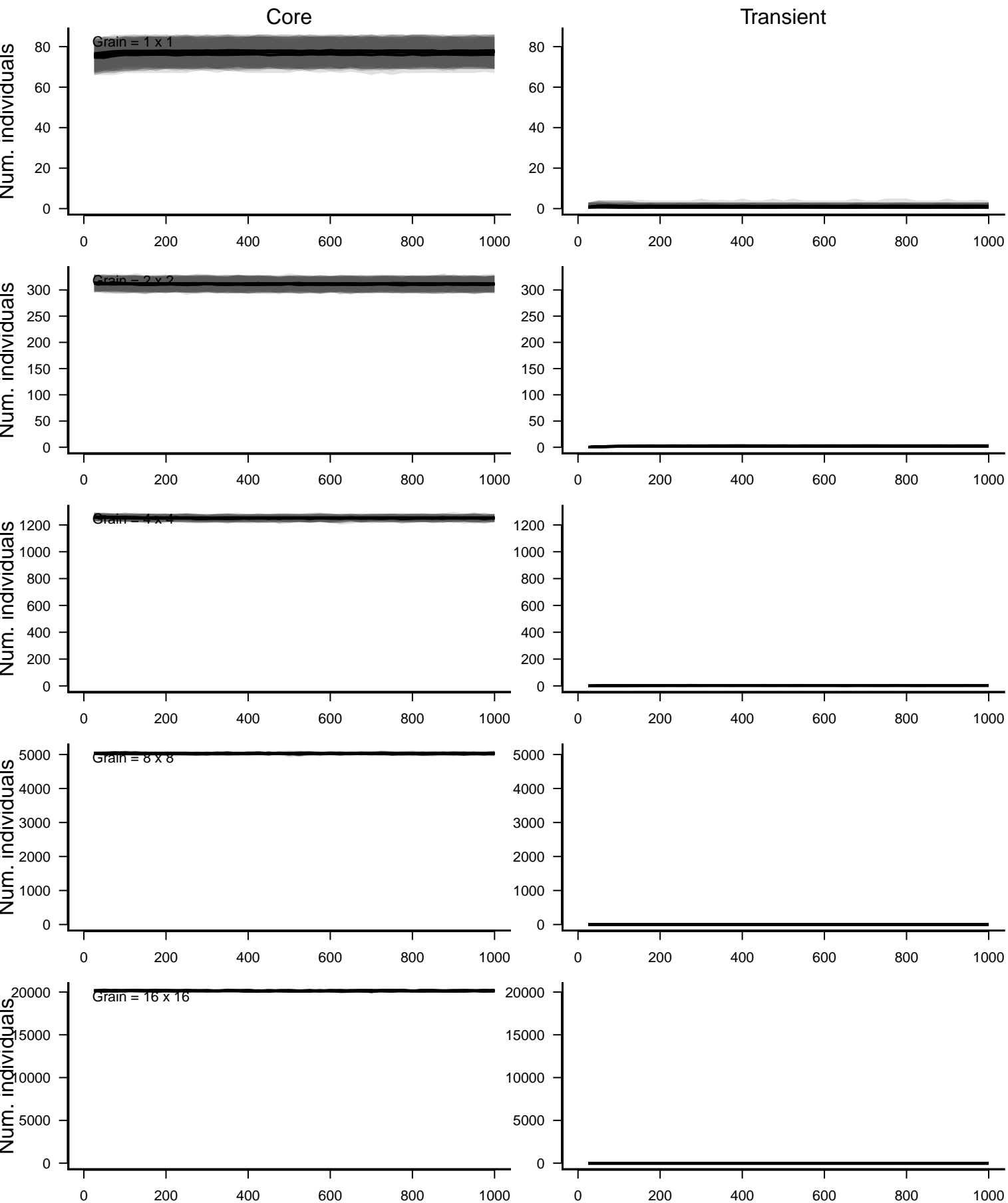
Temporal occupancy-based categories: detection prob. = 0.8



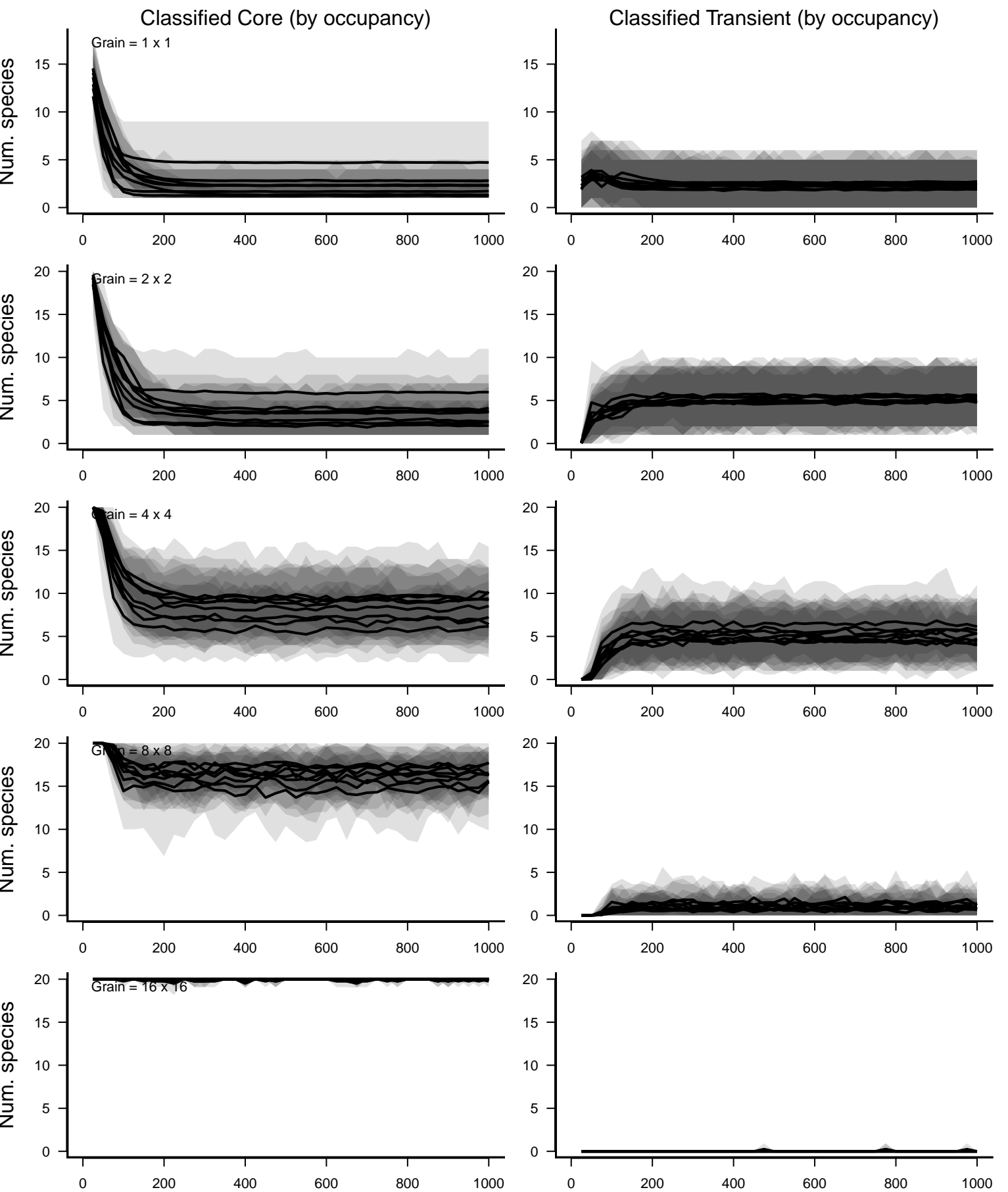
Birth rate-based categories: detection prob. = 0.8



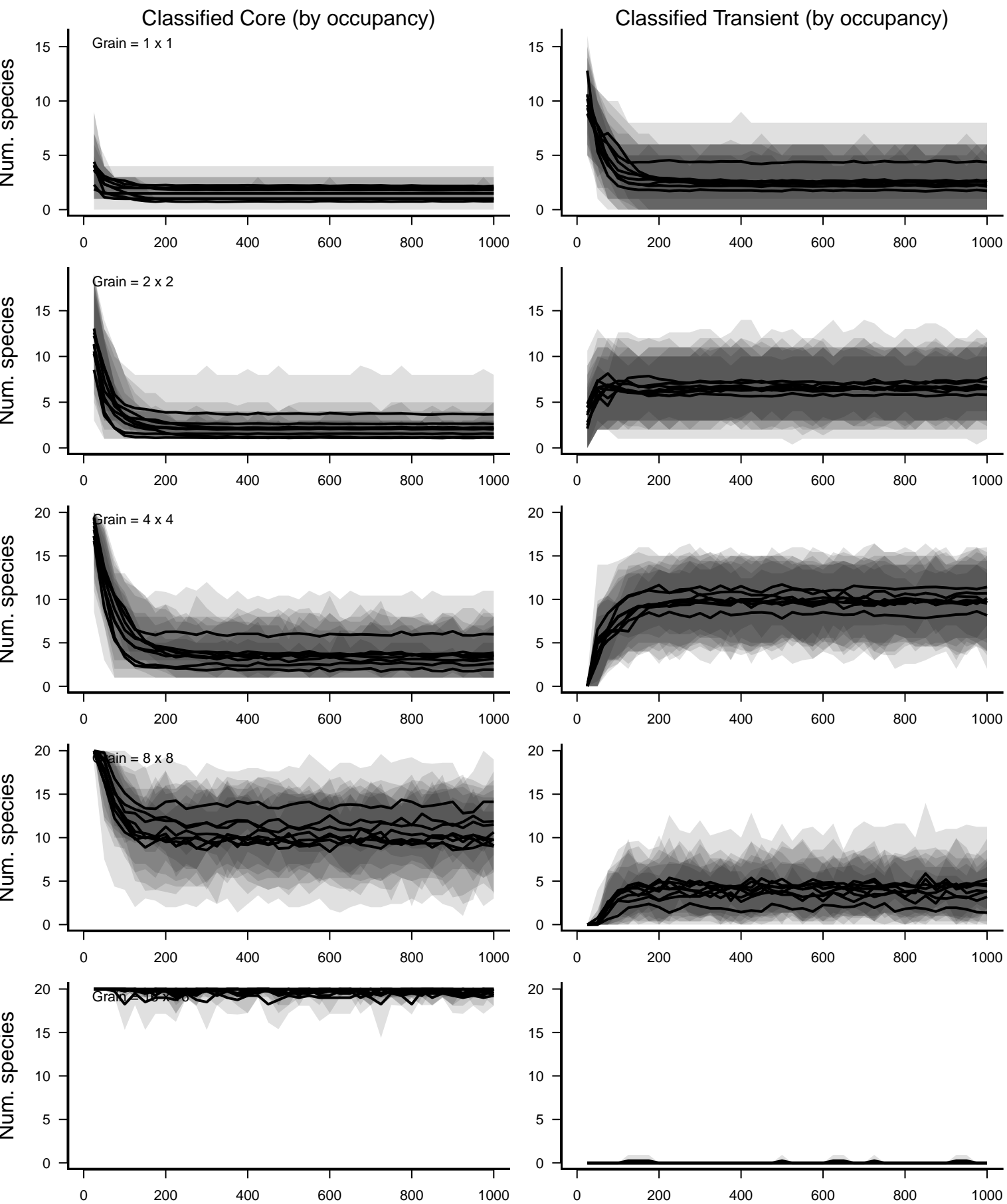
Temporal occupancy-based categories: detection prob. = 0.8



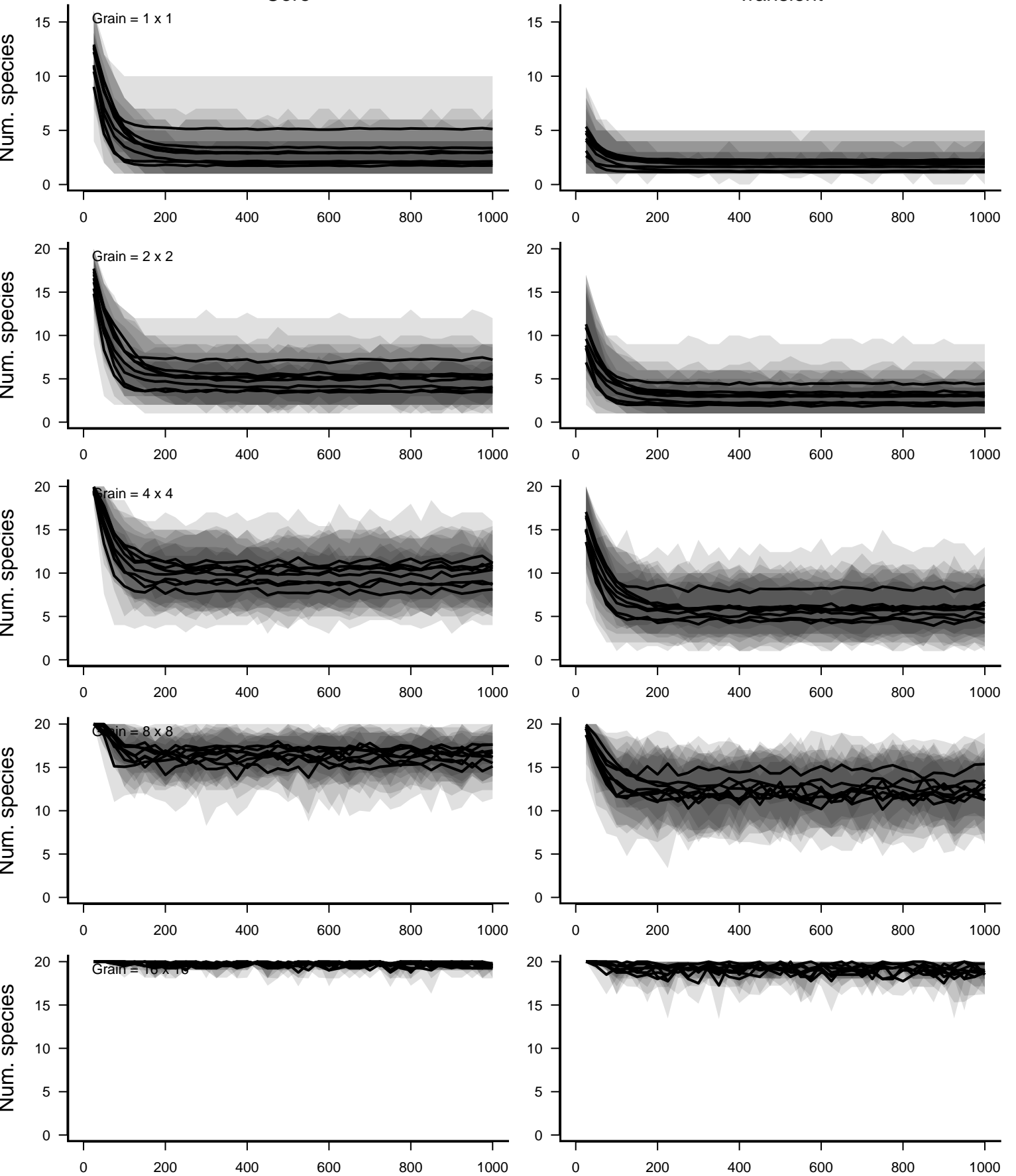
Birth rate–based Core Species: detection prob. = 0.8



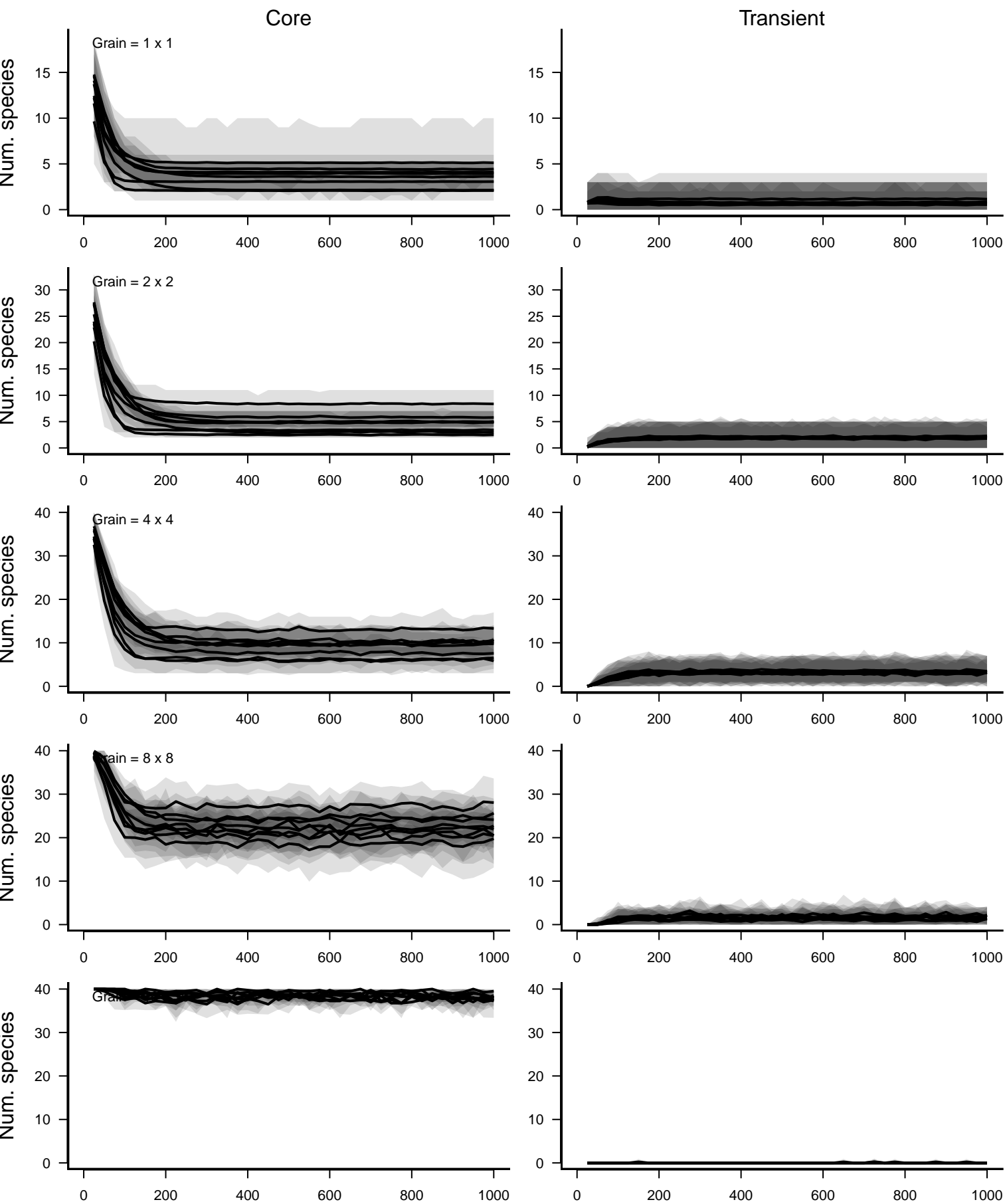
Birth rate–based Transient Species: detection prob. = 0.8



Transient



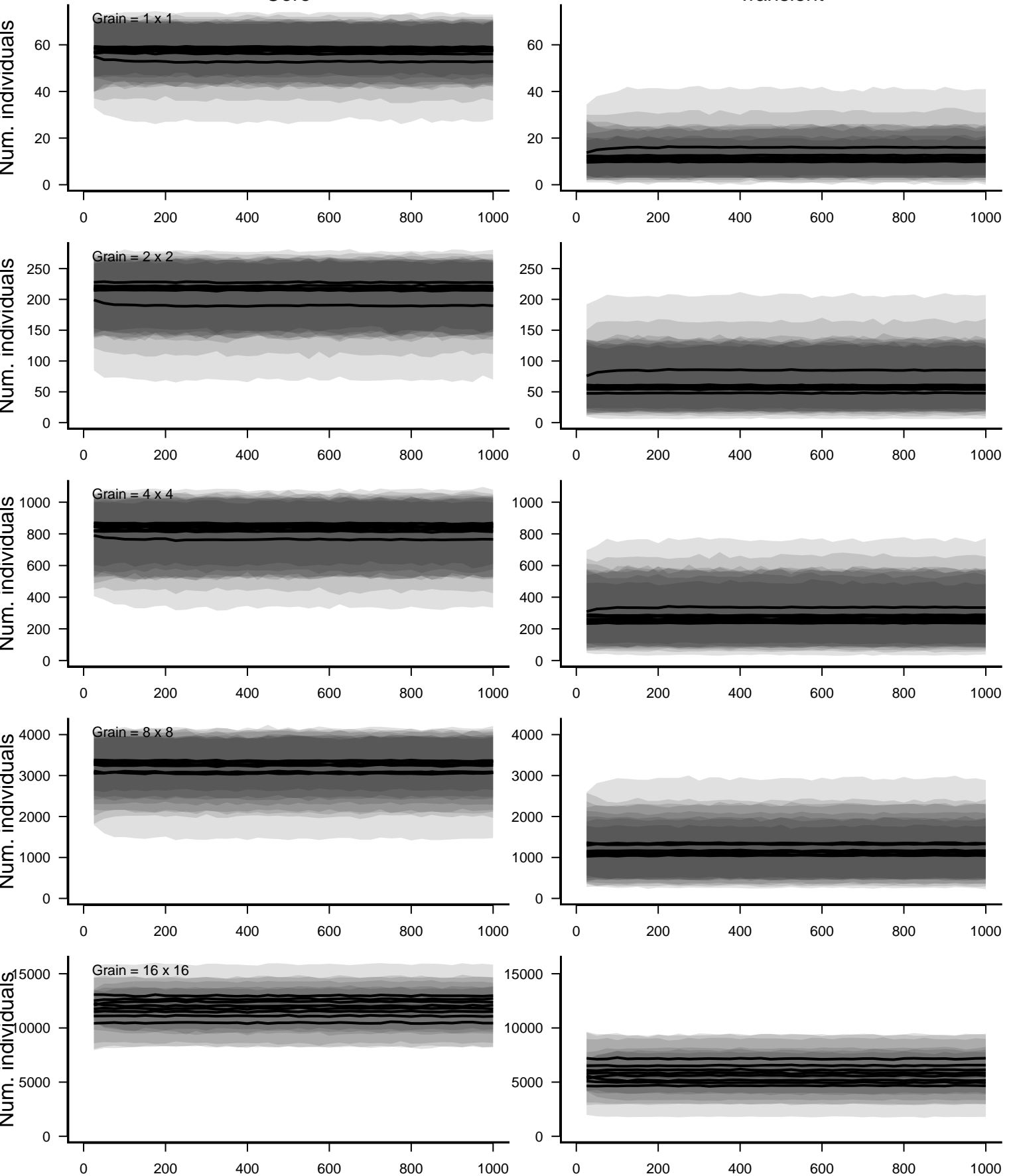
Temporal occupancy-based categories: detection prob. = 0.7



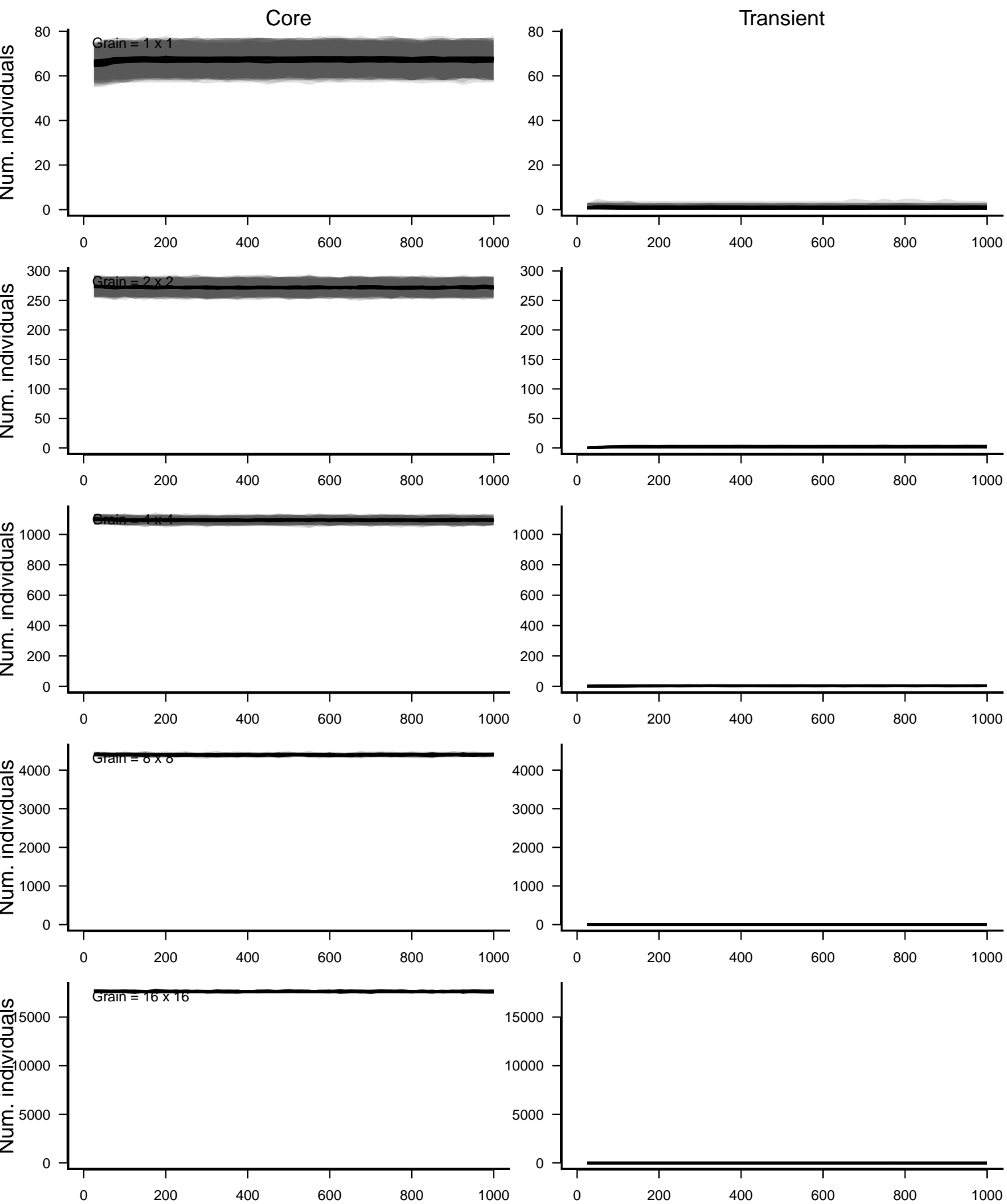
Birth rate–based categories: detection prob. = 0.7

Core

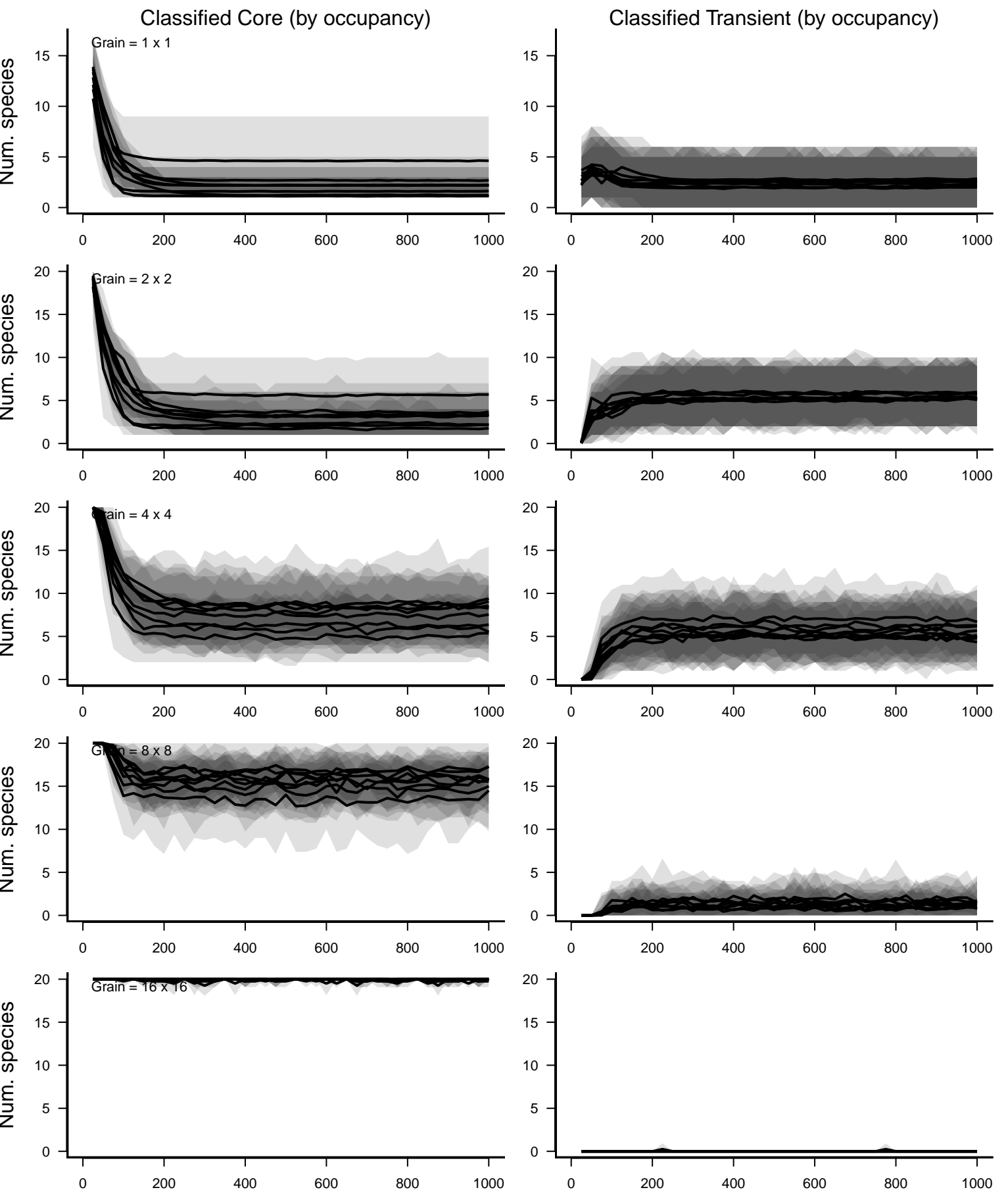
Transient



Temporal occupancy-based categories: detection prob. = 0.7

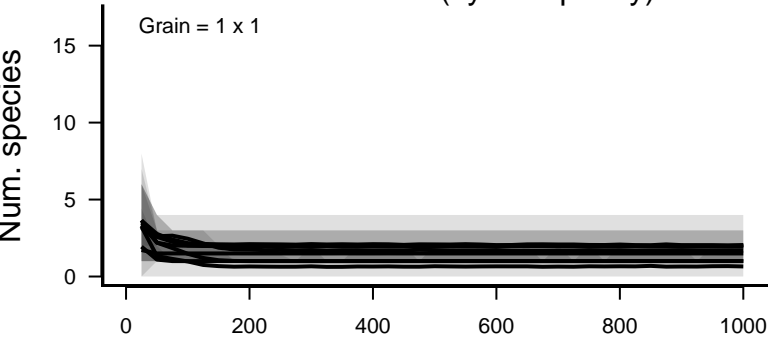


Birth rate–based Core Species: detection prob. = 0.7

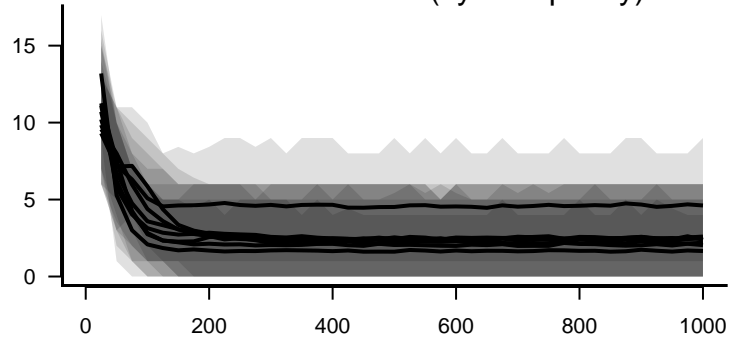


Birth rate–based Transient Species: detection prob. = 0.7

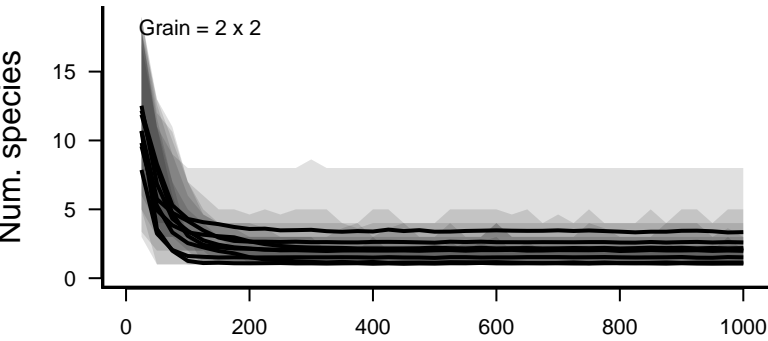
Classified Core (by occupancy)



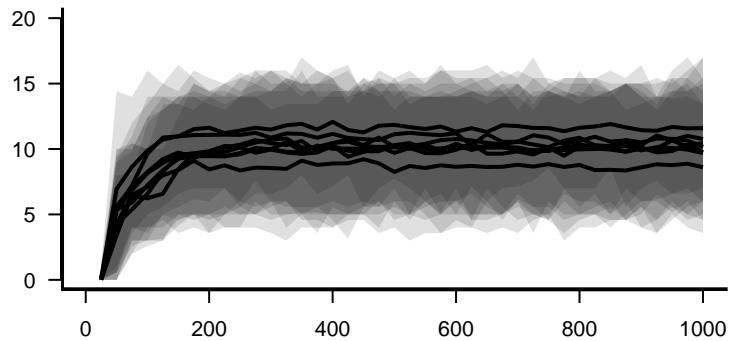
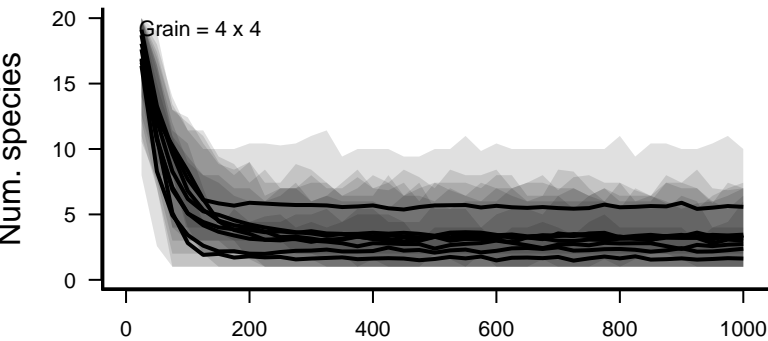
Classified Transient (by occupancy)



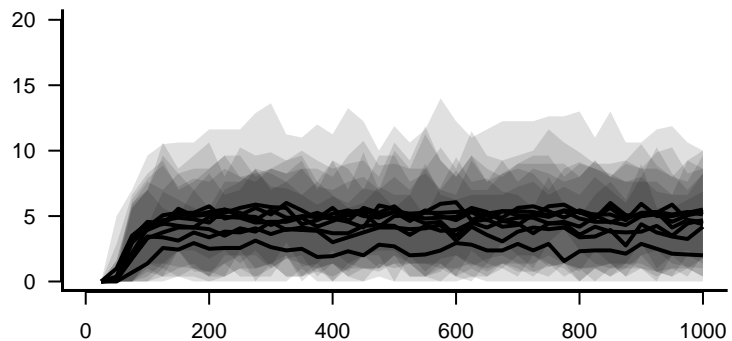
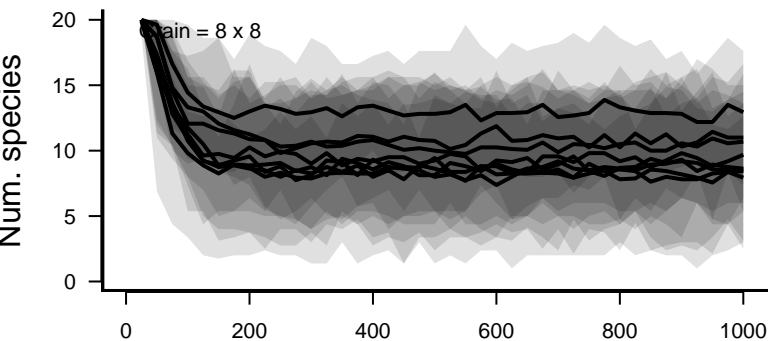
Grain = 2 x 2



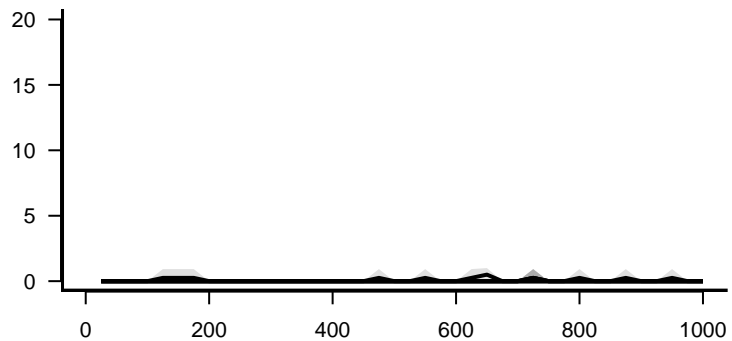
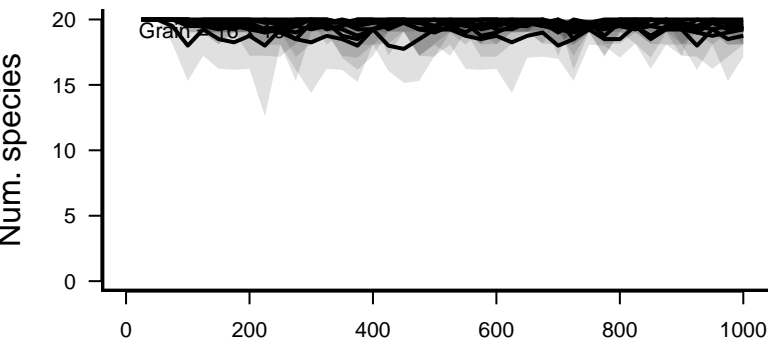
Grain = 4 x 4



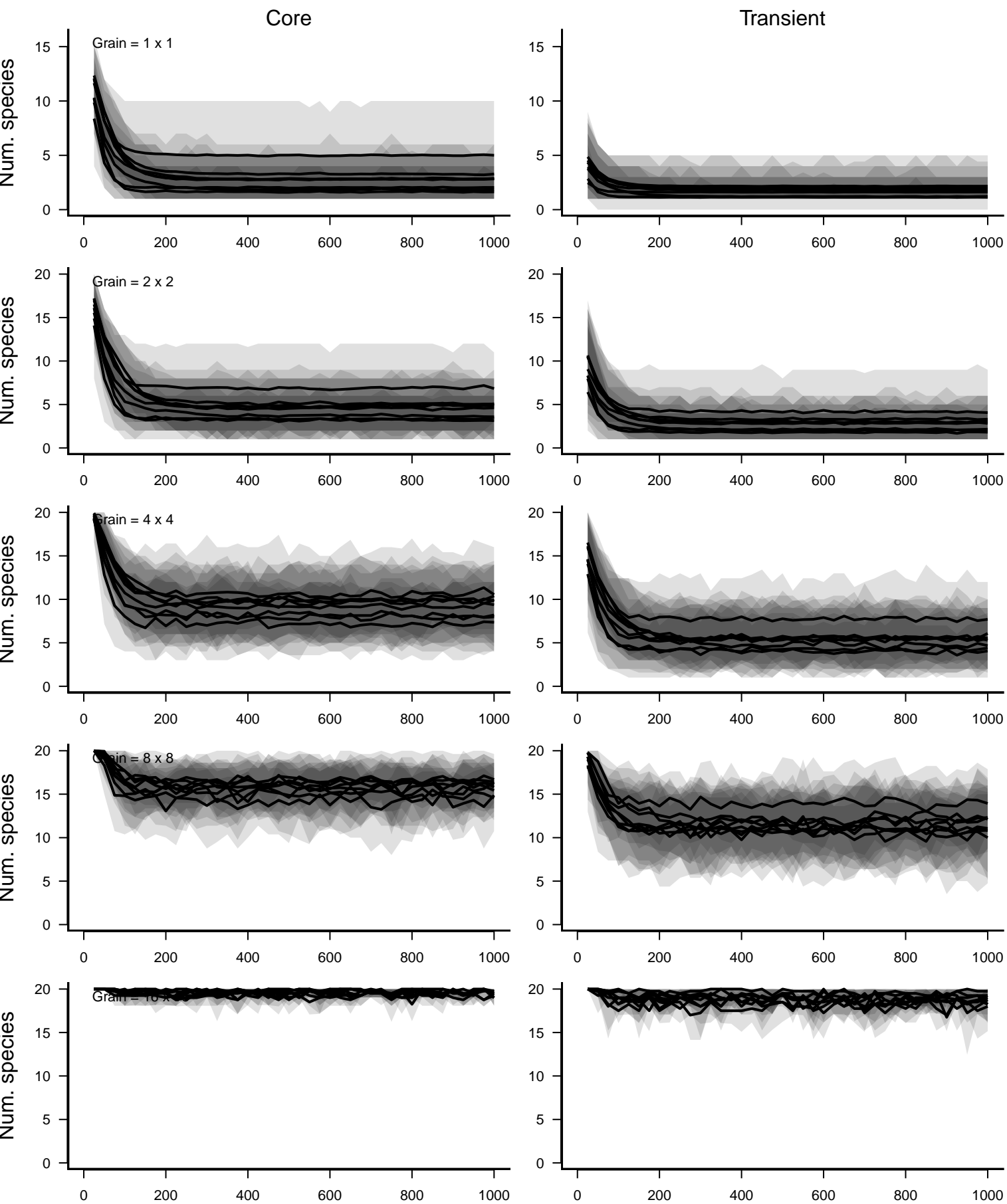
rain = 8 x 8



~~Grand Auto~~



Birth rate–based categories: detection prob. = 0.6

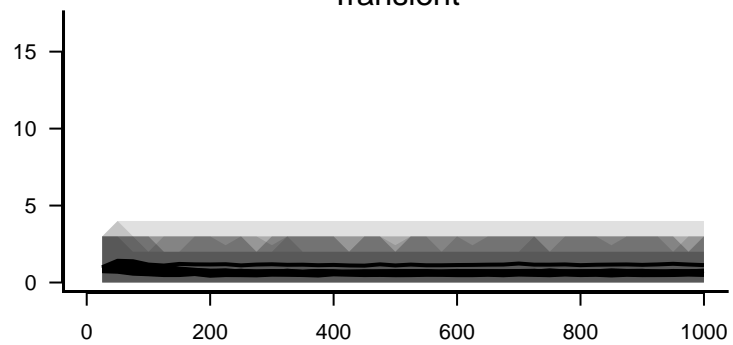
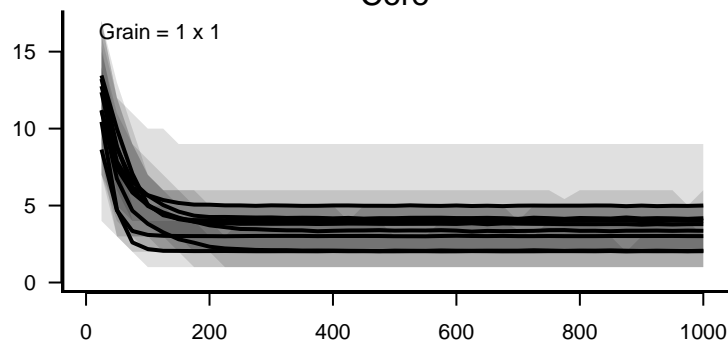


Temporal occupancy-based categories: detection prob. = 0.6

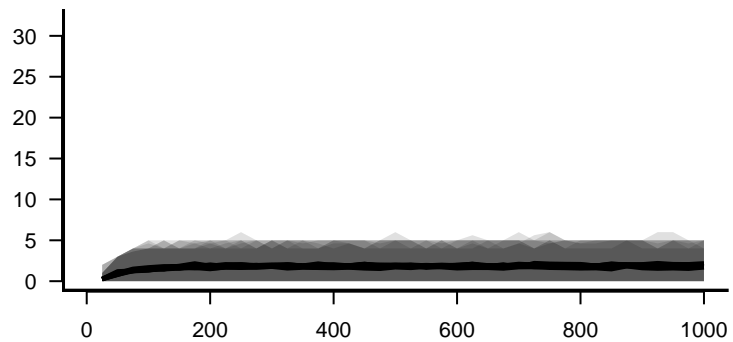
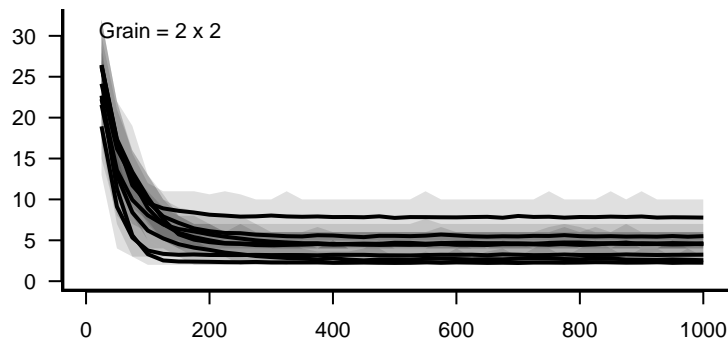
Core

Transient

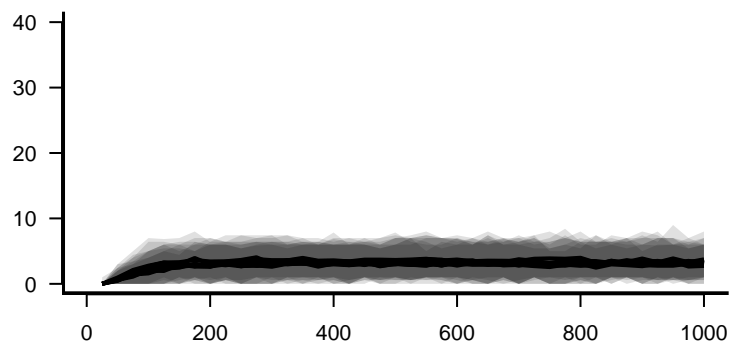
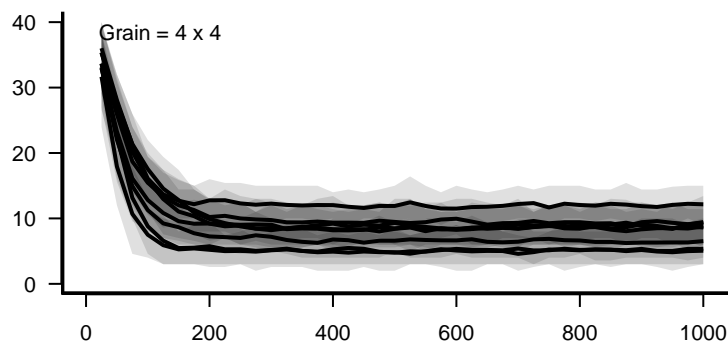
Num. species



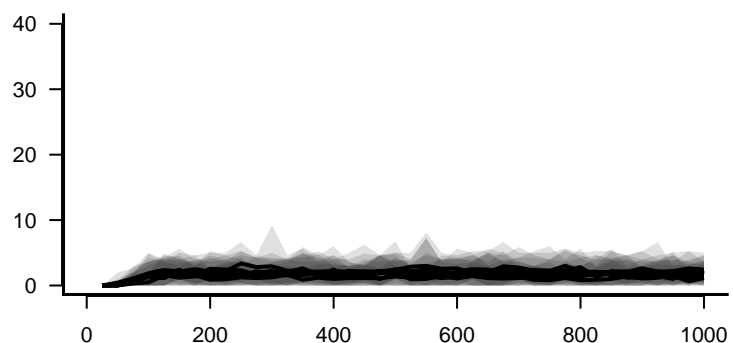
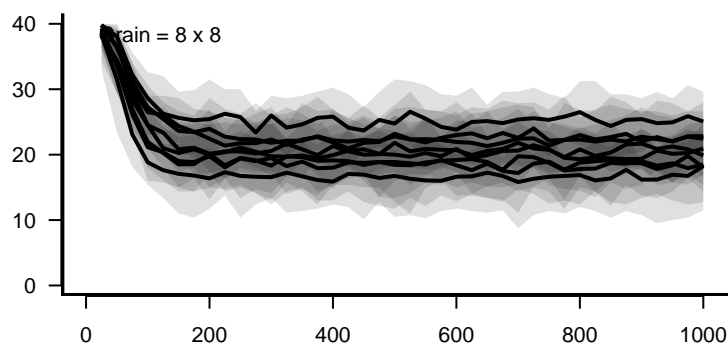
Num. species



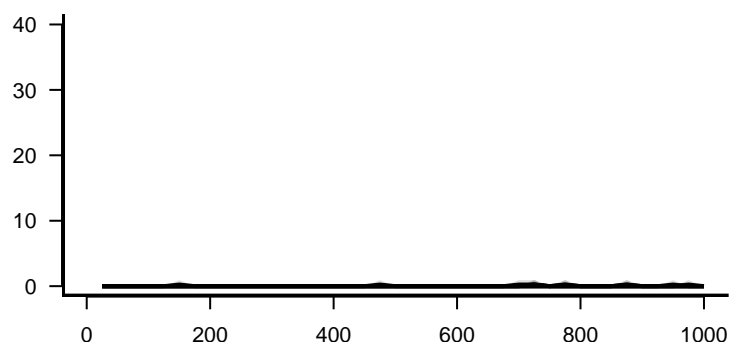
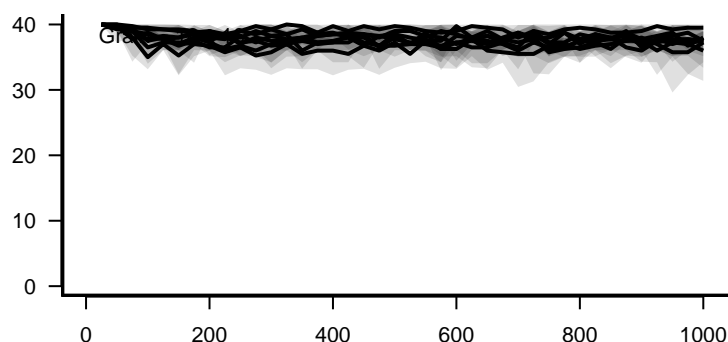
Num. species



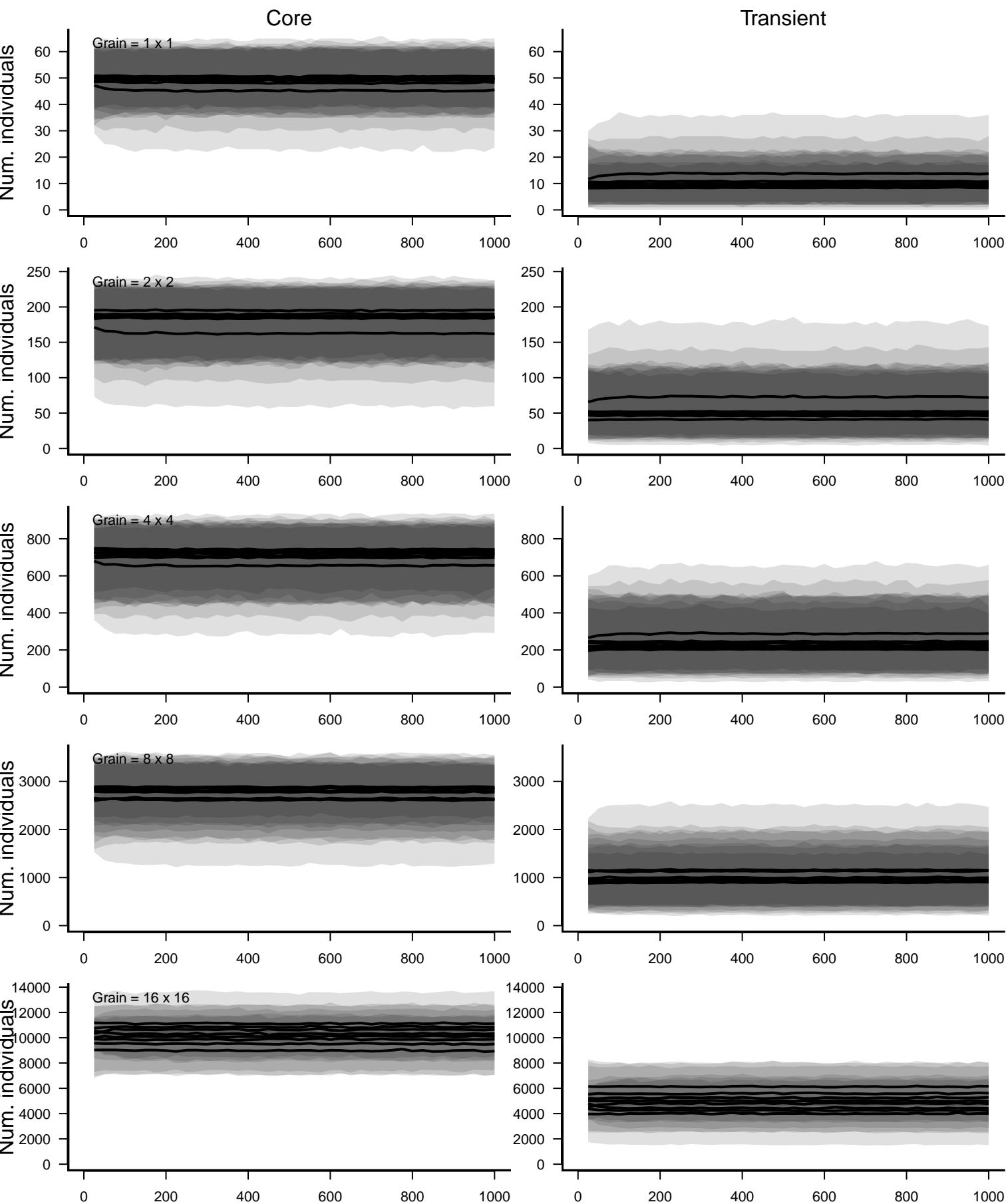
Num. species



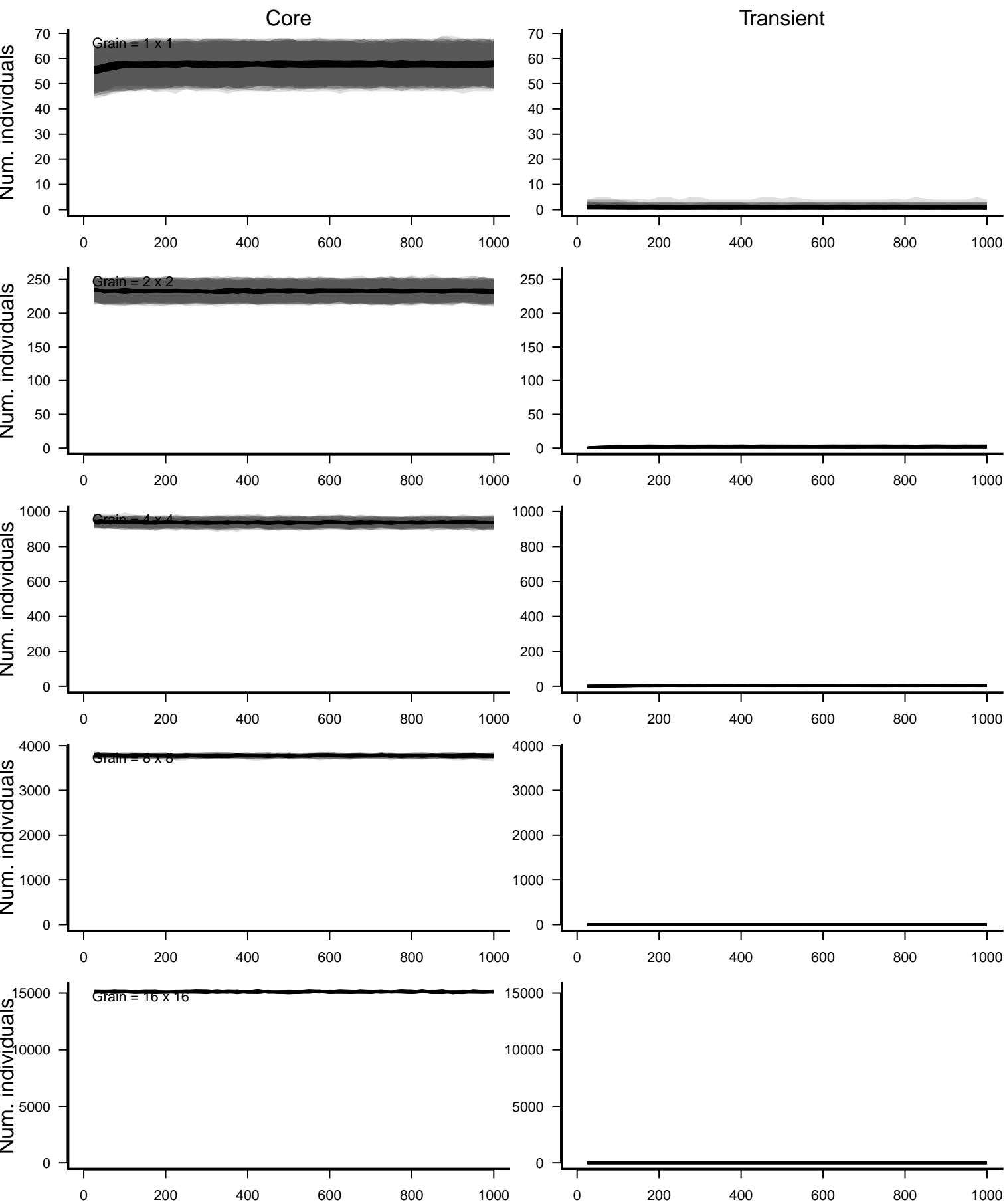
Num. species



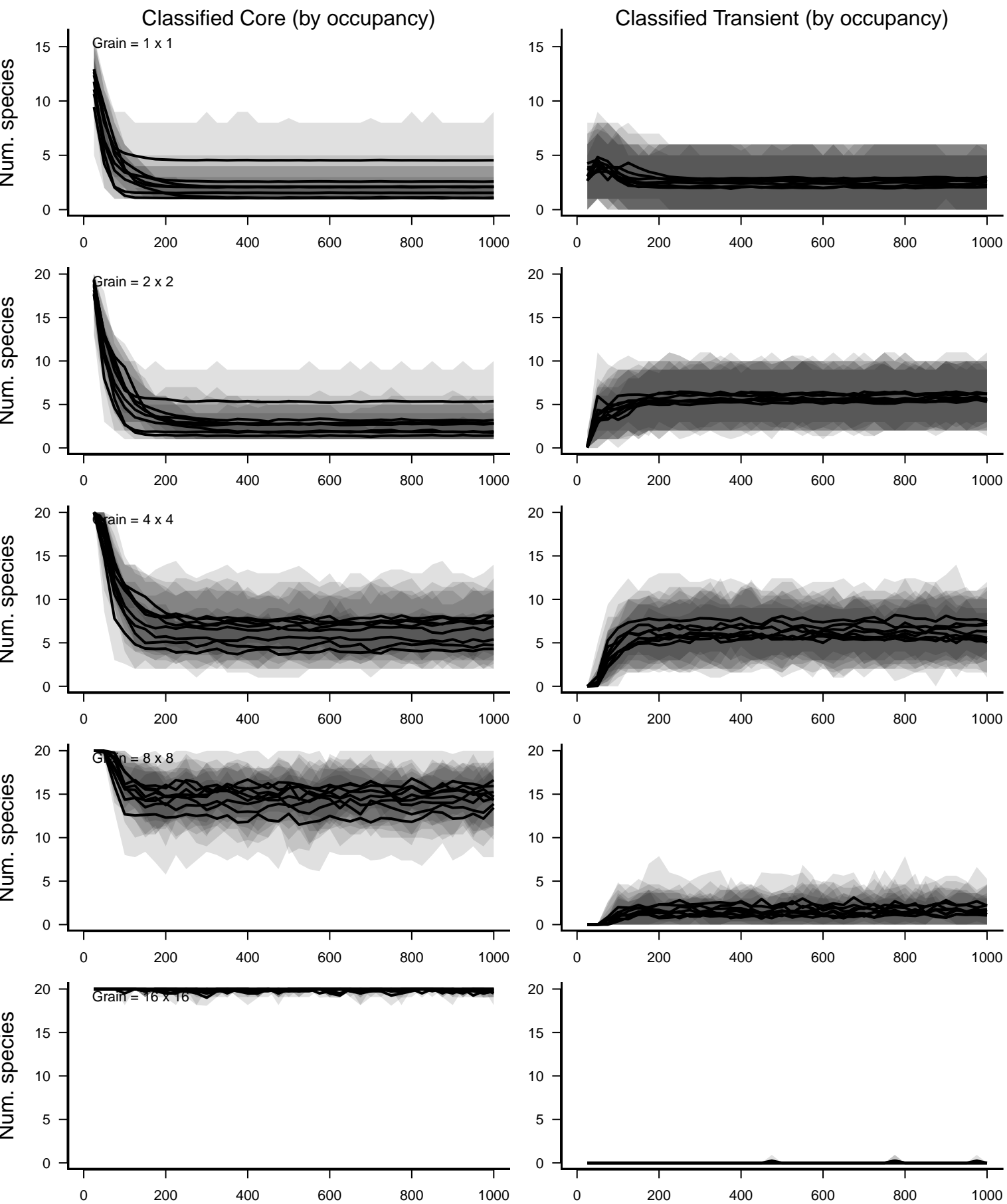
Birth rate–based categories: detection prob. = 0.6



Temporal occupancy-based categories: detection prob. = 0.6

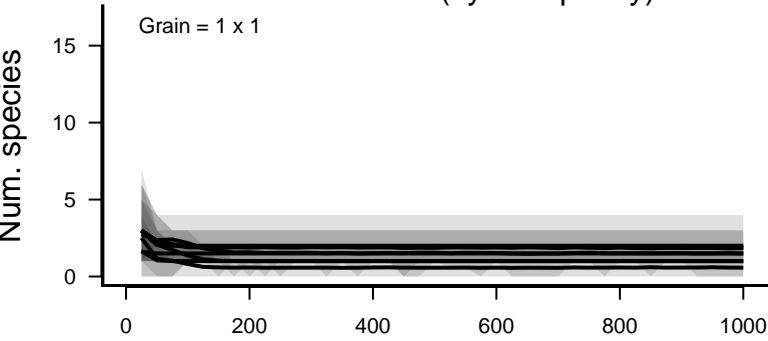


Birth rate–based Core Species: detection prob. = 0.6

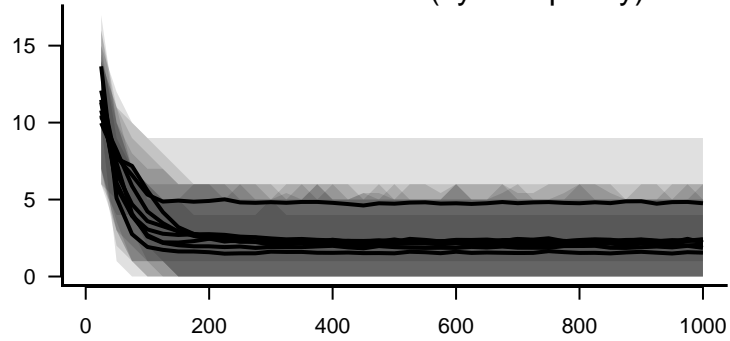


Birth rate–based Transient Species: detection prob. = 0.6

Classified Core (by occupancy)



Classified Transient (by occupancy)



Grain = 2 x 2

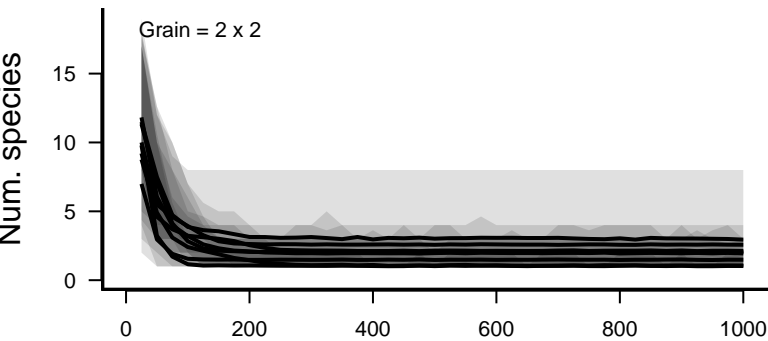
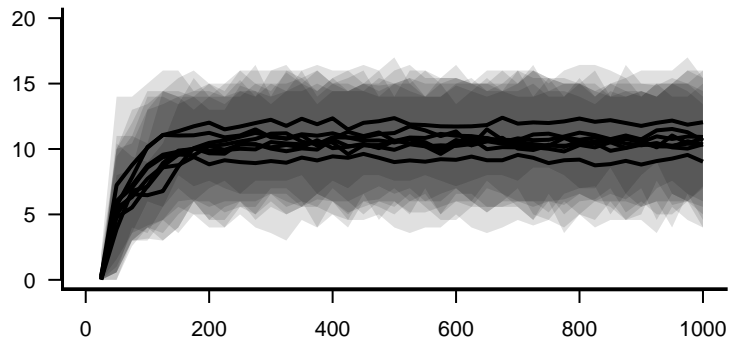
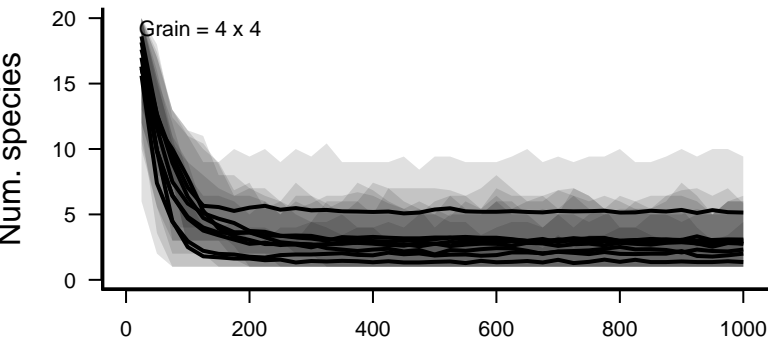
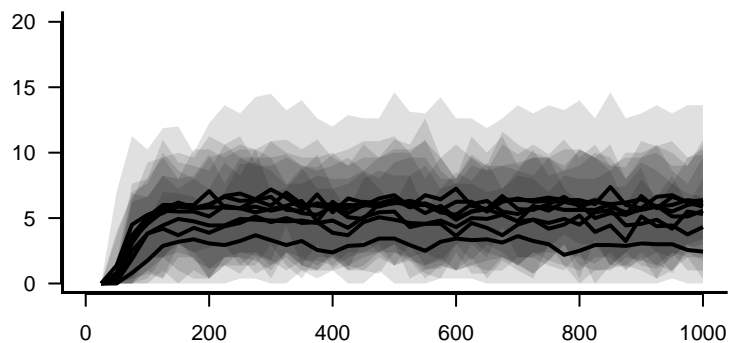
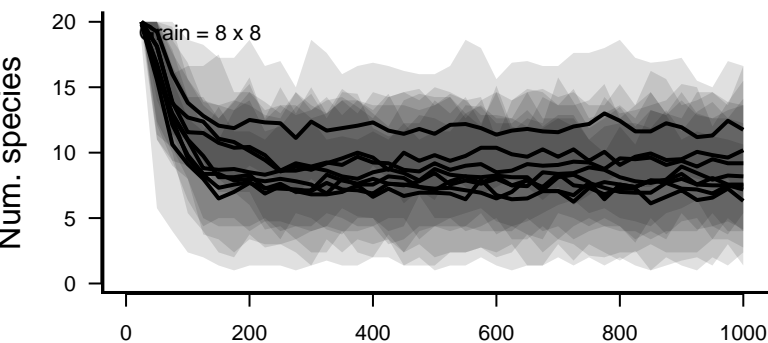


Figure 1 is a line plot showing the evolution of the mean and standard deviation of the estimated parameters over 1000 iterations. The x-axis represents iterations from 0 to 1000, and the y-axis represents parameter values from 0 to 15. Multiple lines represent different parameters, showing convergence to stable values around 5-7. Shaded regions indicate the standard deviation.

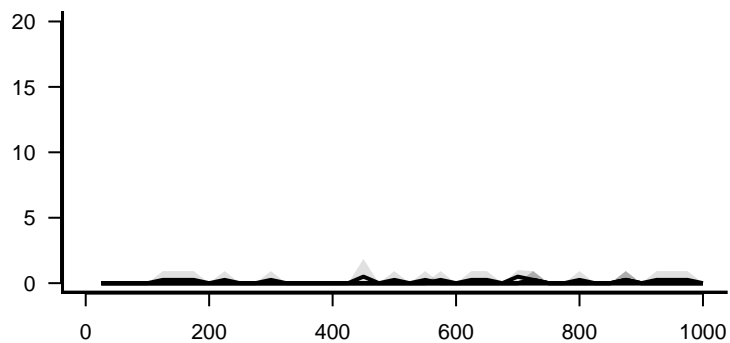
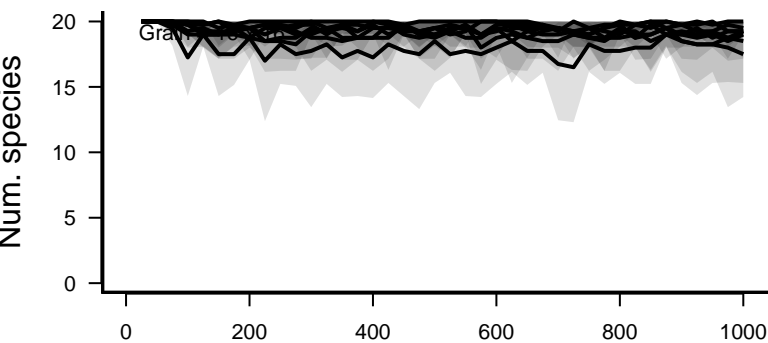
Grain = 4 x 4



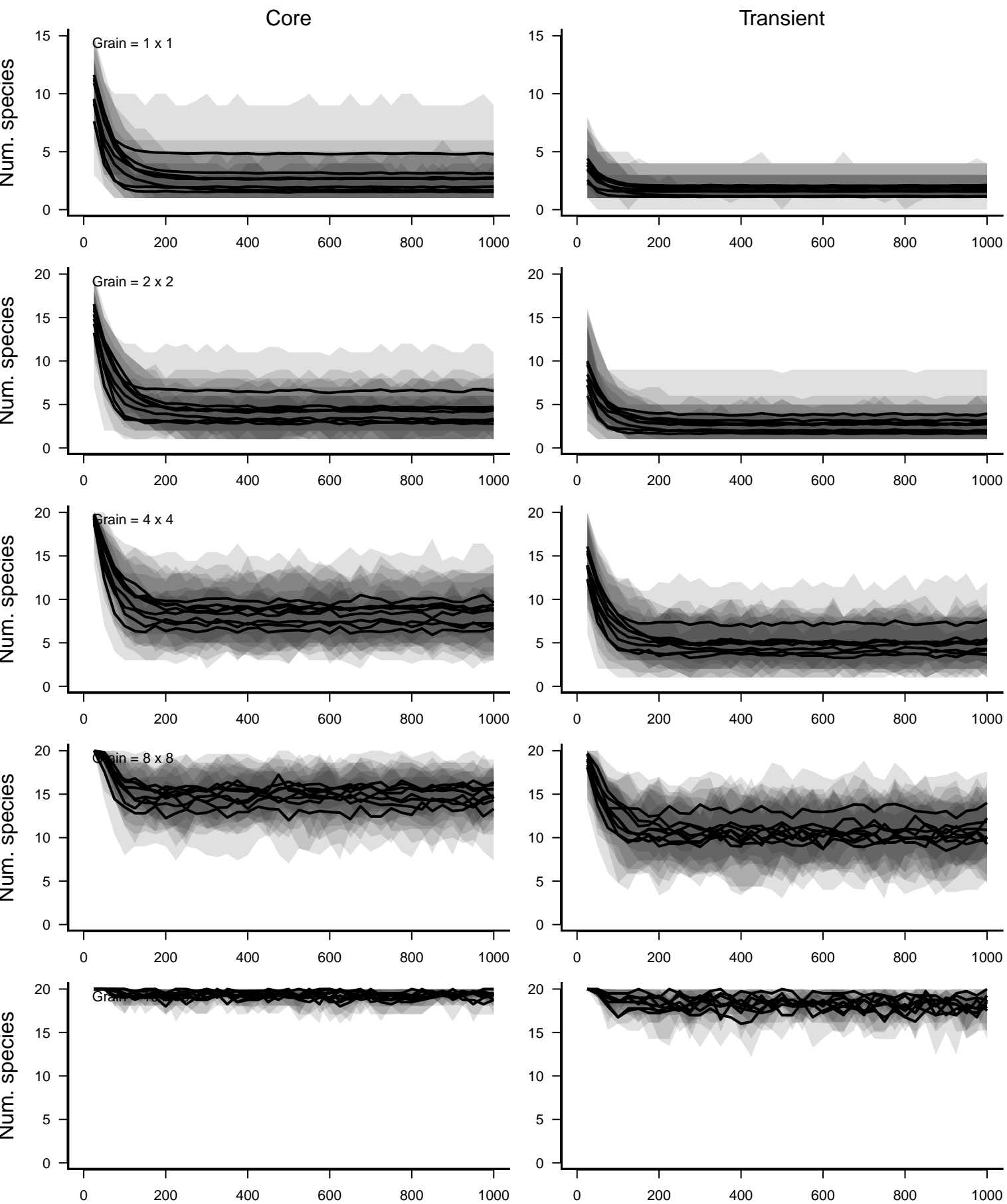
Train = 8×8



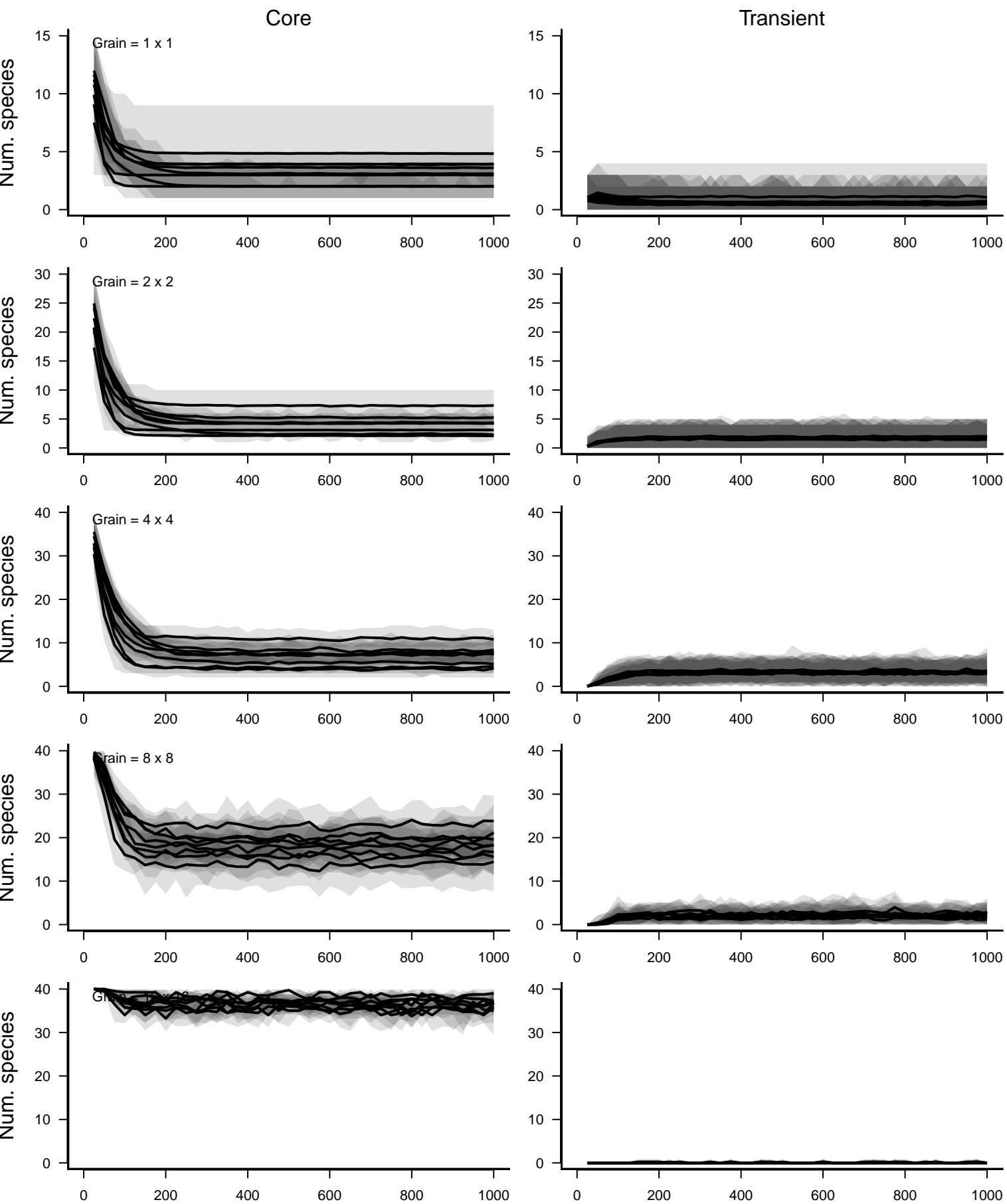
Grav. 10



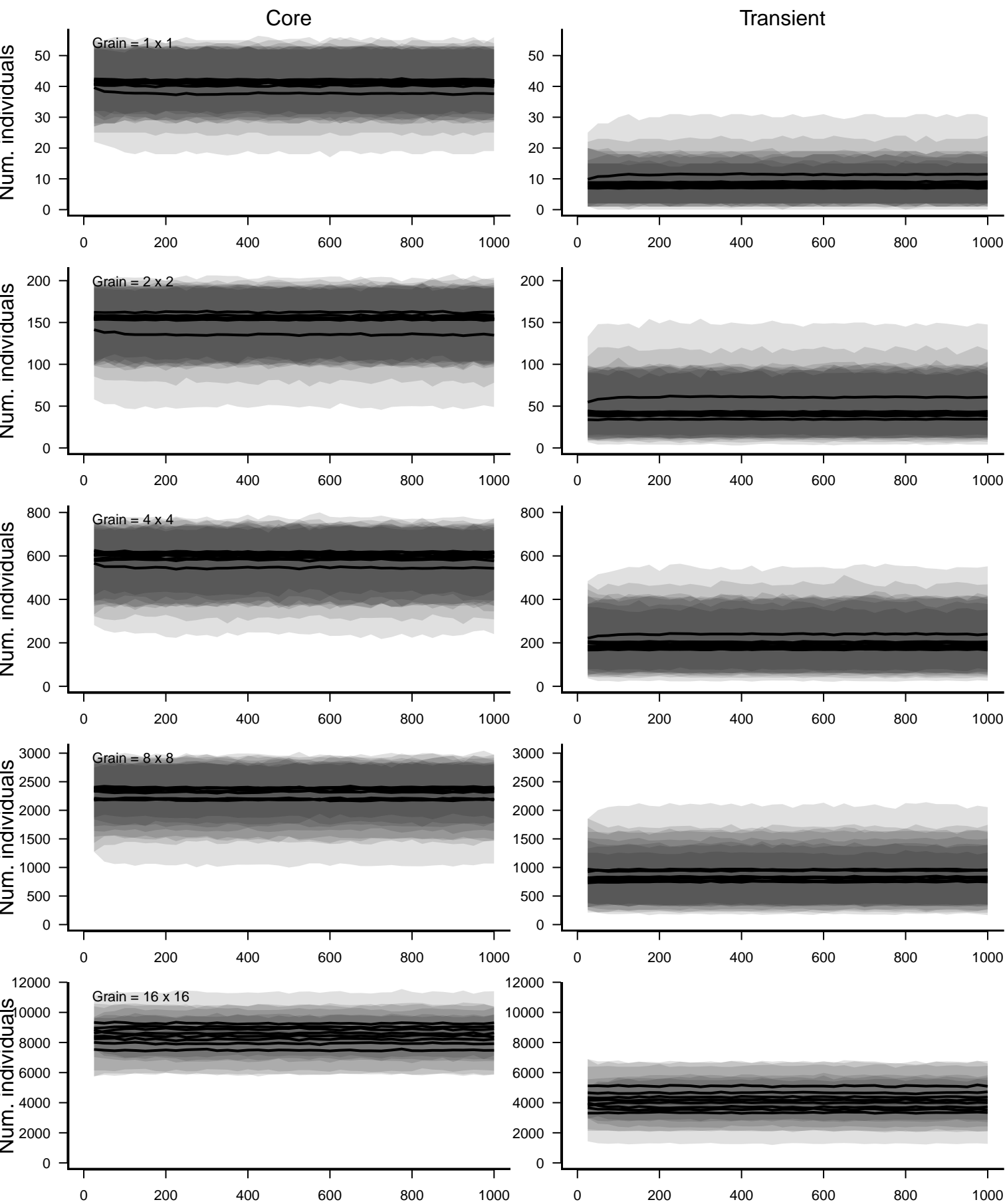
Birth rate-based categories: detection prob. = 0.5



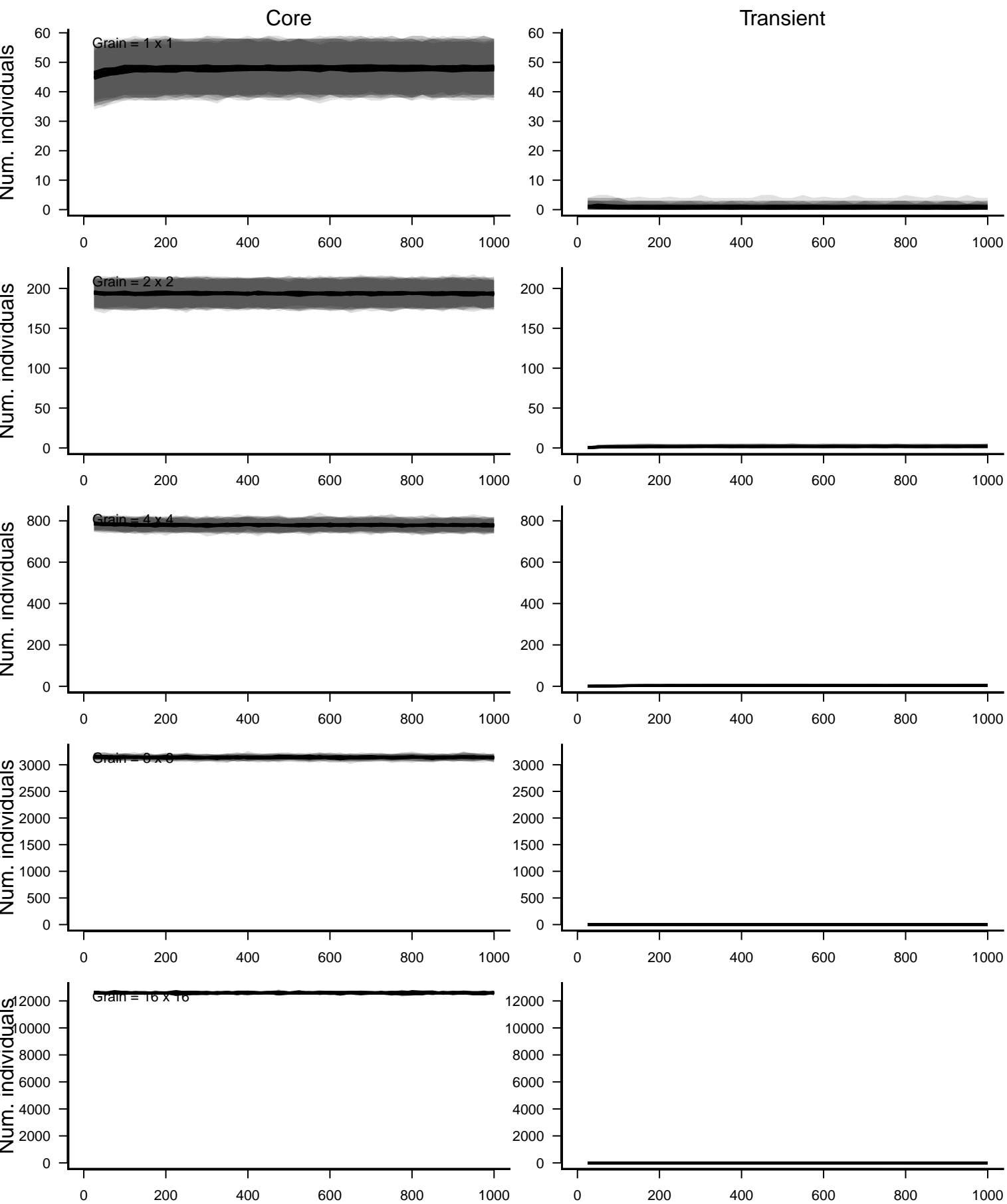
Temporal occupancy-based categories: detection prob. = 0.5



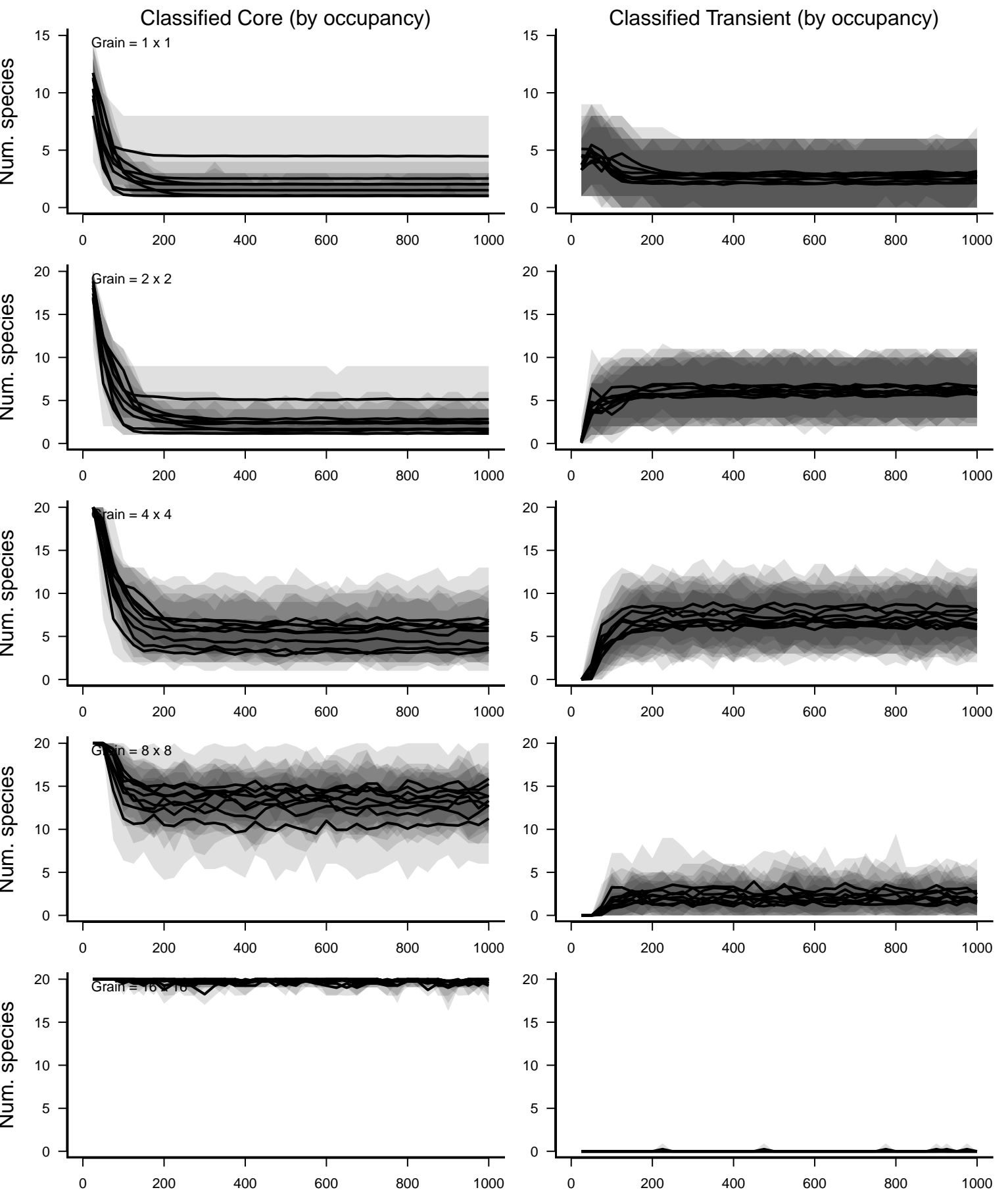
Birth rate–based categories: detection prob. = 0.5



Temporal occupancy-based categories: detection prob. = 0.5

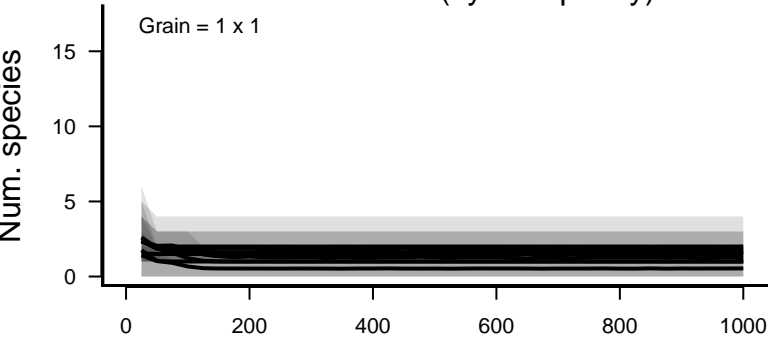


Birth rate–based Core Species: detection prob. = 0.5

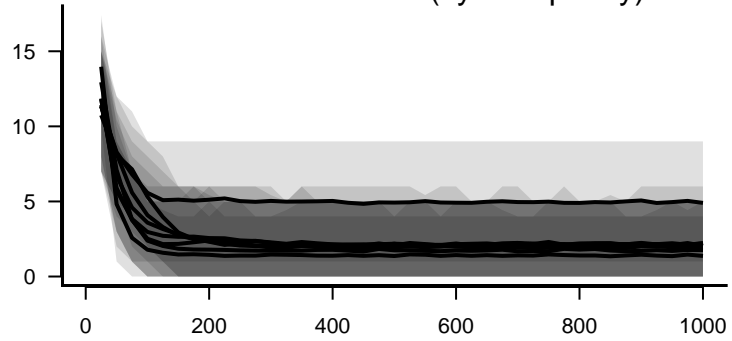


Birth rate–based Transient Species: detection prob. = 0.5

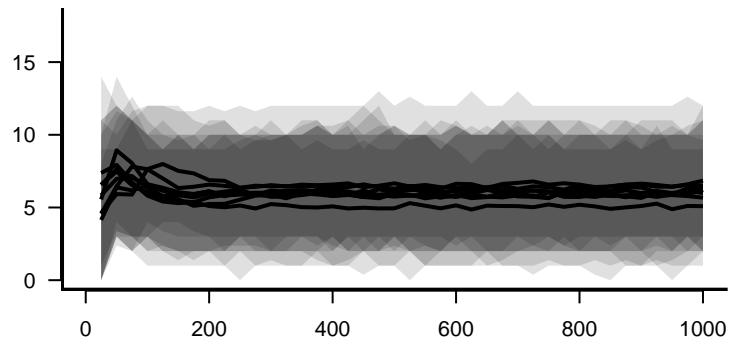
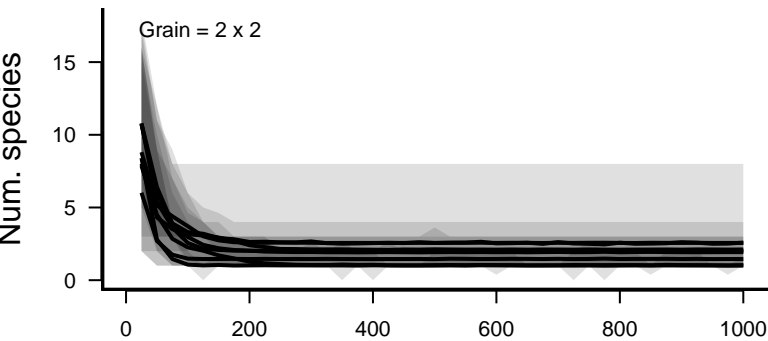
Classified Core (by occupancy)



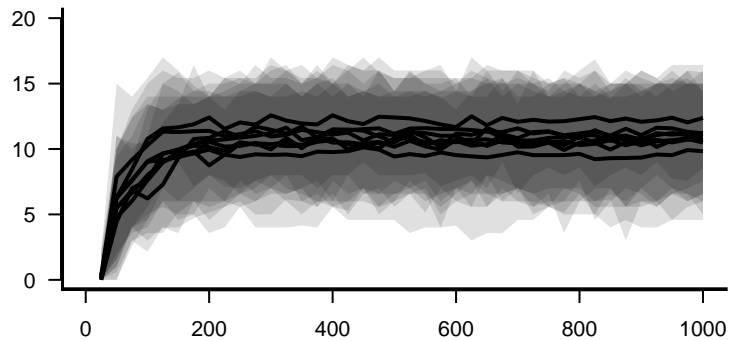
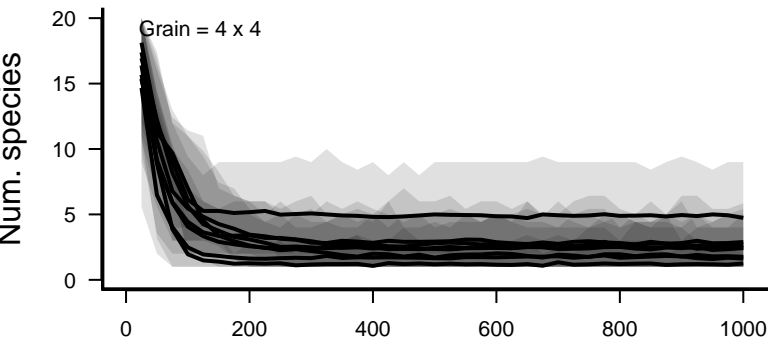
Classified Transient (by occupancy)



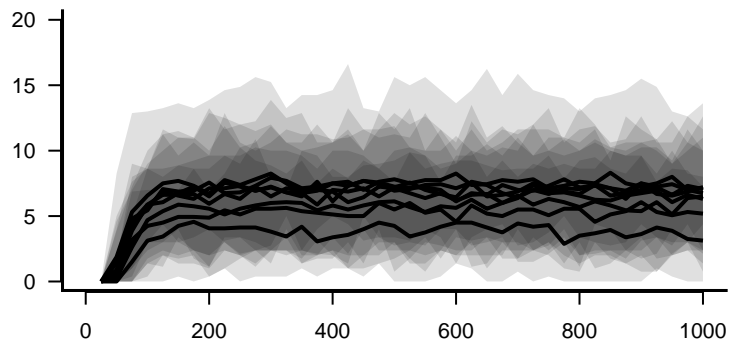
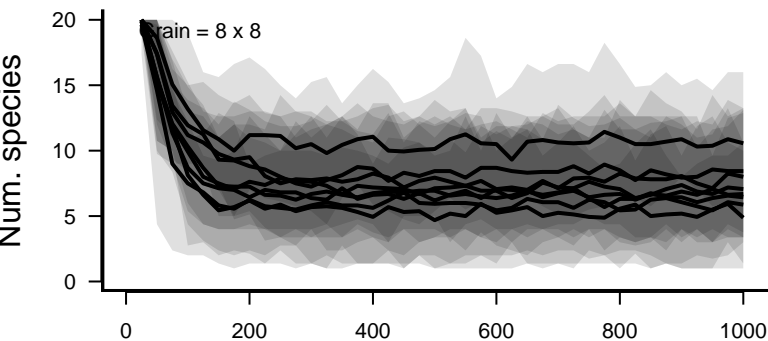
Grain = 2 x 2



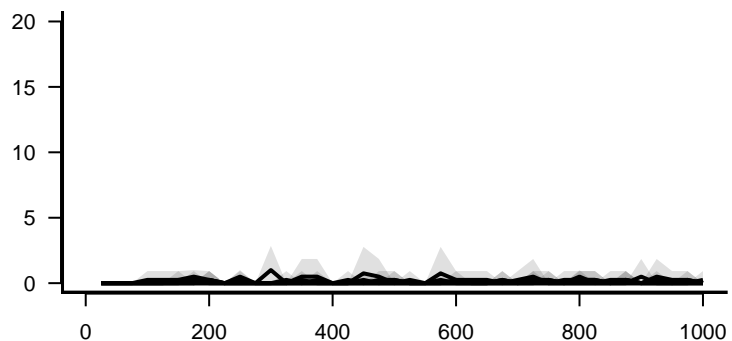
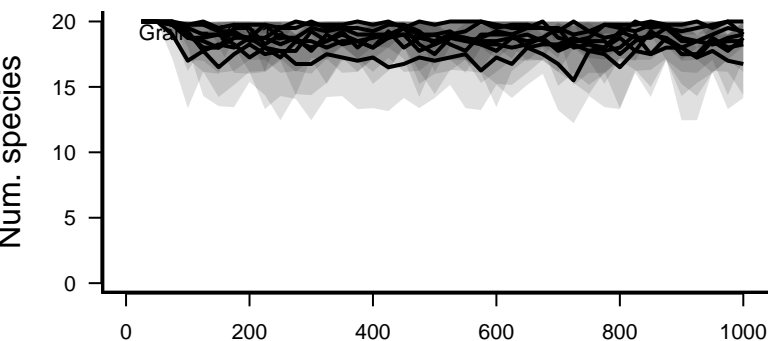
Grain = 4 x 4



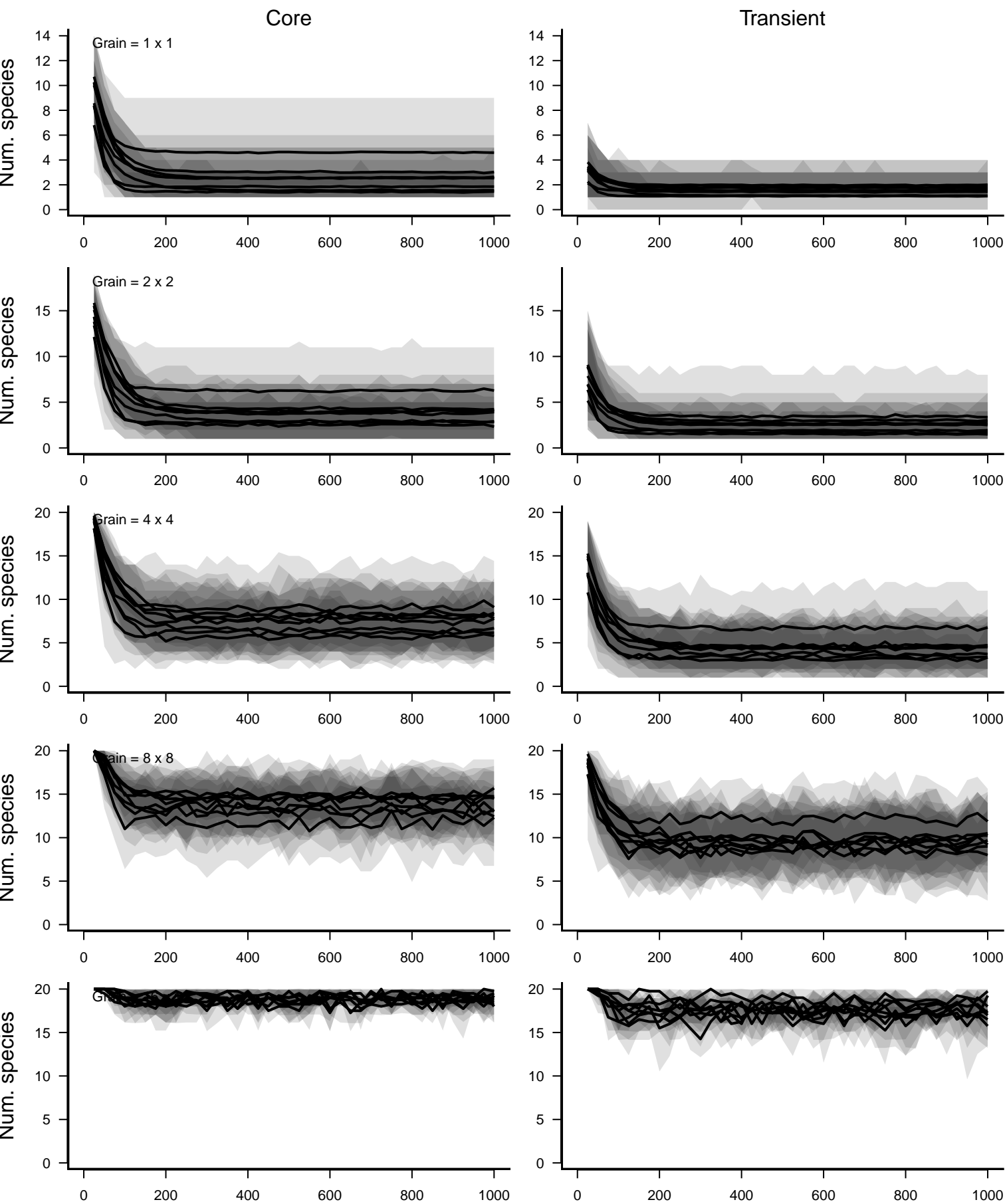
Grain = 8 x 8



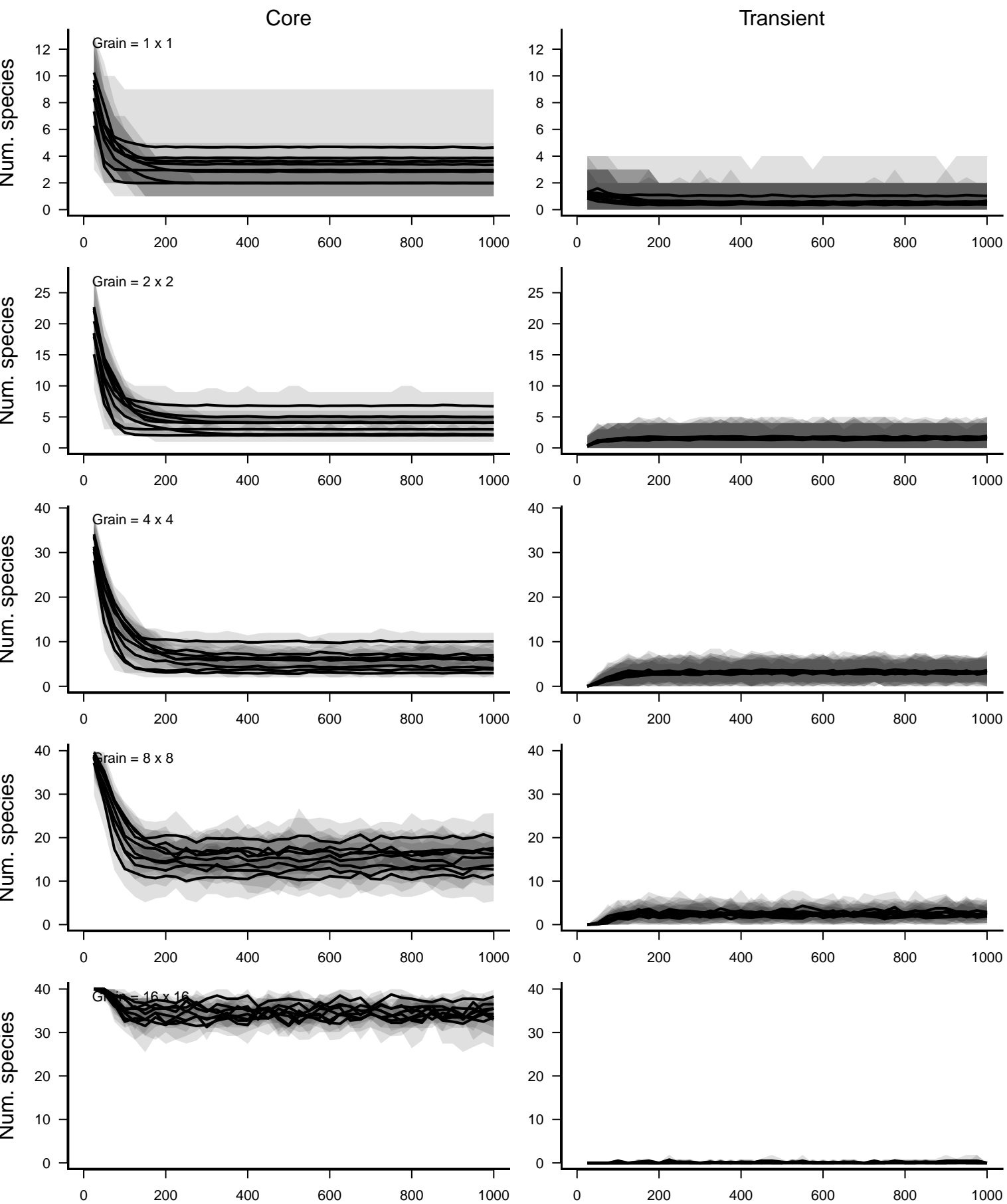
Grain



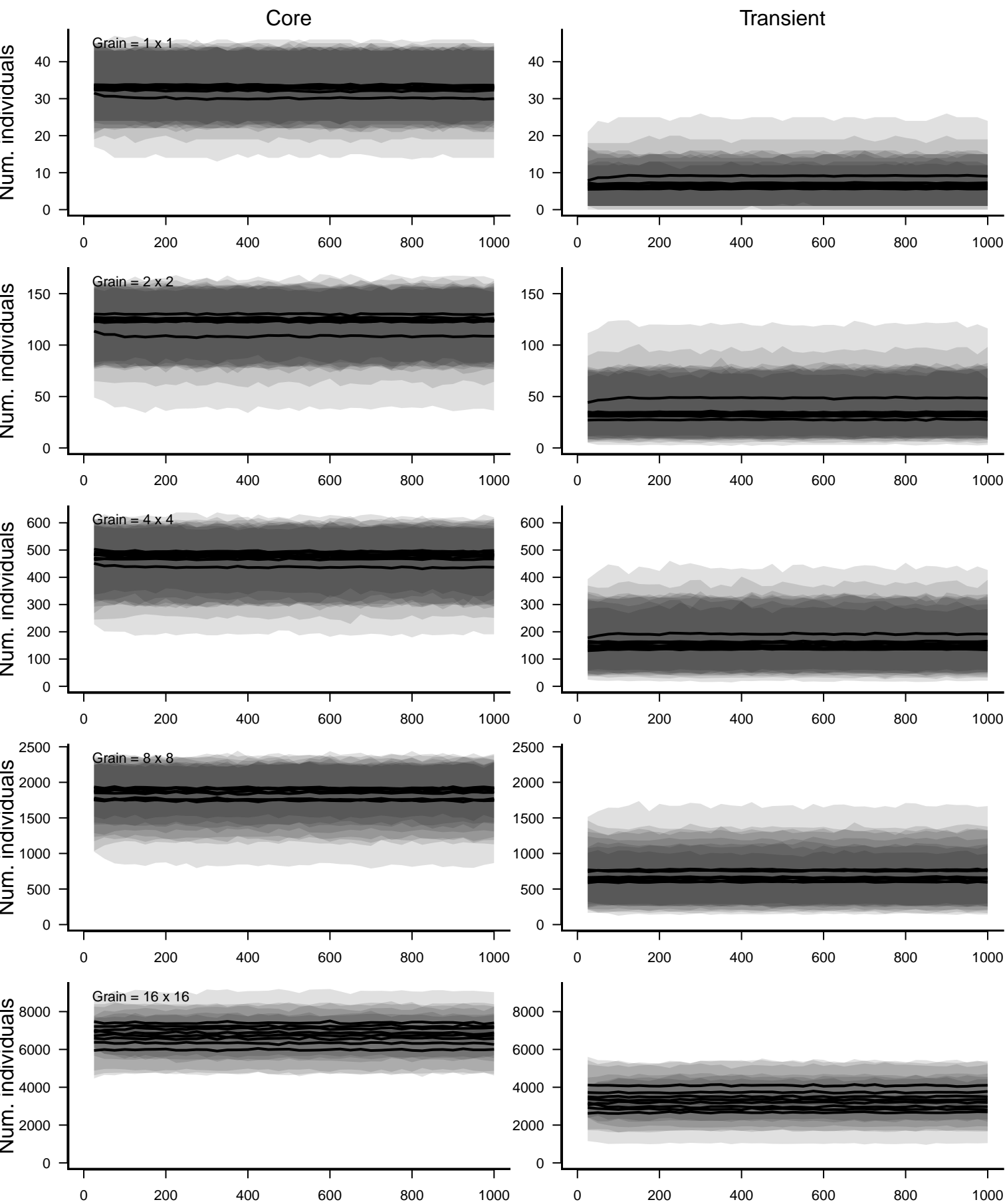
Birth rate-based categories: detection prob. = 0.4



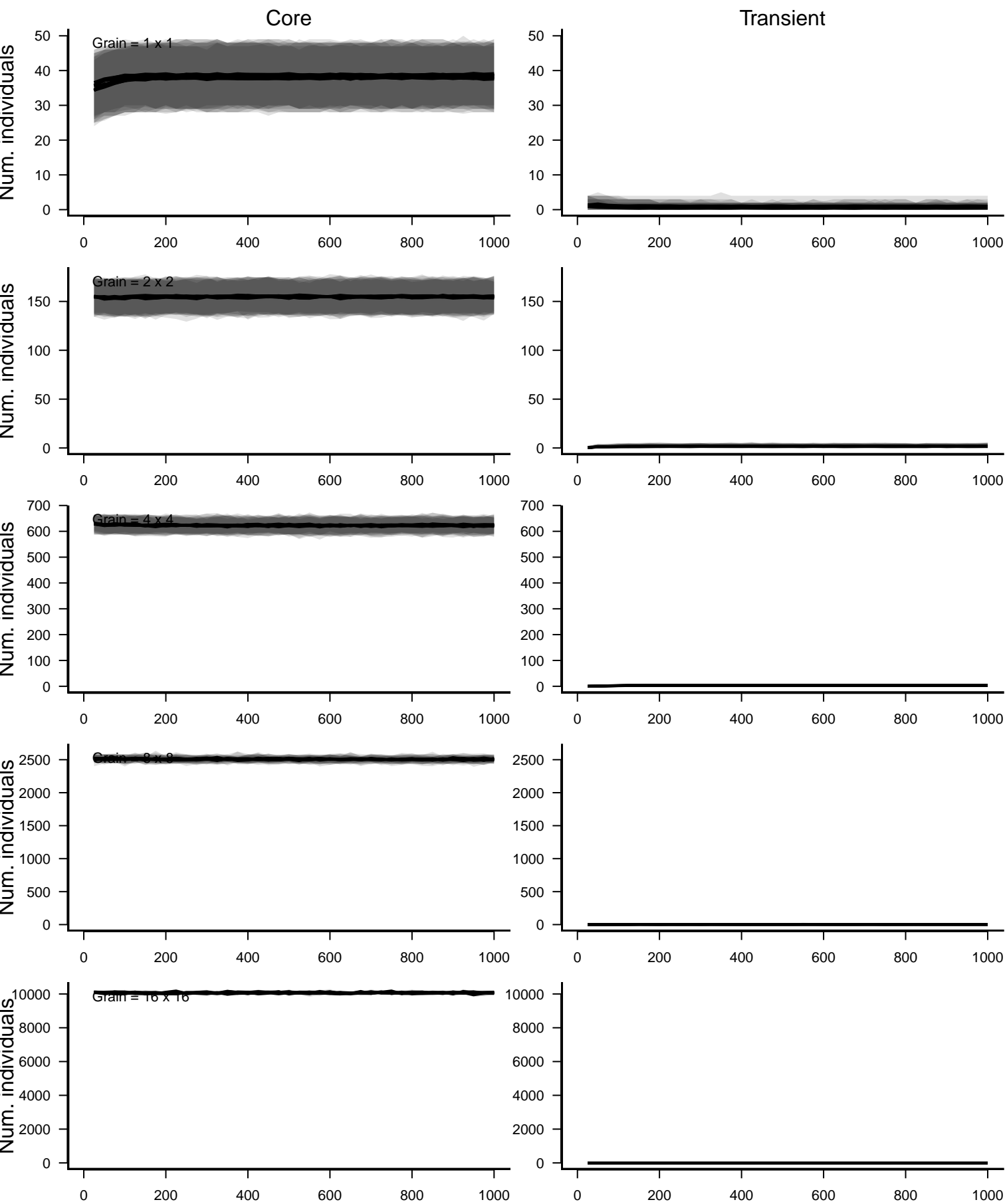
Temporal occupancy-based categories: detection prob. = 0.4



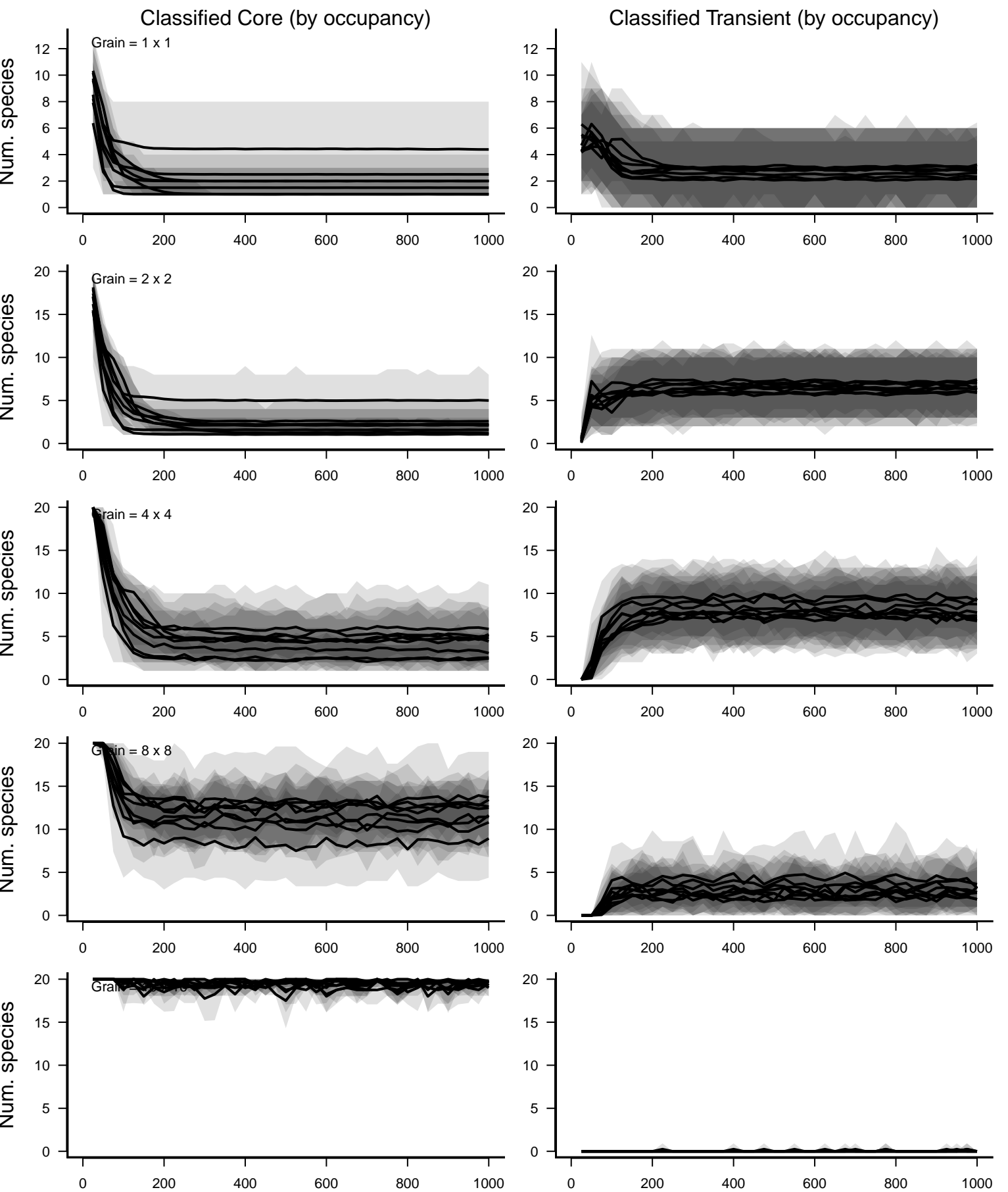
Birth rate–based categories: detection prob. = 0.4



Temporal occupancy-based categories: detection prob. = 0.4

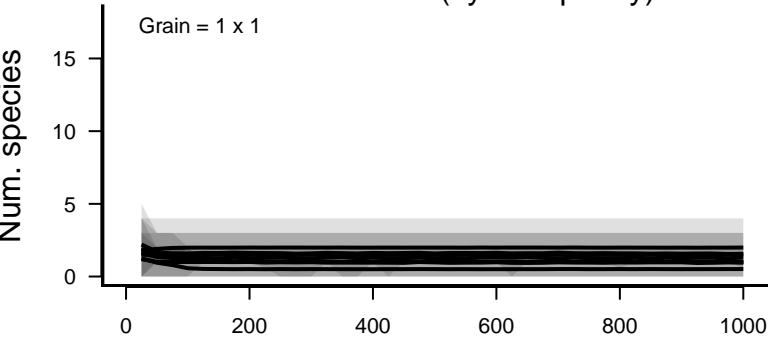


Birth rate–based Core Species: detection prob. = 0.4

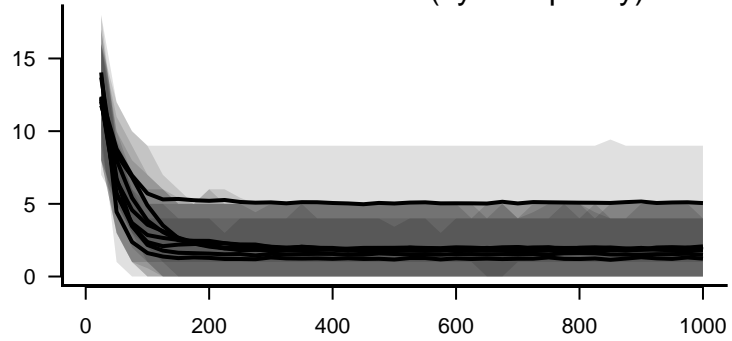


Birth rate–based Transient Species: detection prob. = 0.4

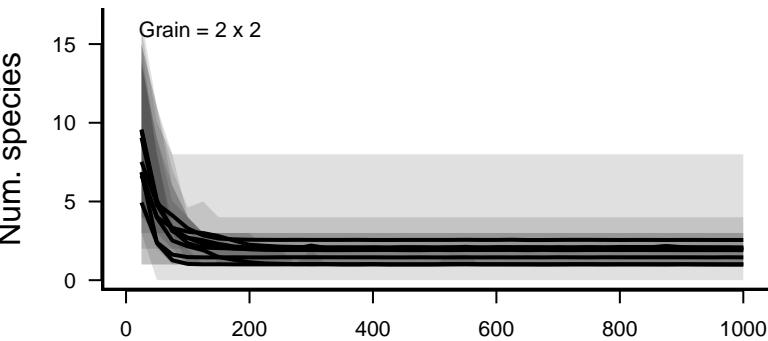
Classified Core (by occupancy)



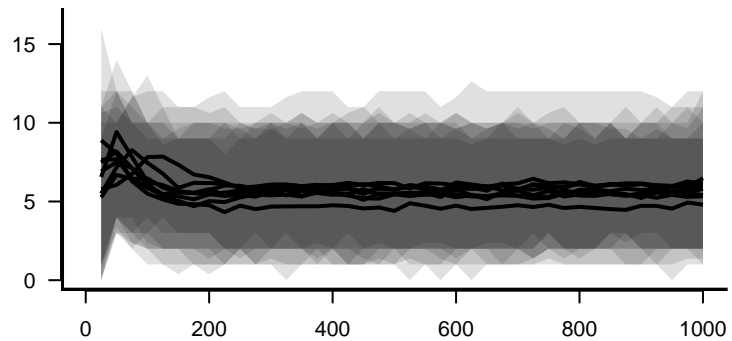
Classified Transient (by occupancy)



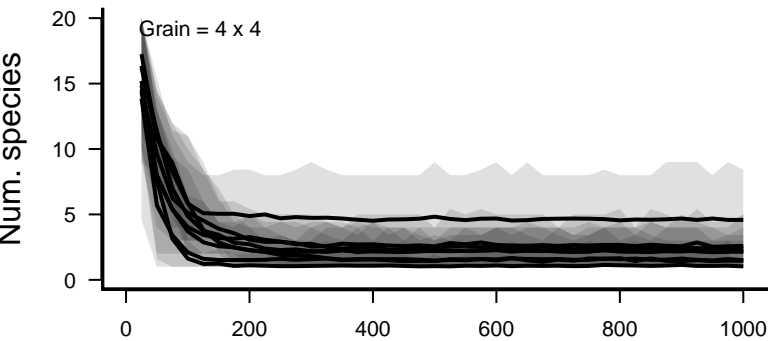
Grain = 2 x 2



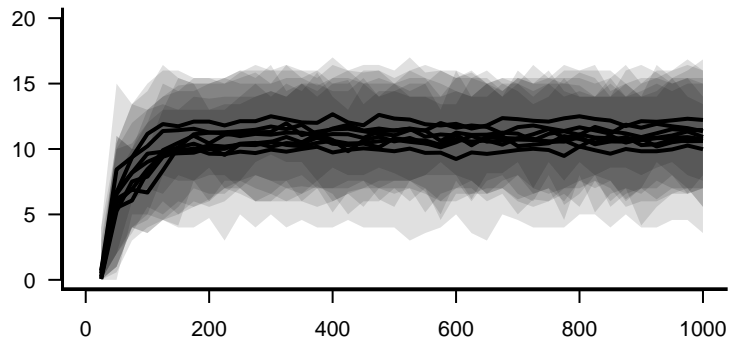
15



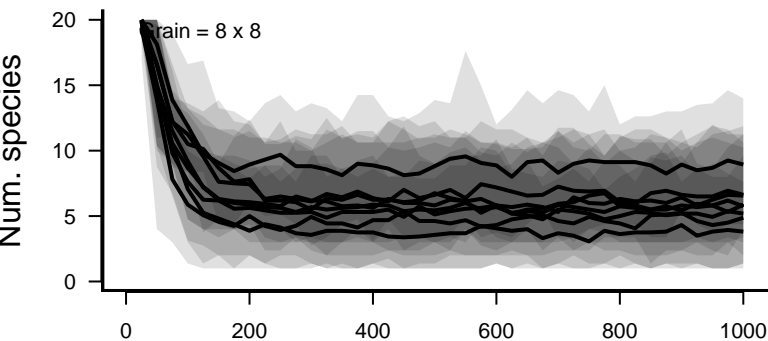
Grain = 4 x 4



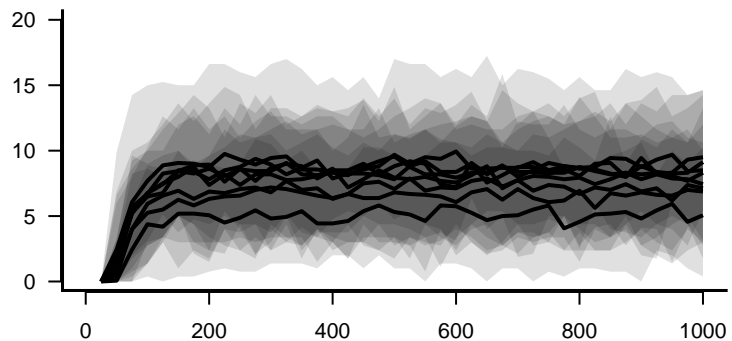
20 -



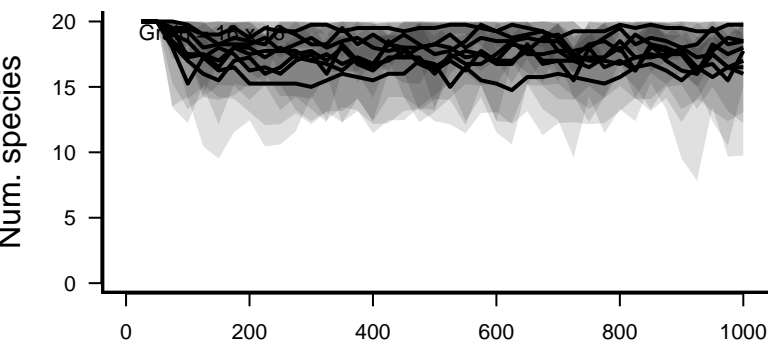
grain = 8 x 8



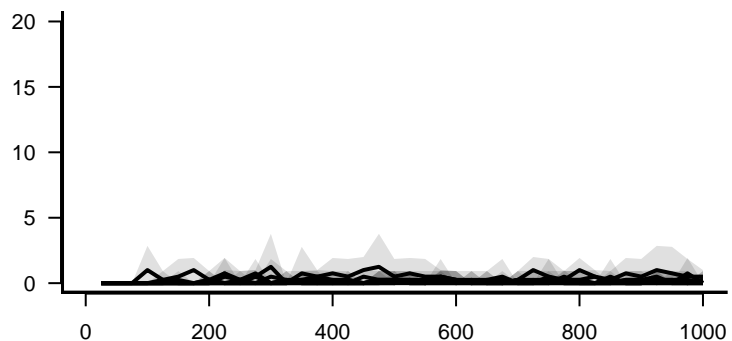
20 —



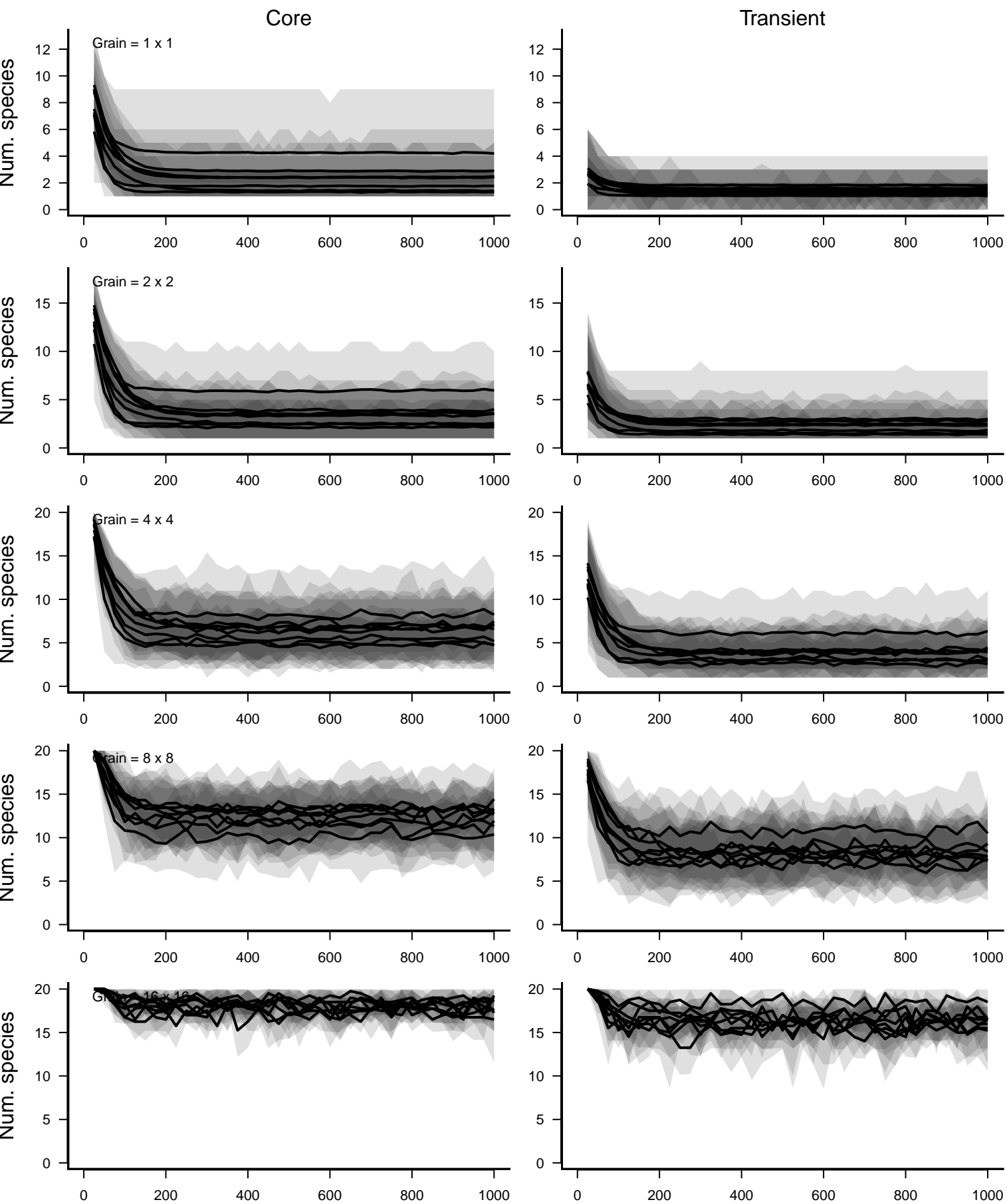
Grading - 10 y



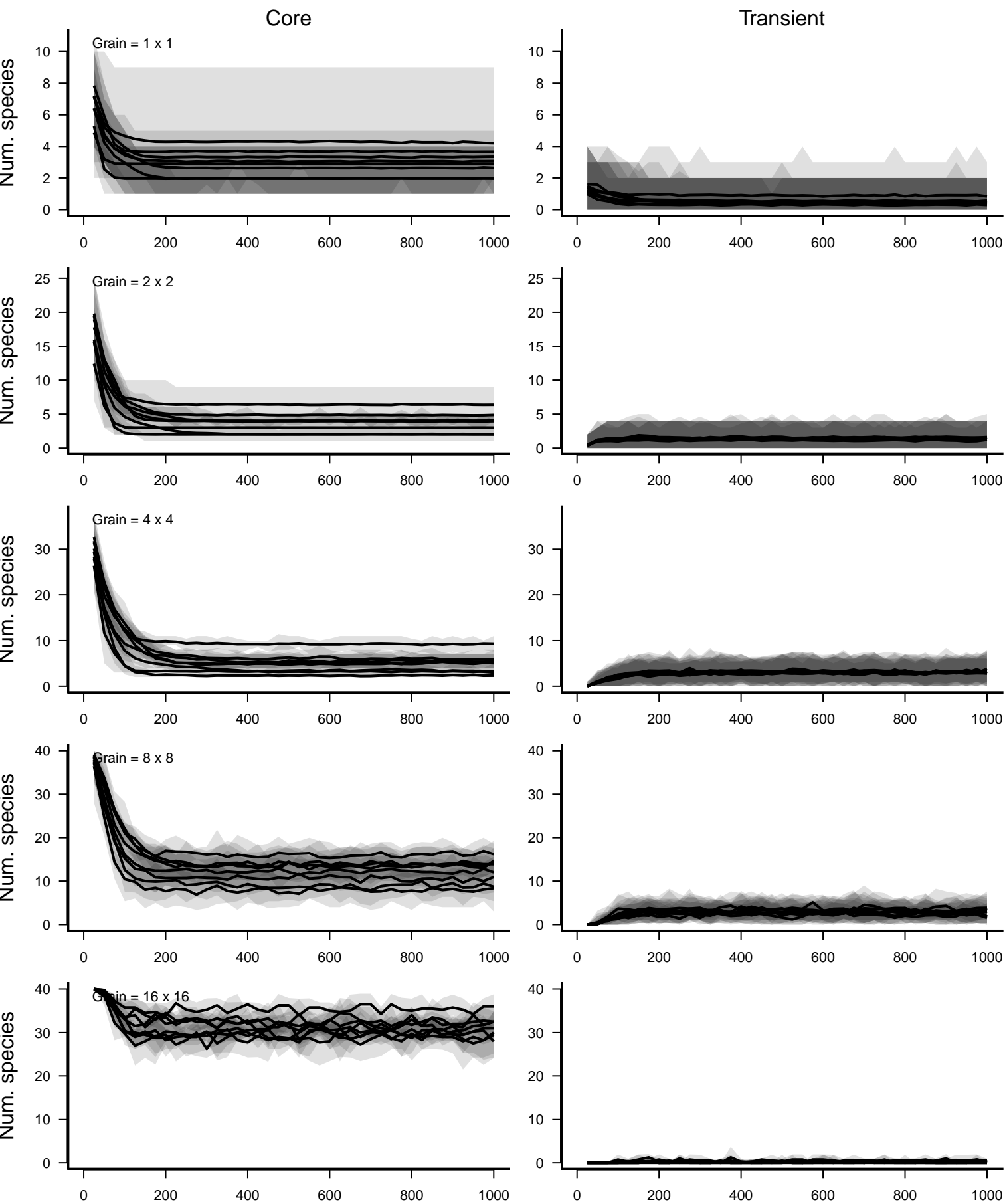
20 |



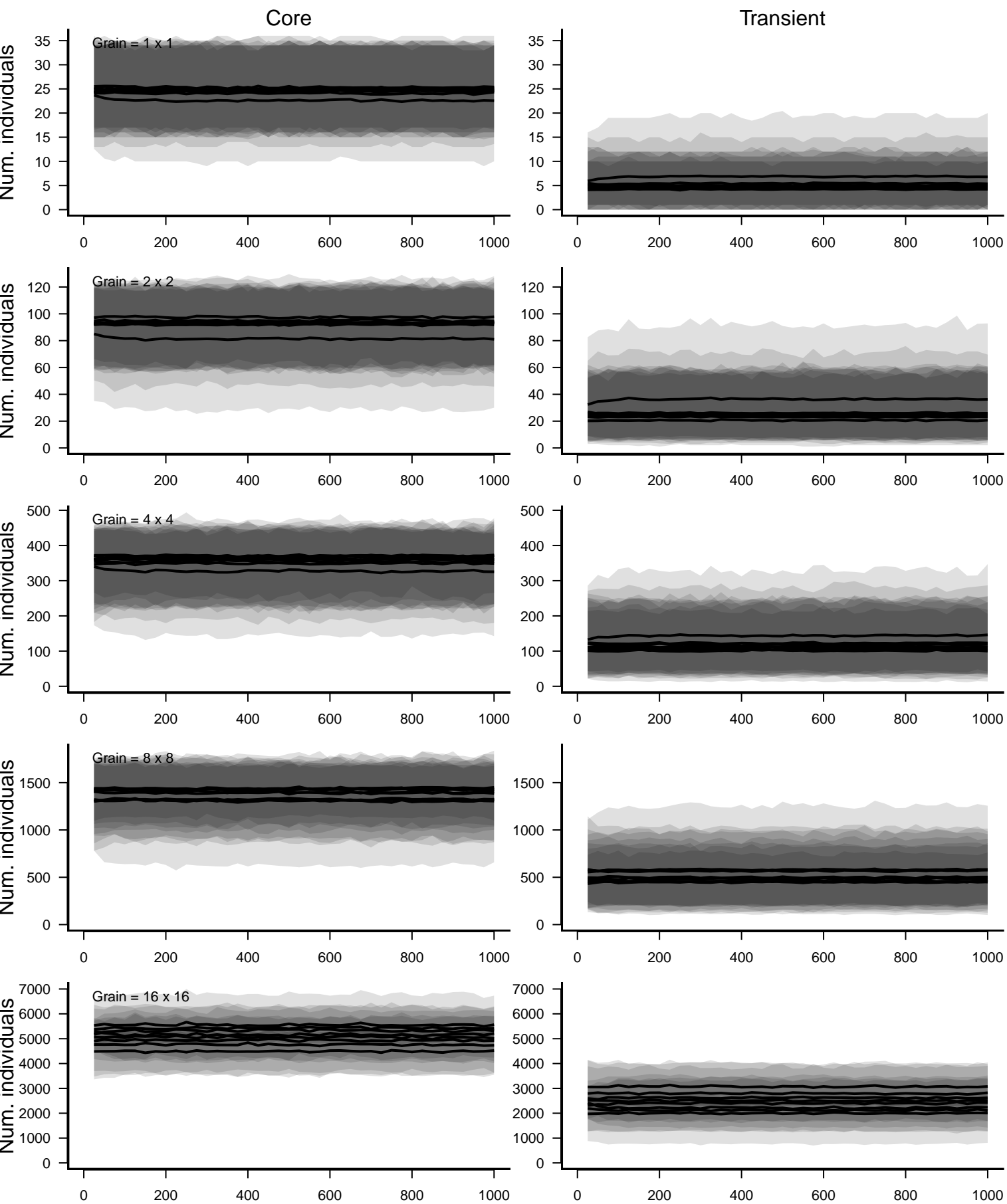
Birth rate-based categories: detection prob. = 0.3



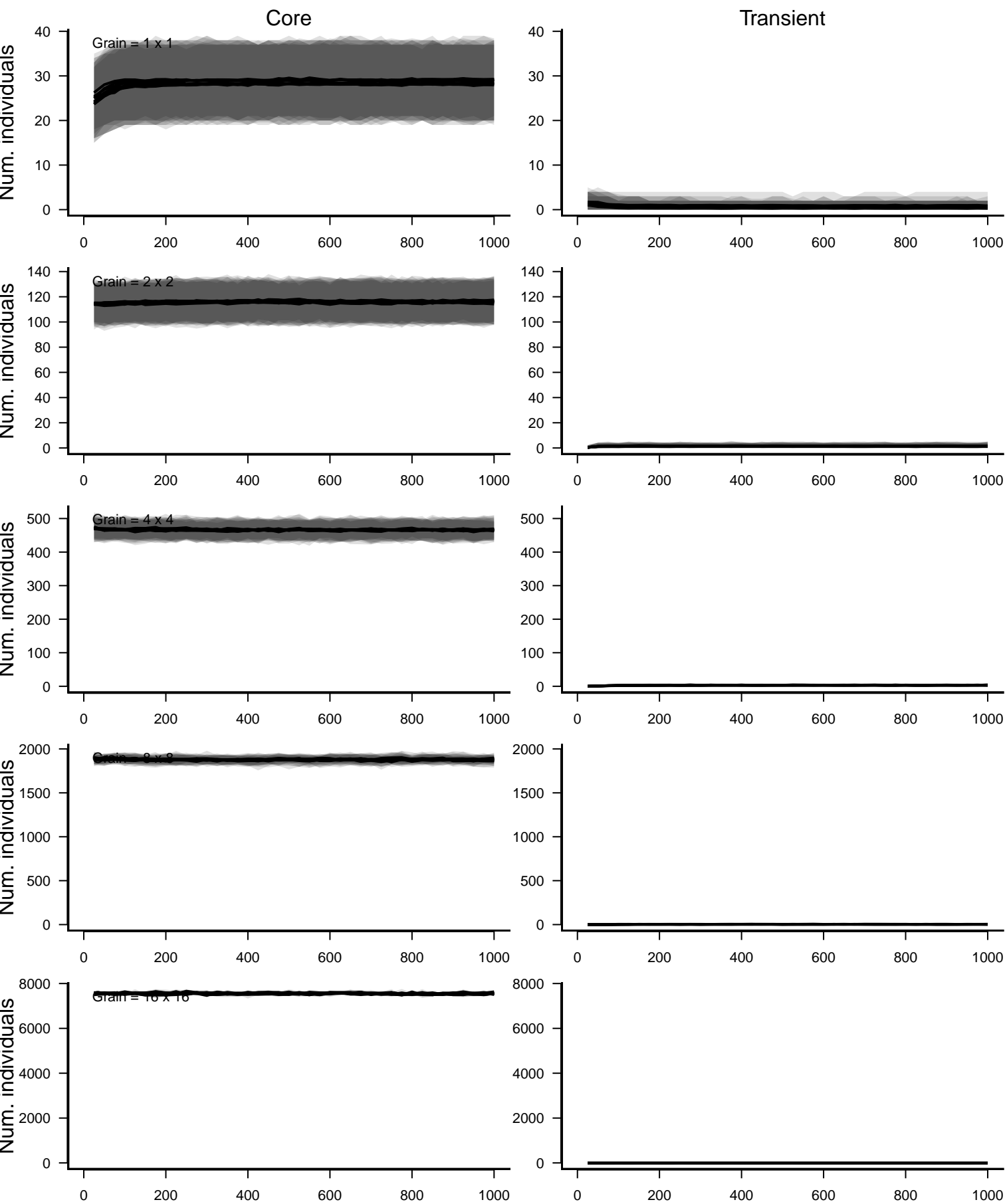
Temporal occupancy-based categories: detection prob. = 0.3



Birth rate–based categories: detection prob. = 0.3

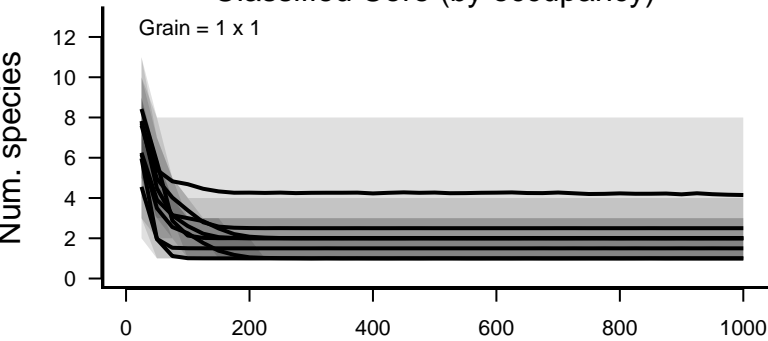


Temporal occupancy-based categories: detection prob. = 0.3

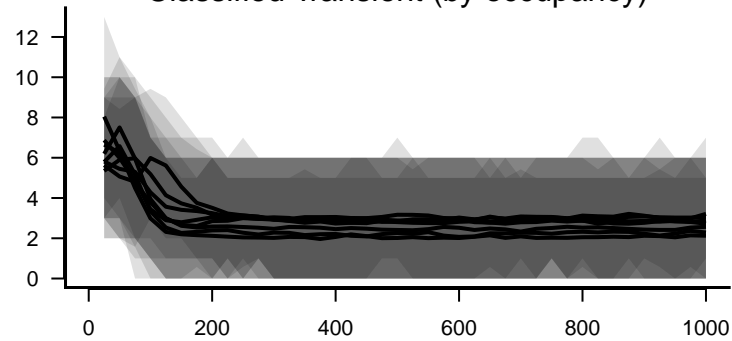


Birth rate–based Core Species: detection prob. = 0.3

Classified Core (by occupancy)

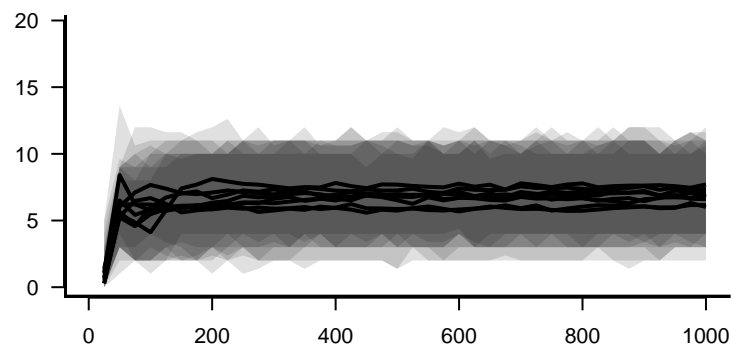
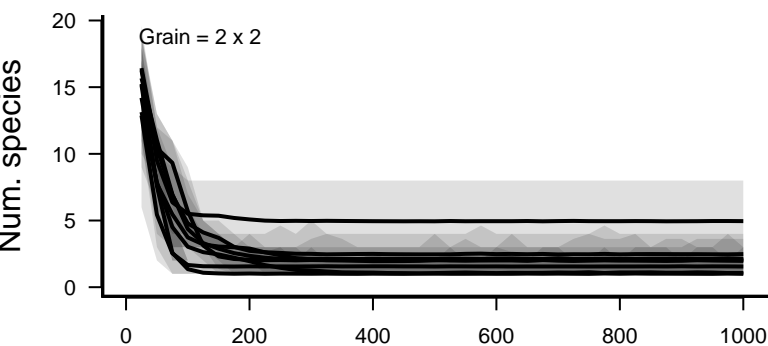


Classified Transient (by occupancy)



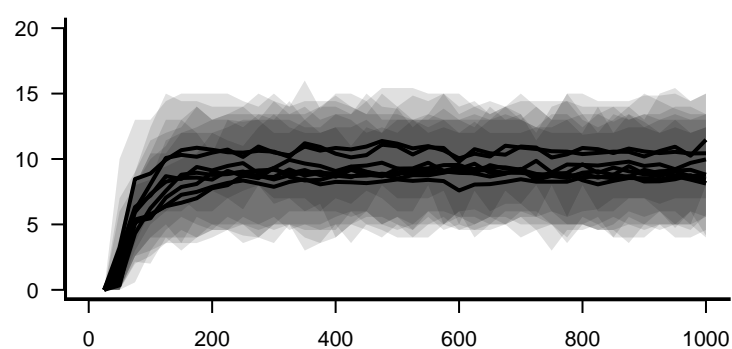
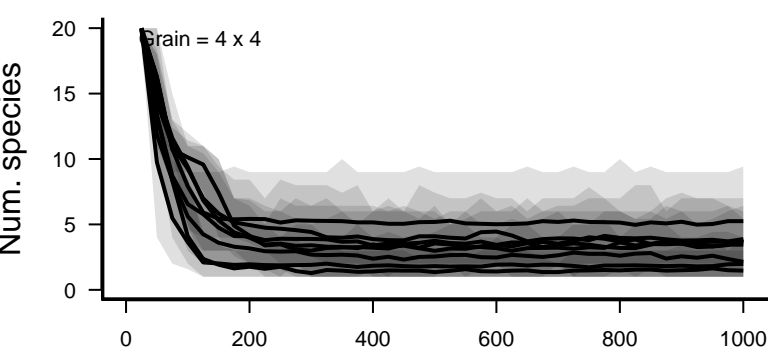
Num. species

Grain = 2 x 2



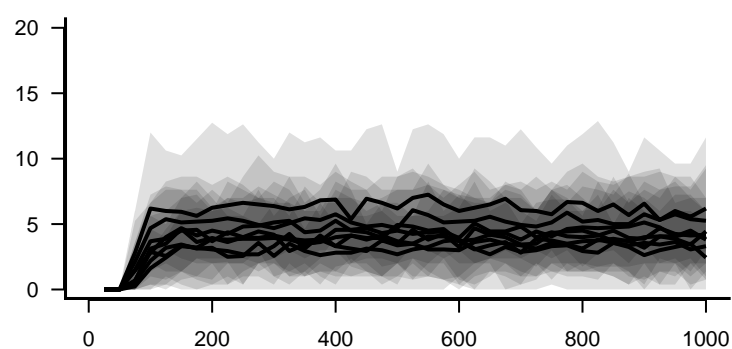
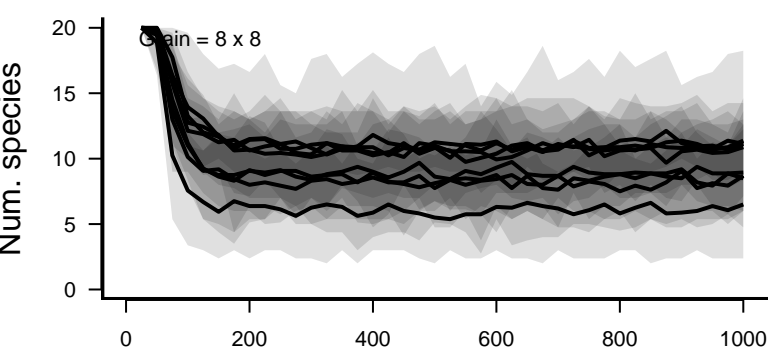
Num. species

Grain = 4 x 4



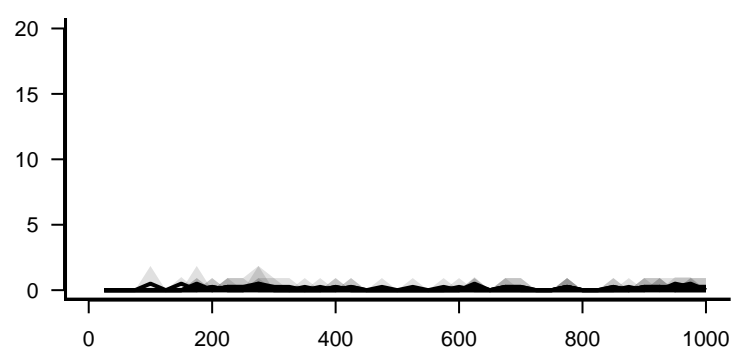
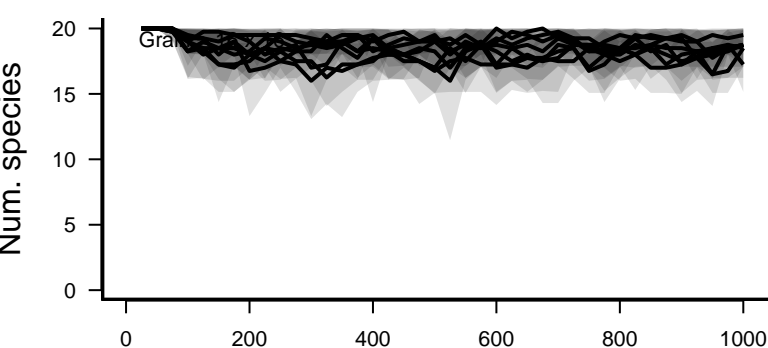
Num. species

Gain = 8×8



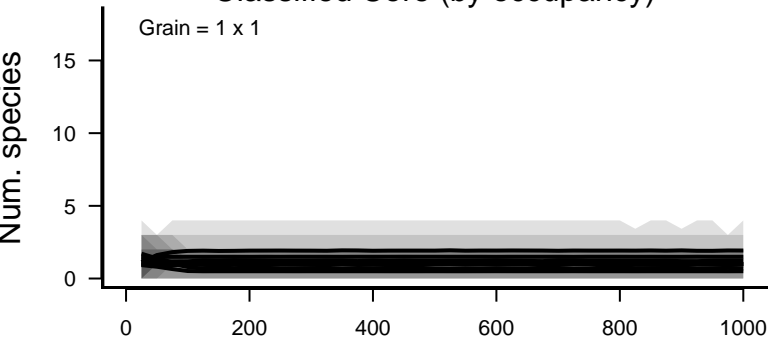
Num. species

Grant

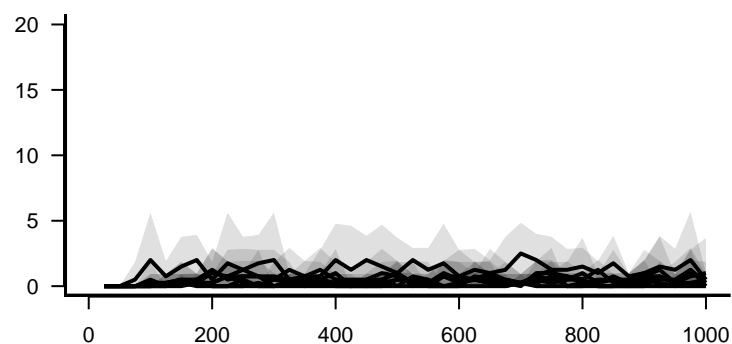
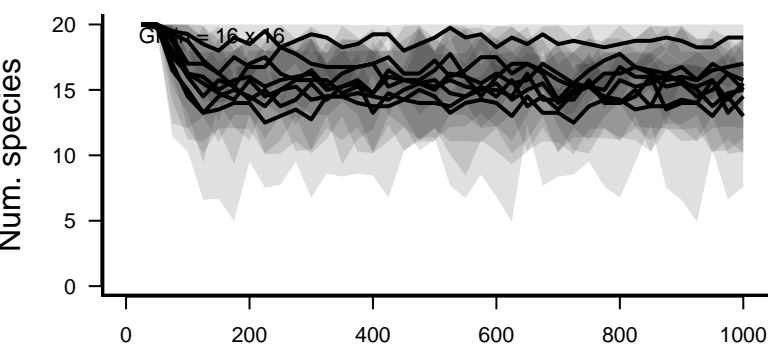
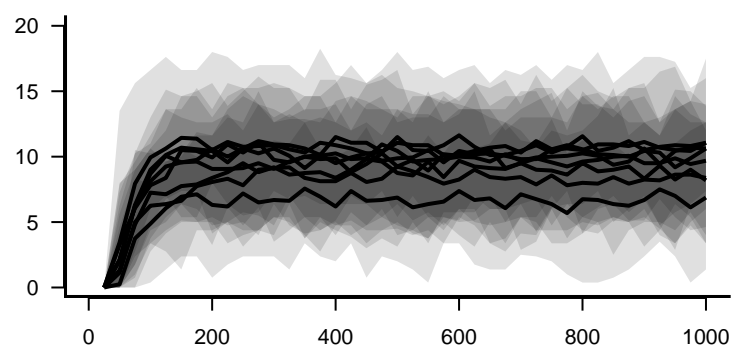
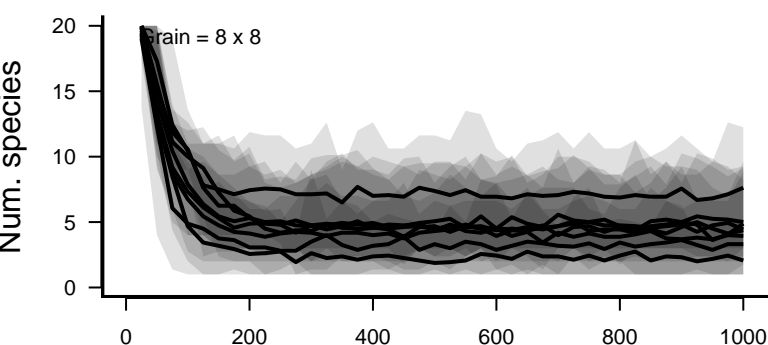
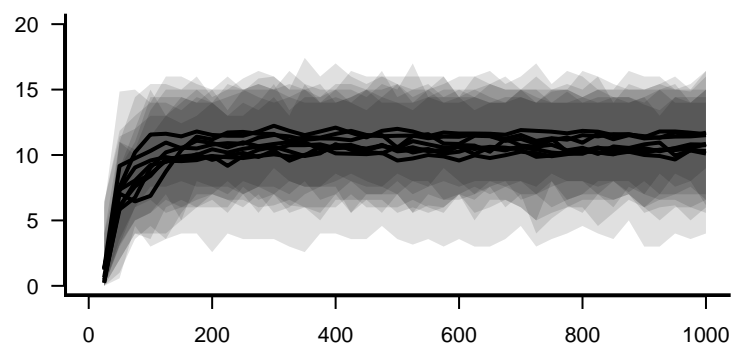
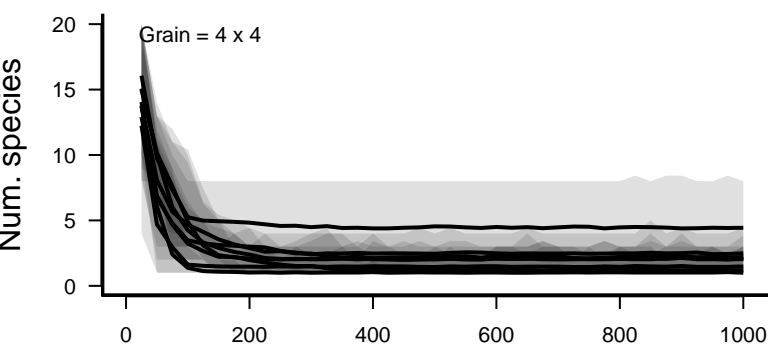
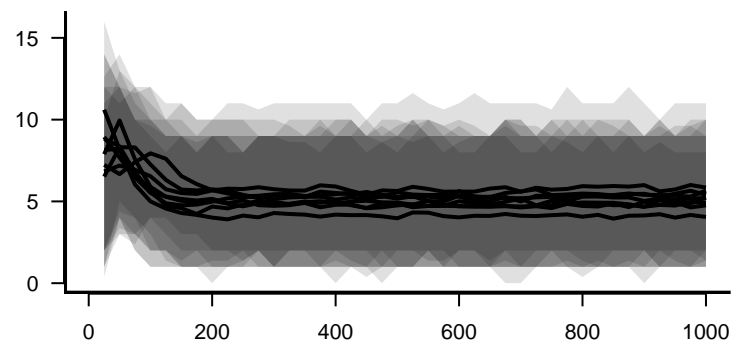
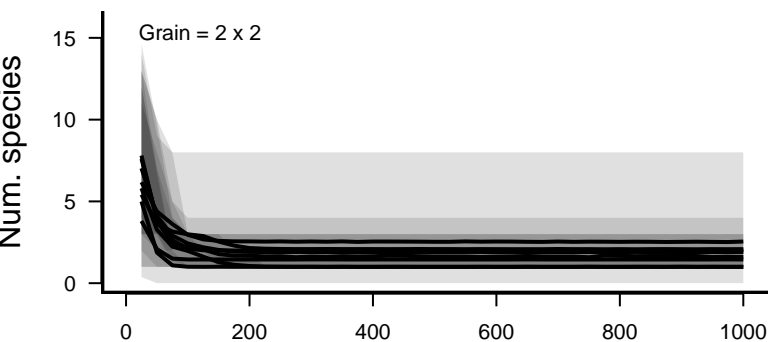
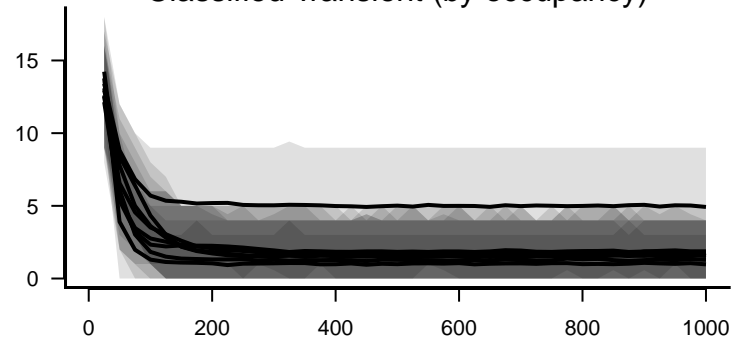


Birth rate–based Transient Species: detection prob. = 0.3

Classified Core (by occupancy)



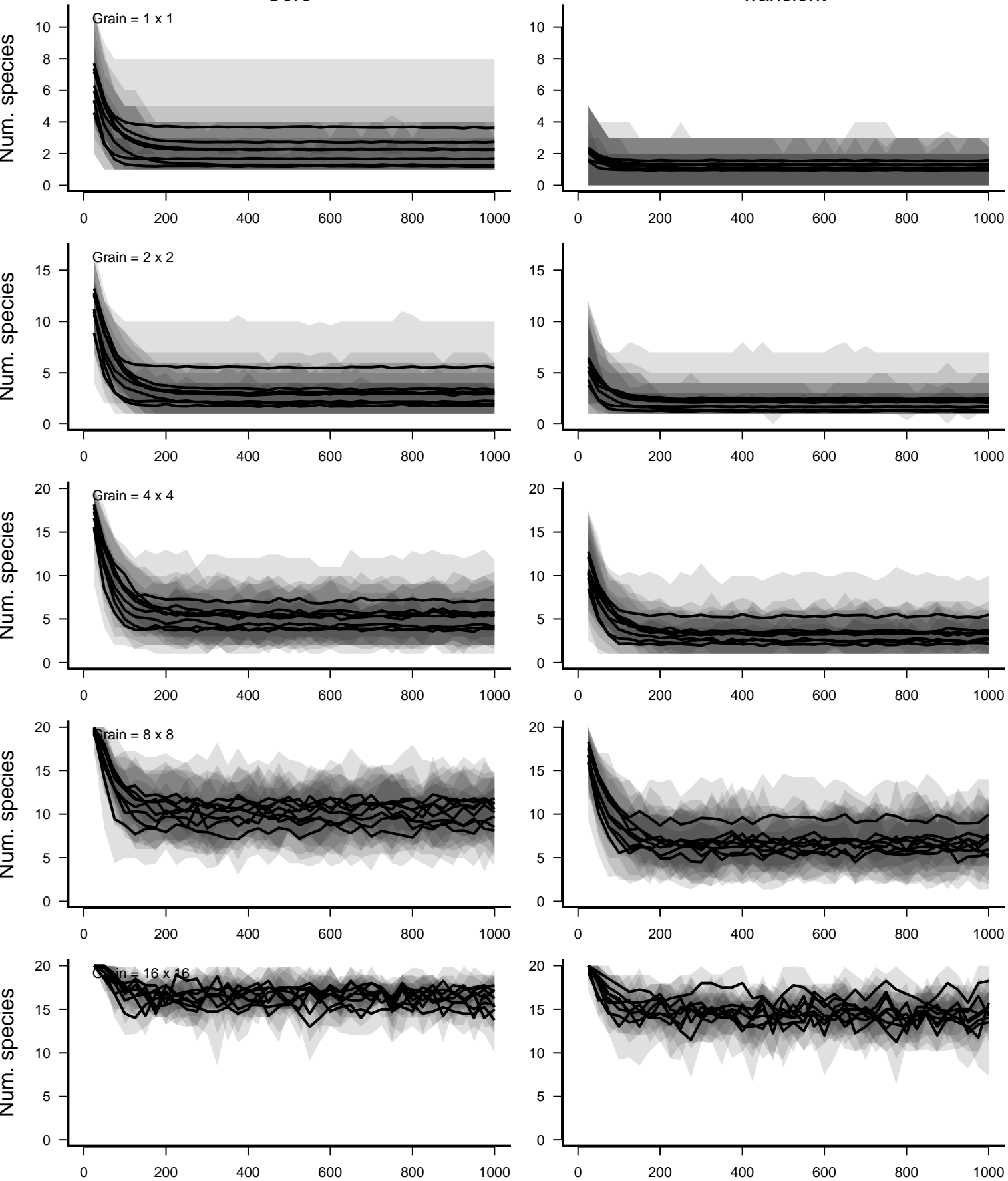
Classified Transient (by occupancy)



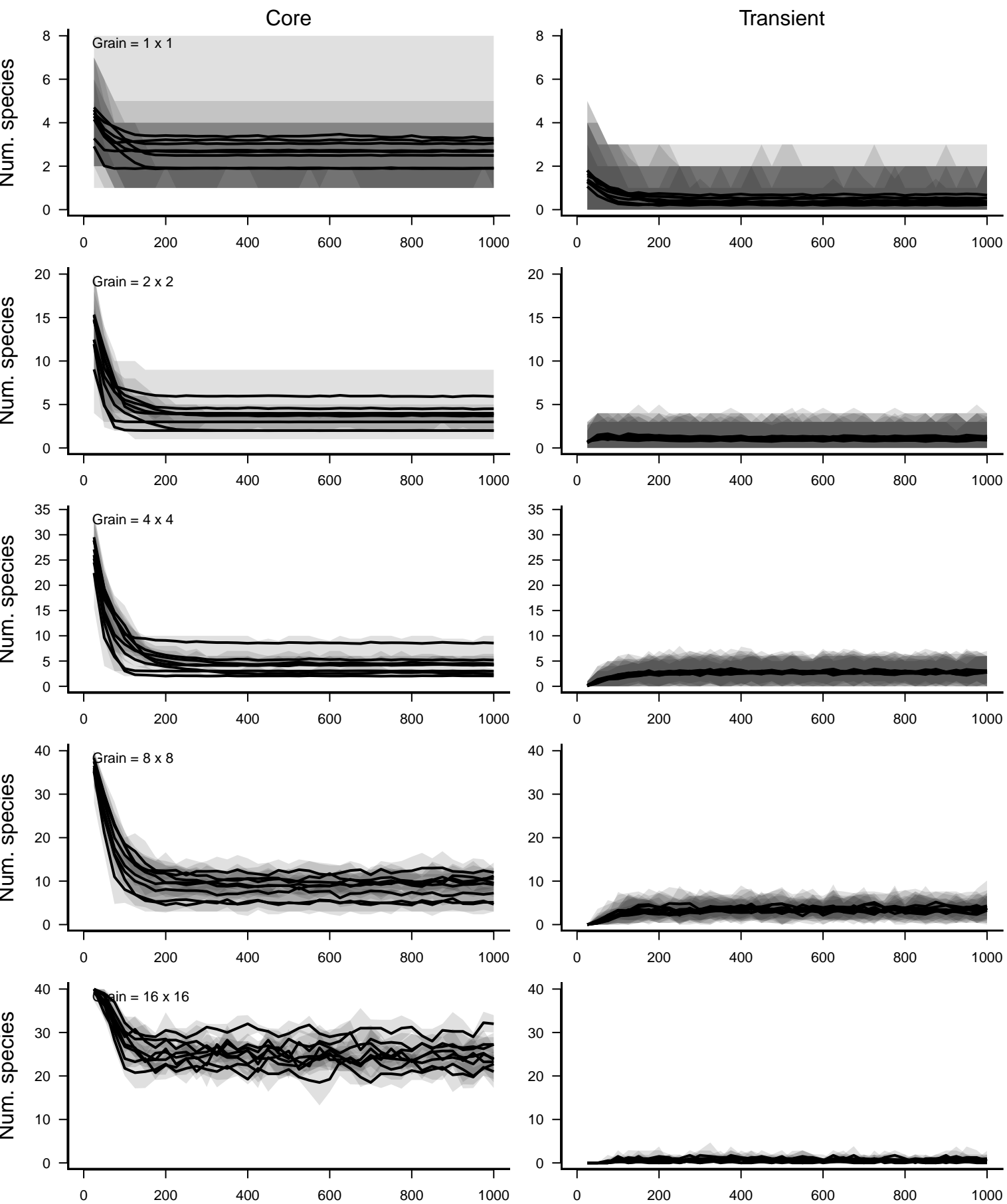
Birth rate–based categories: detection prob. = 0.2

Core

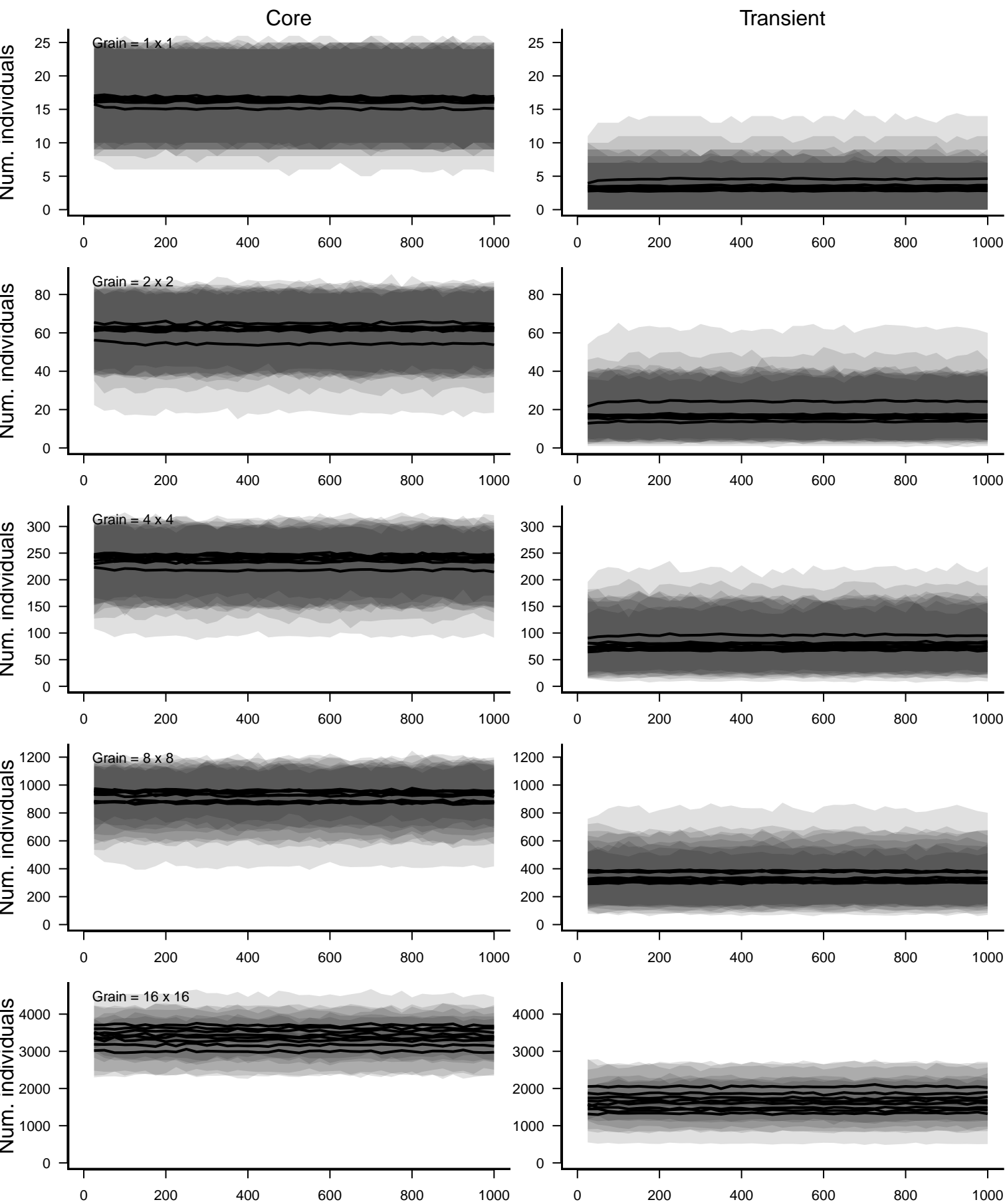
Transient



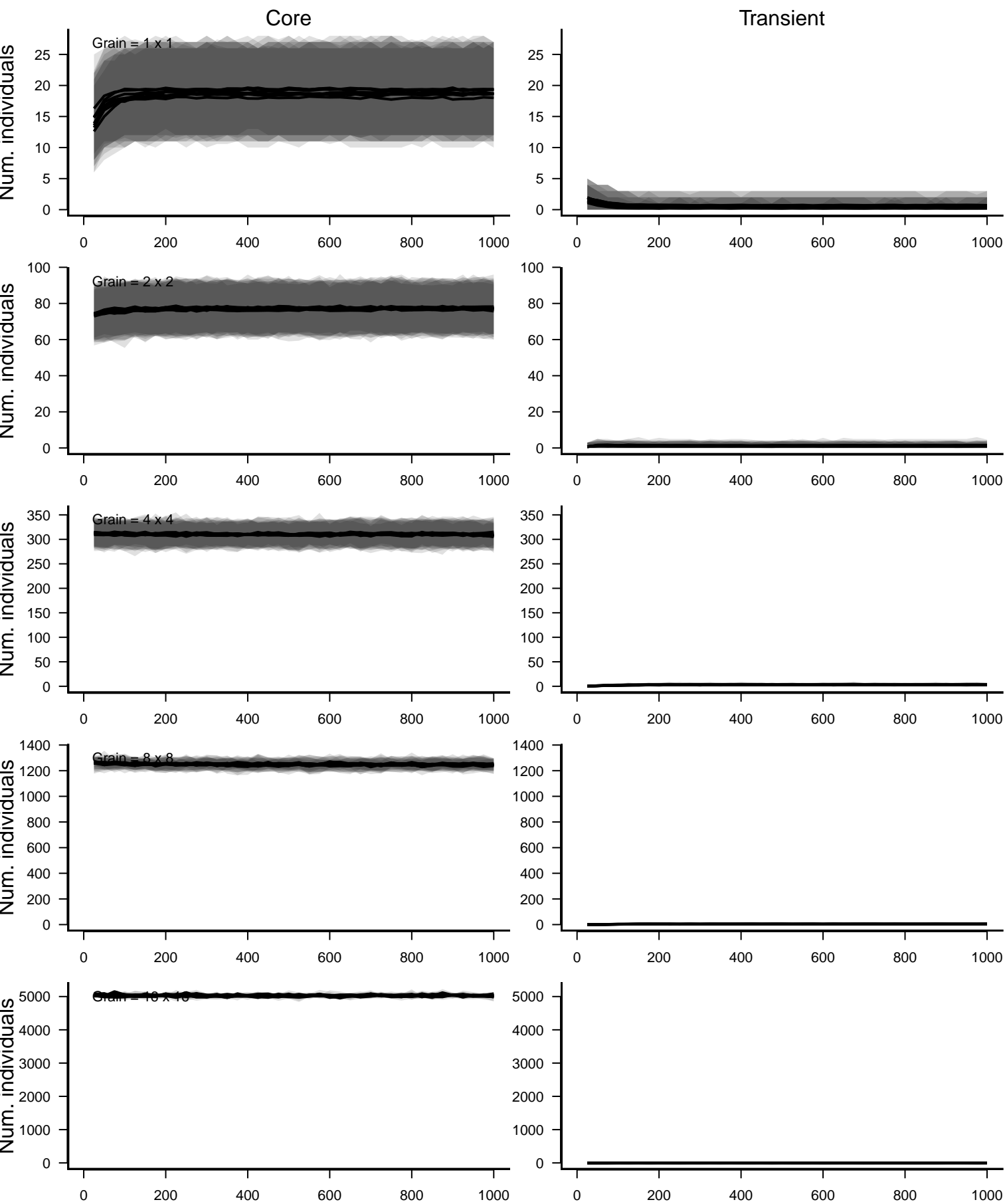
Temporal occupancy-based categories: detection prob. = 0.2



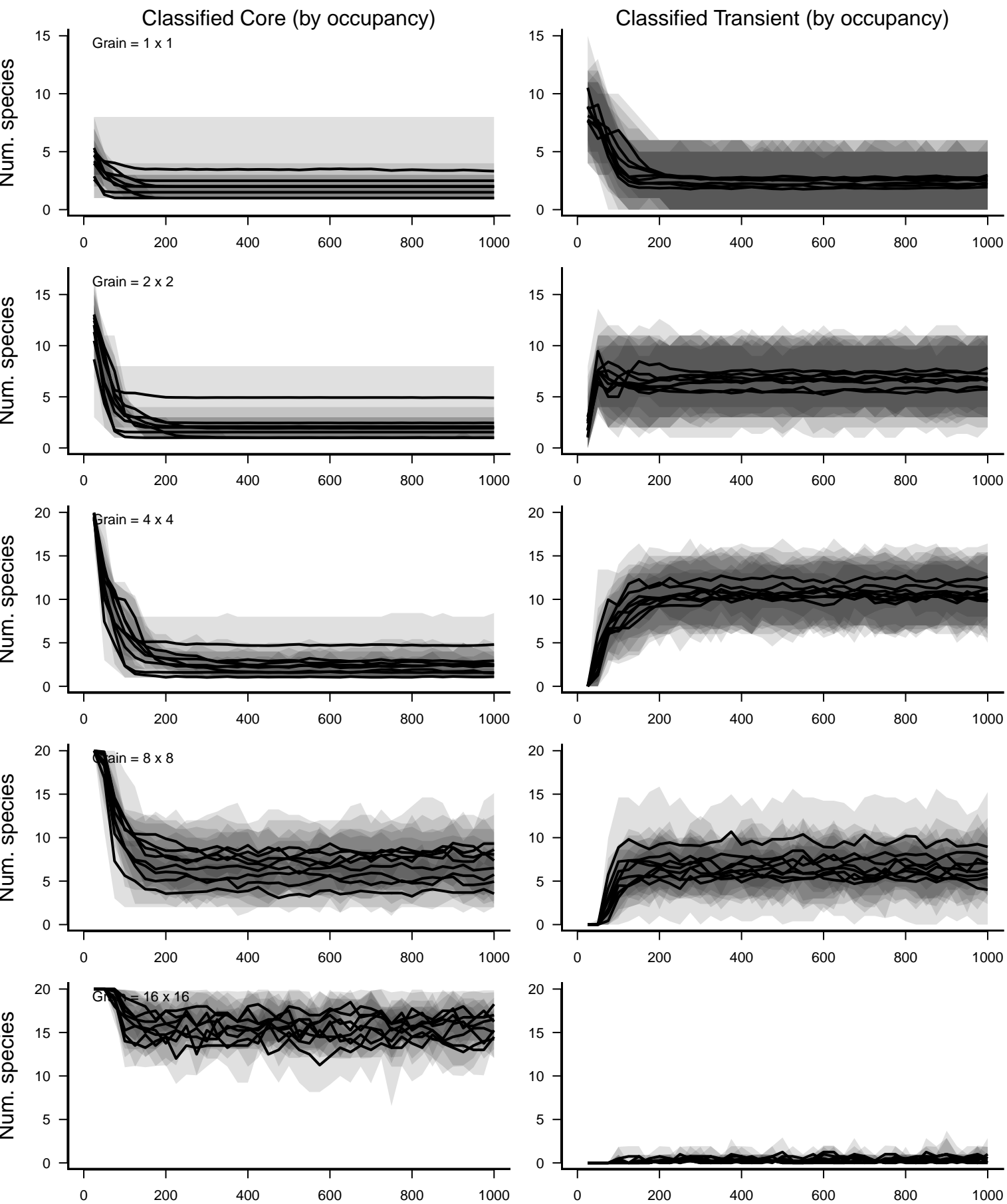
Birth rate–based categories: detection prob. = 0.2



Temporal occupancy-based categories: detection prob. = 0.2

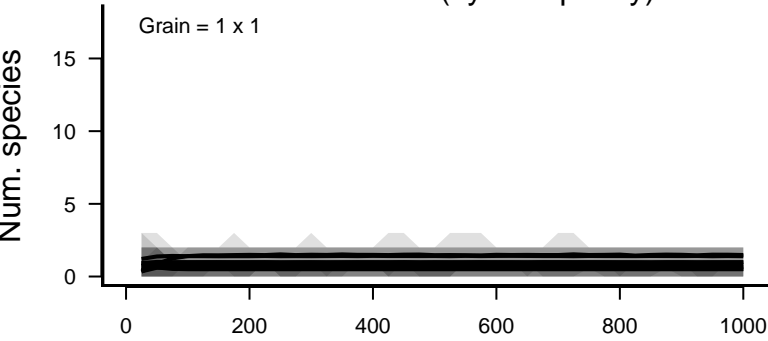


Birth rate–based Core Species: detection prob. = 0.2

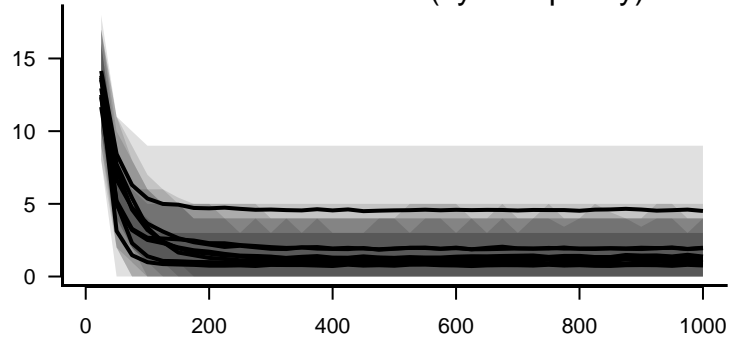


Birth rate–based Transient Species: detection prob. = 0.2

Classified Core (by occupancy)



Classified Transient (by occupancy)



Grain = 2 x 2

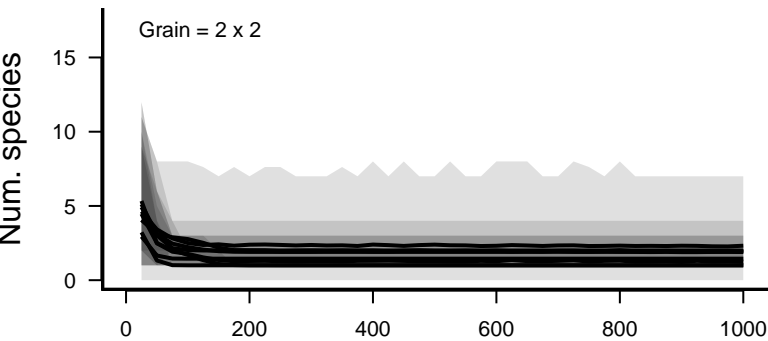
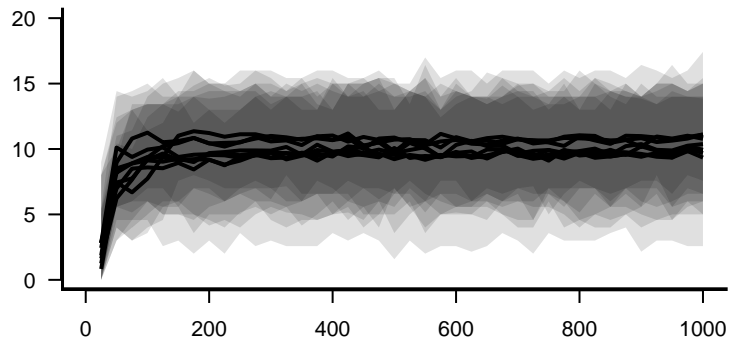
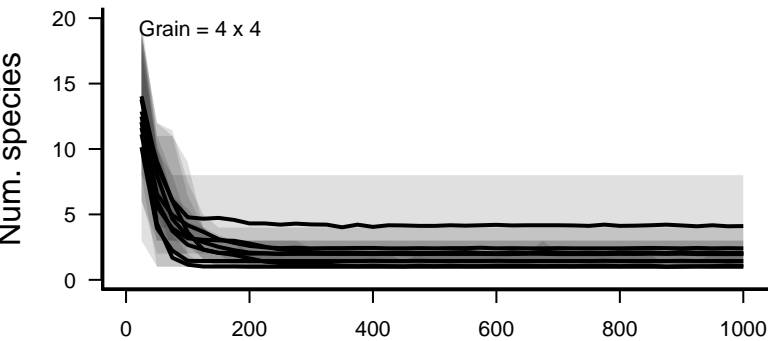
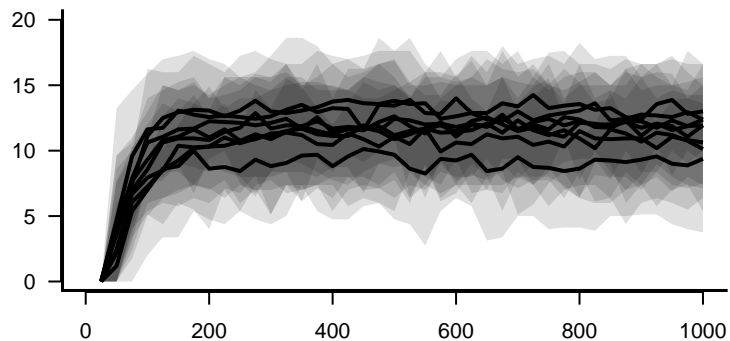
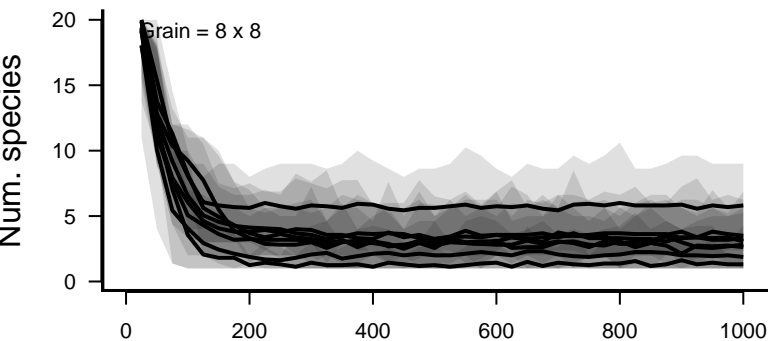
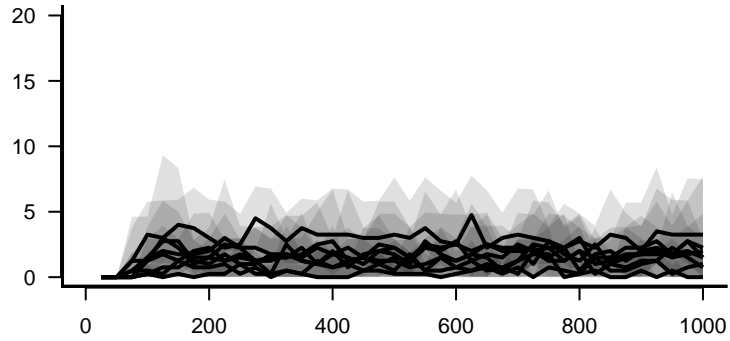
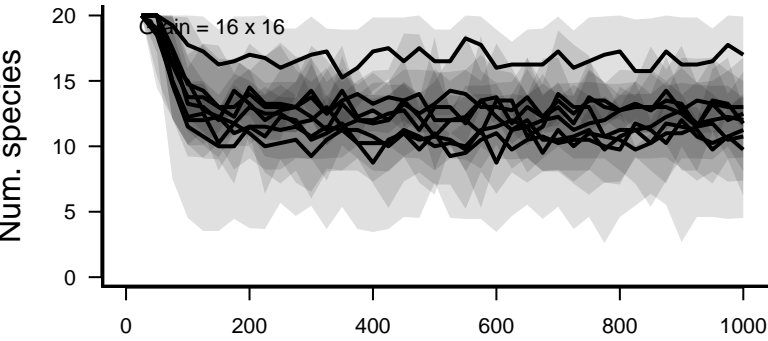


Figure 1 is a line plot showing the evolution of the mean and standard deviation of the estimated parameters over 1000 iterations. The x-axis represents iterations from 0 to 1000, and the y-axis represents parameter values from 0 to 15. Multiple lines represent different parameters, showing a rapid initial decrease followed by stabilization. Shaded regions indicate the standard deviation.

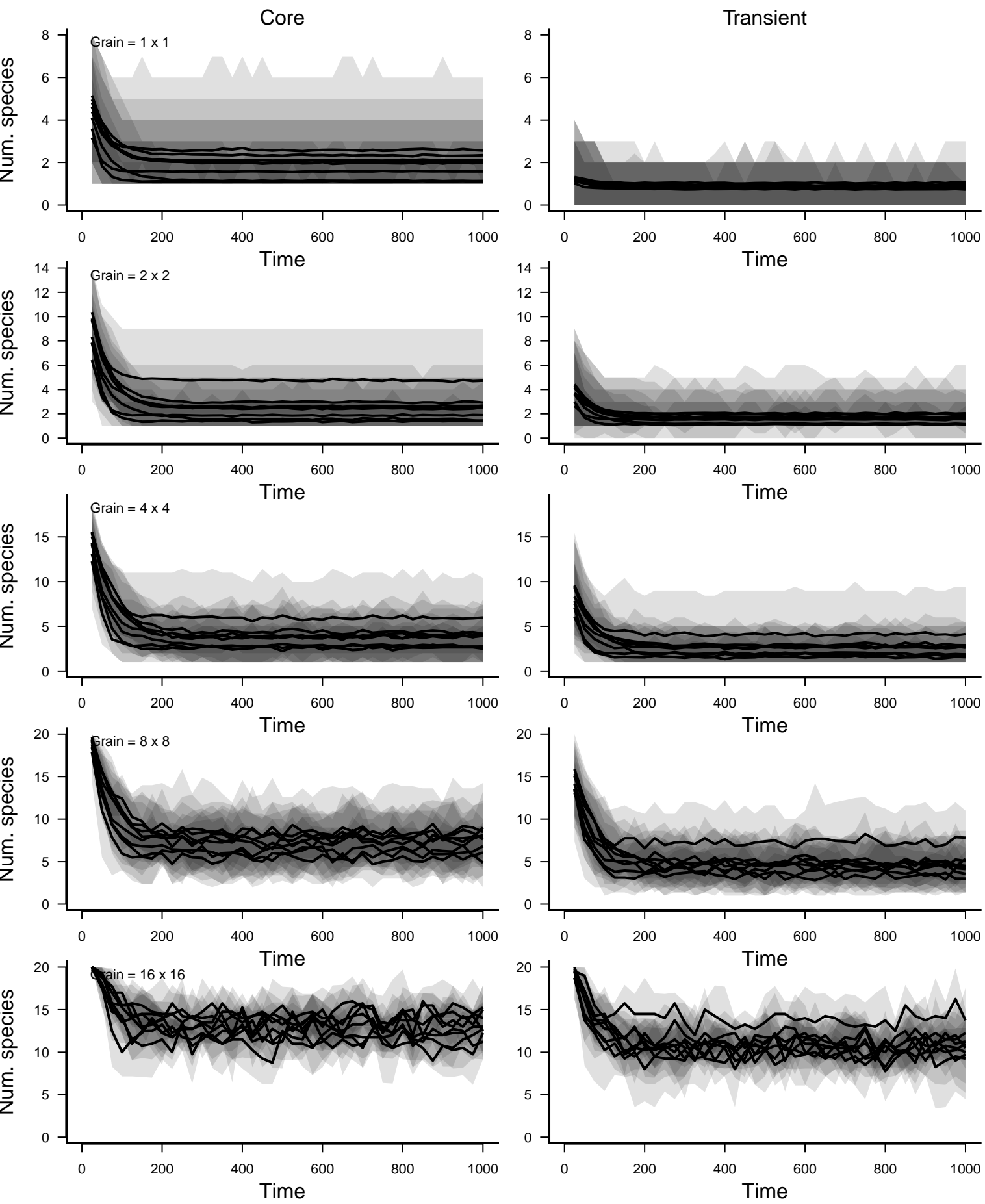
Grain = 4 x 4



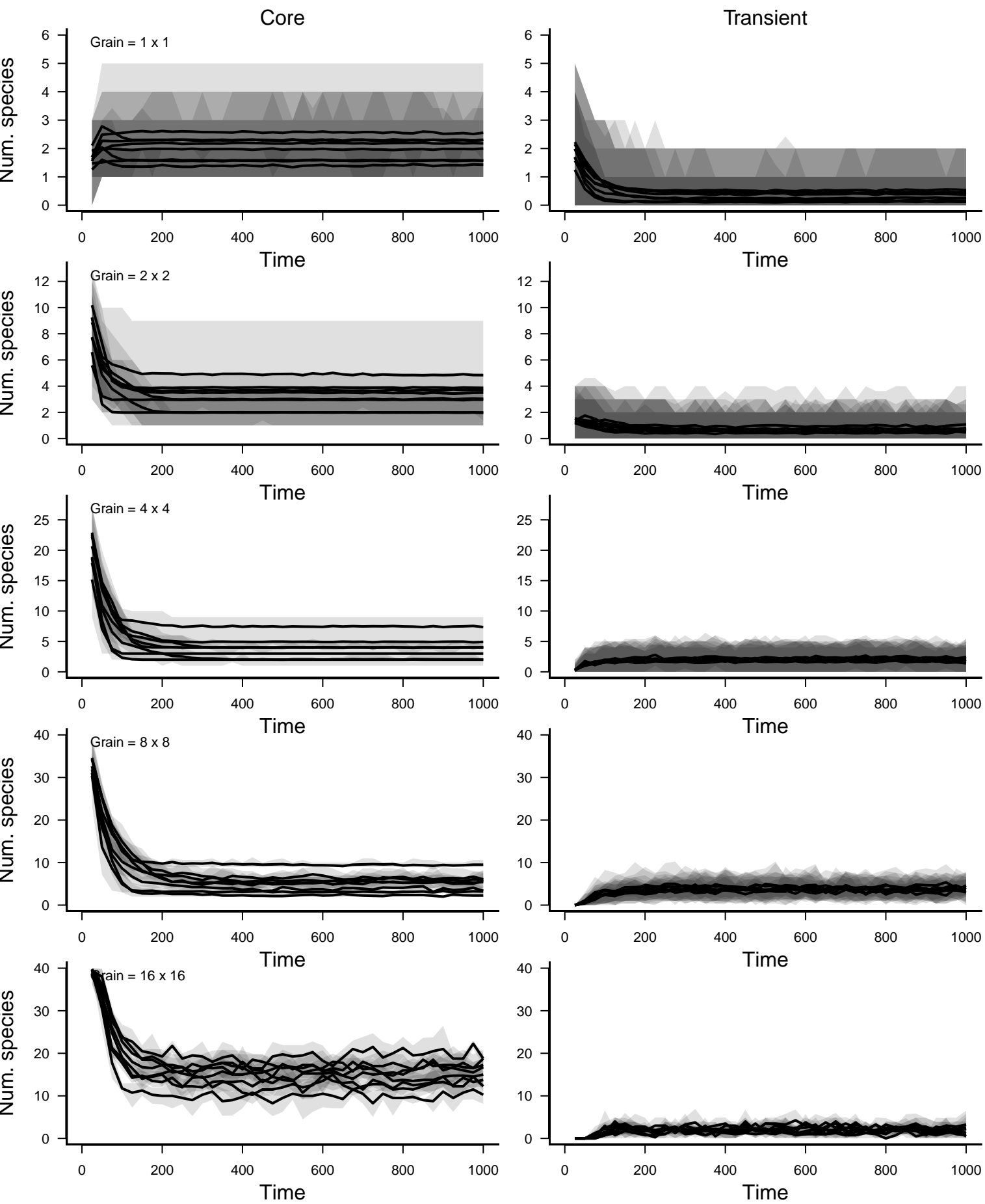
Grain = 8 x 8

~~Gain~~ = 16 x 1

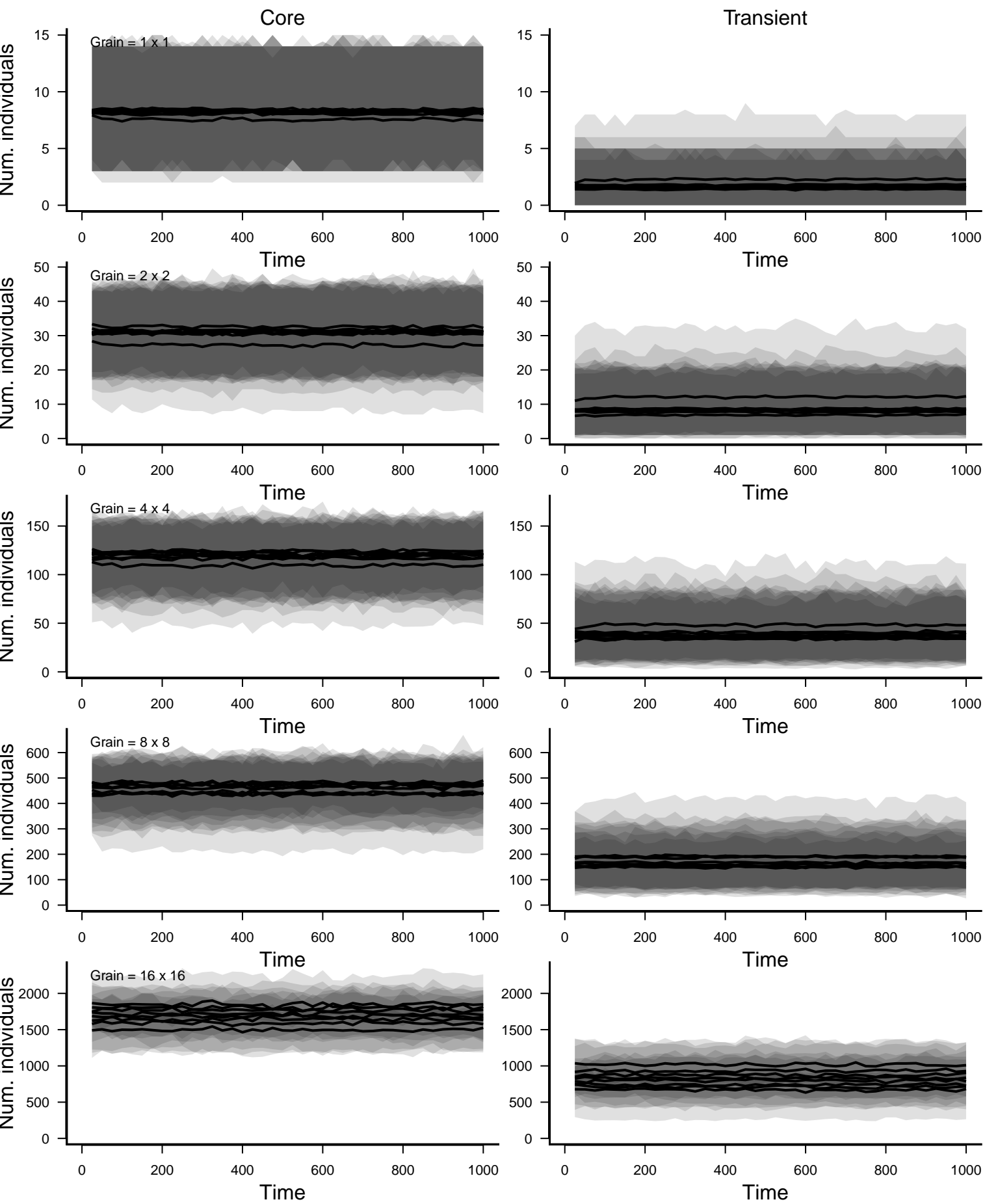
Birth rate–based categories: detection prob. = 0.1



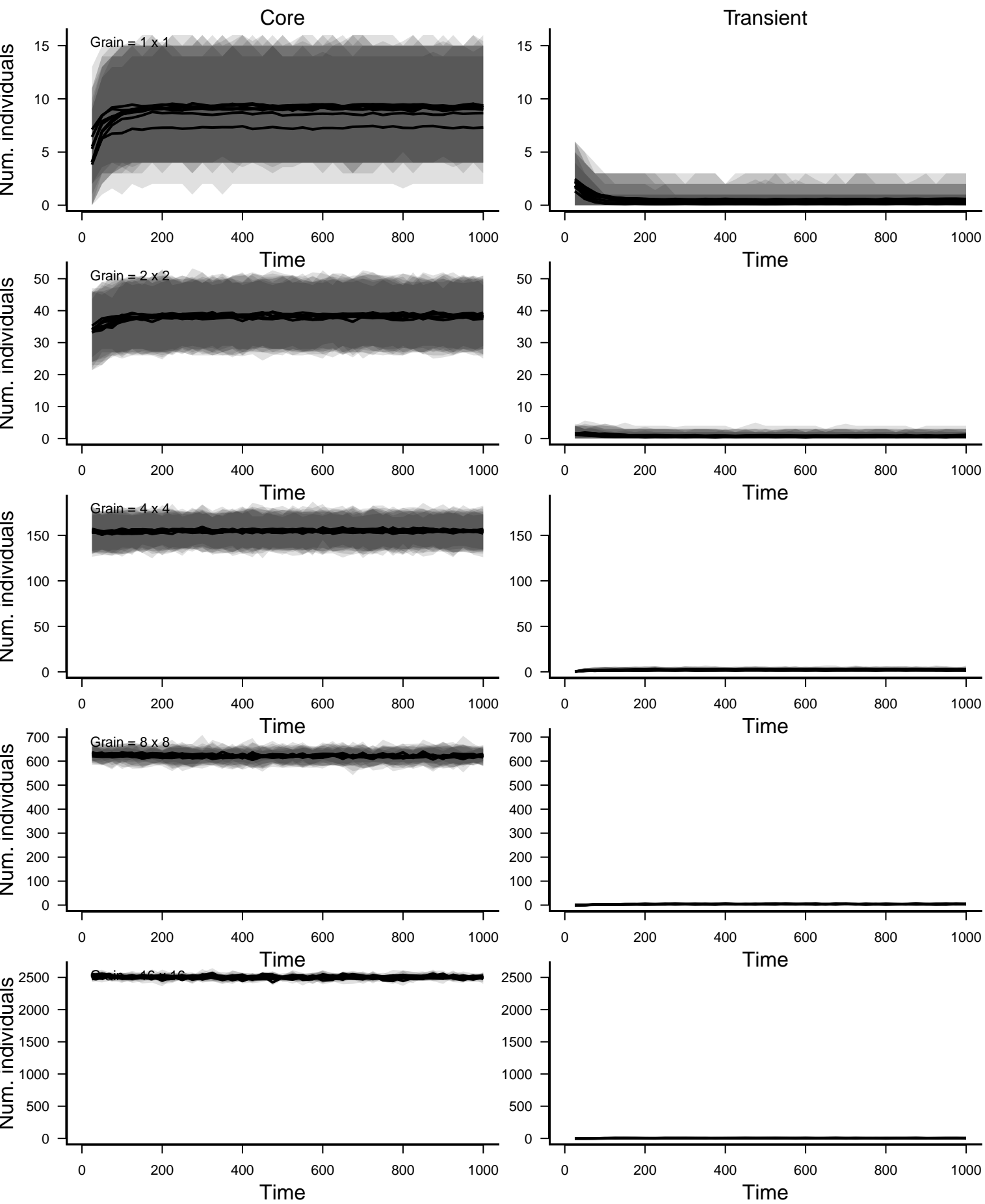
Temporal occupancy-based categories: detection prob. = 0.1



Birth rate–based categories: detection prob. = 0.1

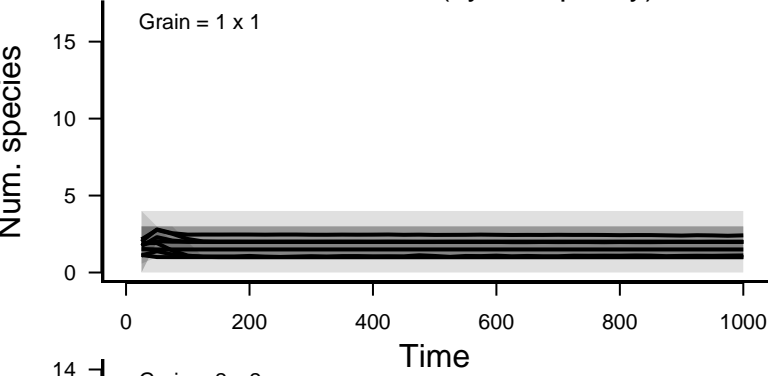


Temporal occupancy-based categories: detection prob. = 0.1

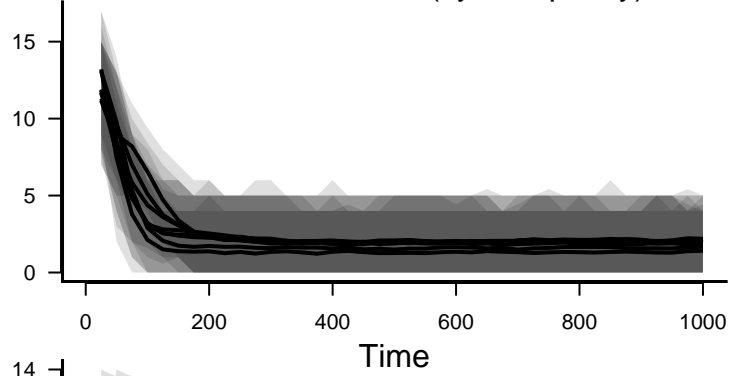


Birth rate–based Core Species: detection prob. = 0.1

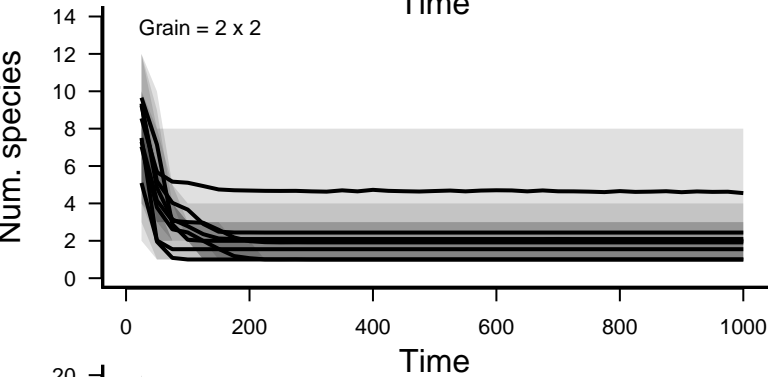
Classified Core (by occupancy)



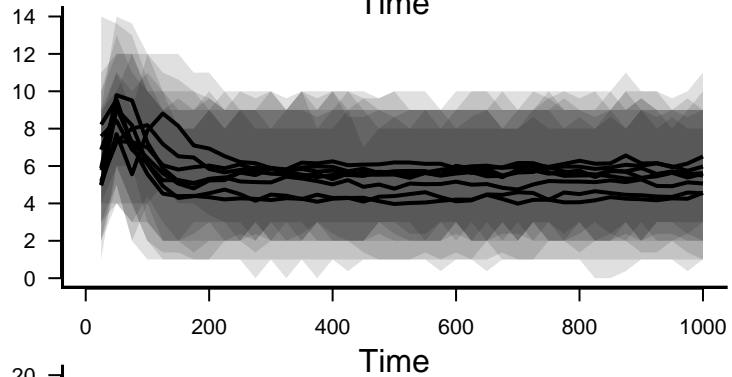
Classified Transient (by occupancy)



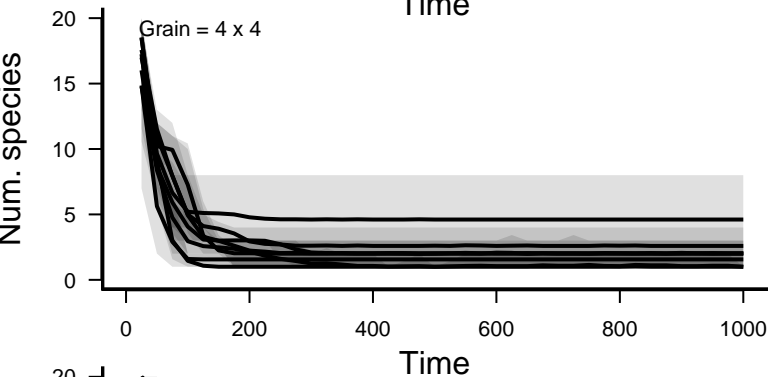
Grain = 2 x 2



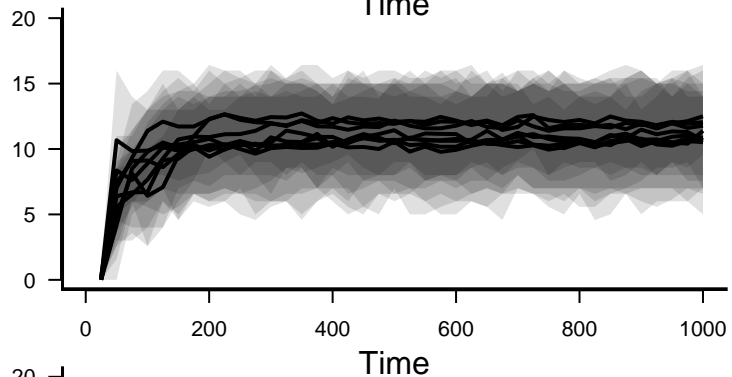
Time



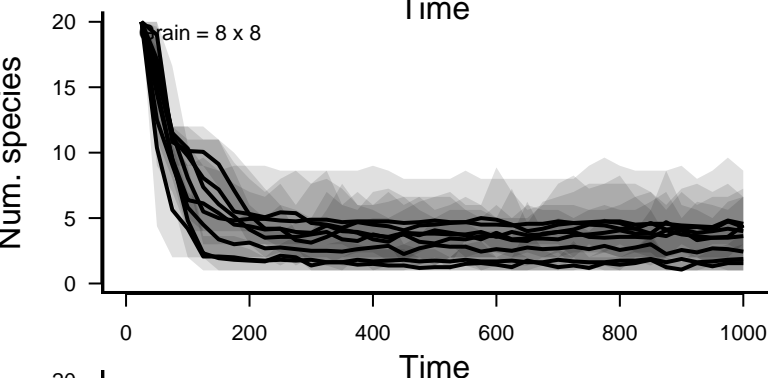
Grain = 4 x 4



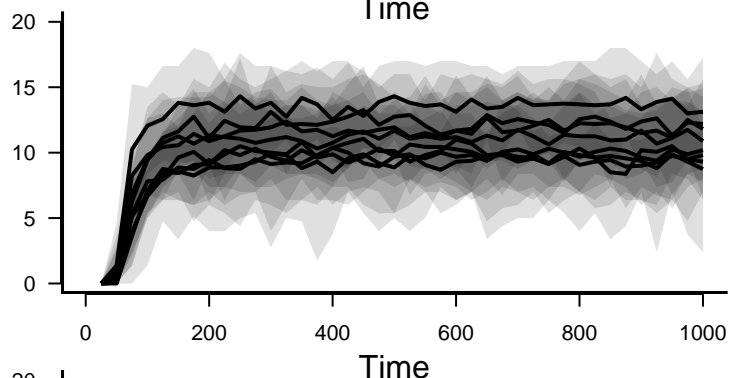
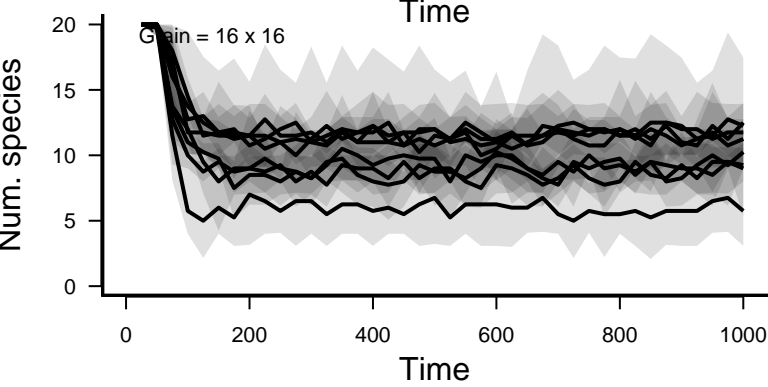
Time



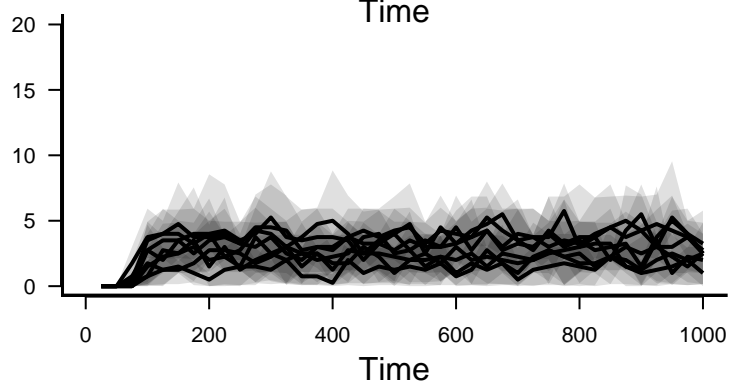
grain = 8 x 8



Time


$$G_{\text{ain}} = 16 \times 10^3$$


Time



Birth rate–based Transient Species: detection prob. = 0.1

