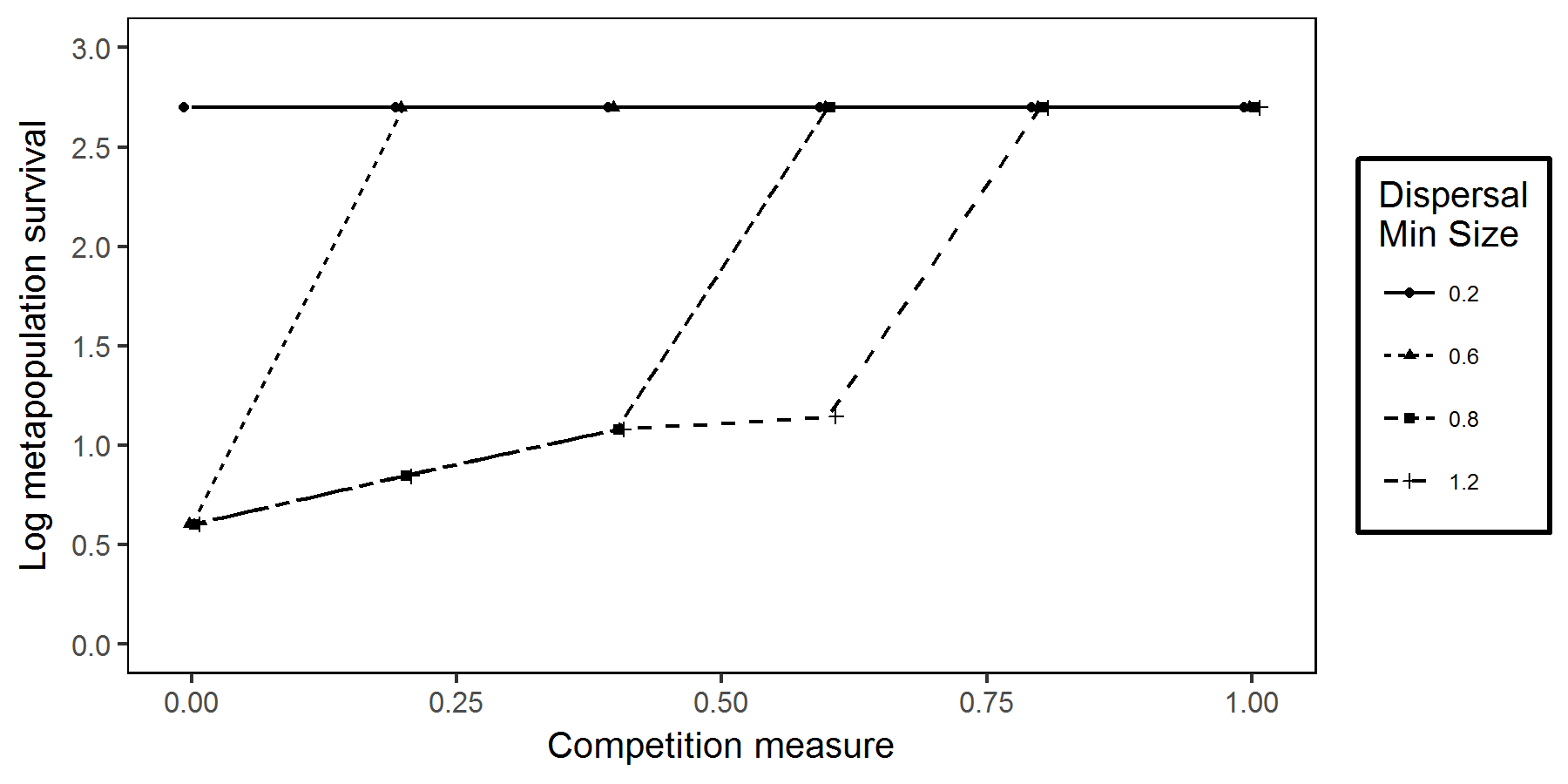
Dispersal Model Graphs

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13 March, 2017

# No environmental variation

## Metapopulation survival

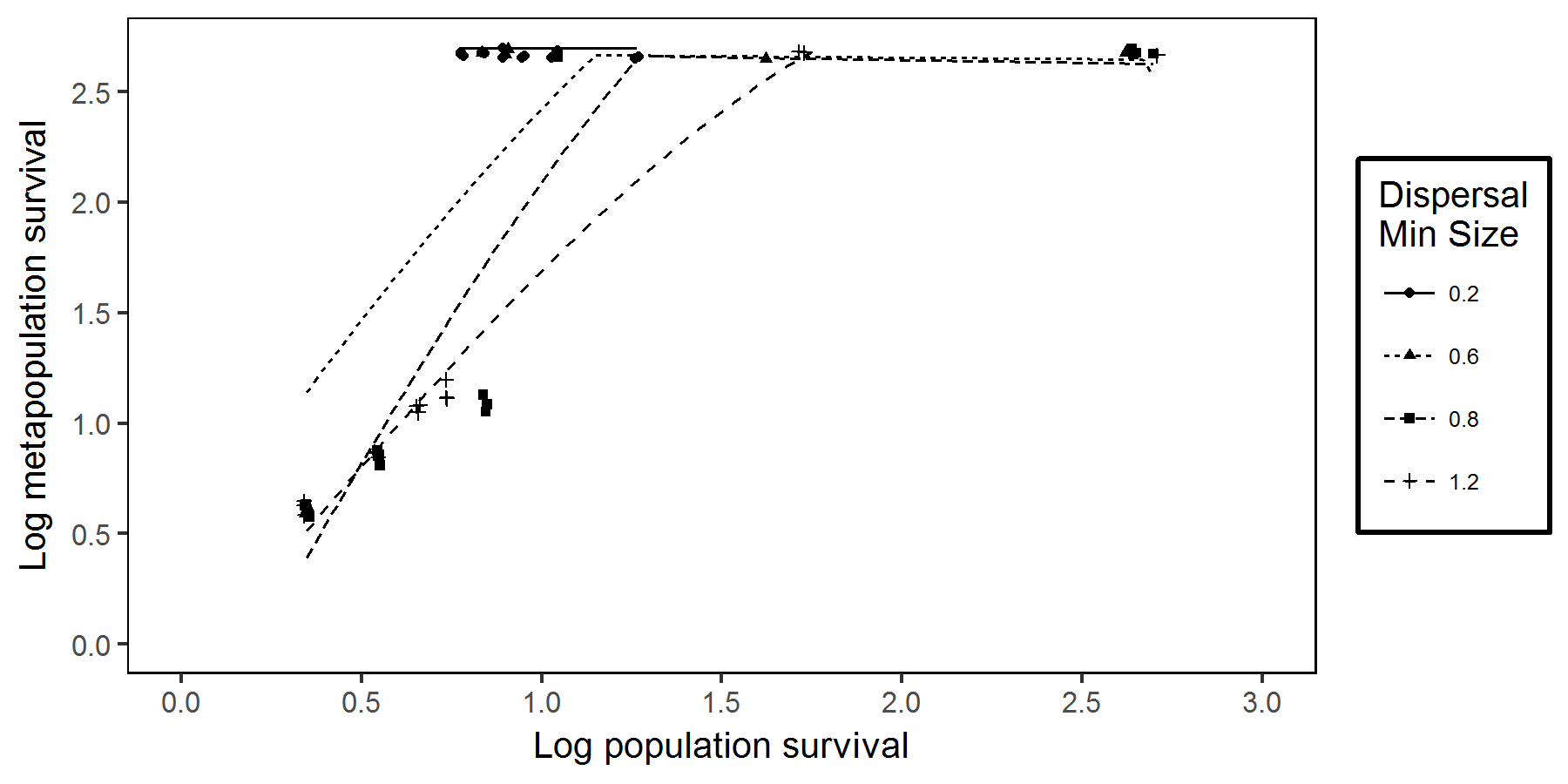


1. *Figure [MetSurv]:Metapopulation survival against competition type, where competition type ranges from 0 to 1, with 0 being full scramble competition and 1 is full contest competition. Environmental variance is 0 and number of offspring set to 6. No generations removed*

## Metapopulation survival against population survival

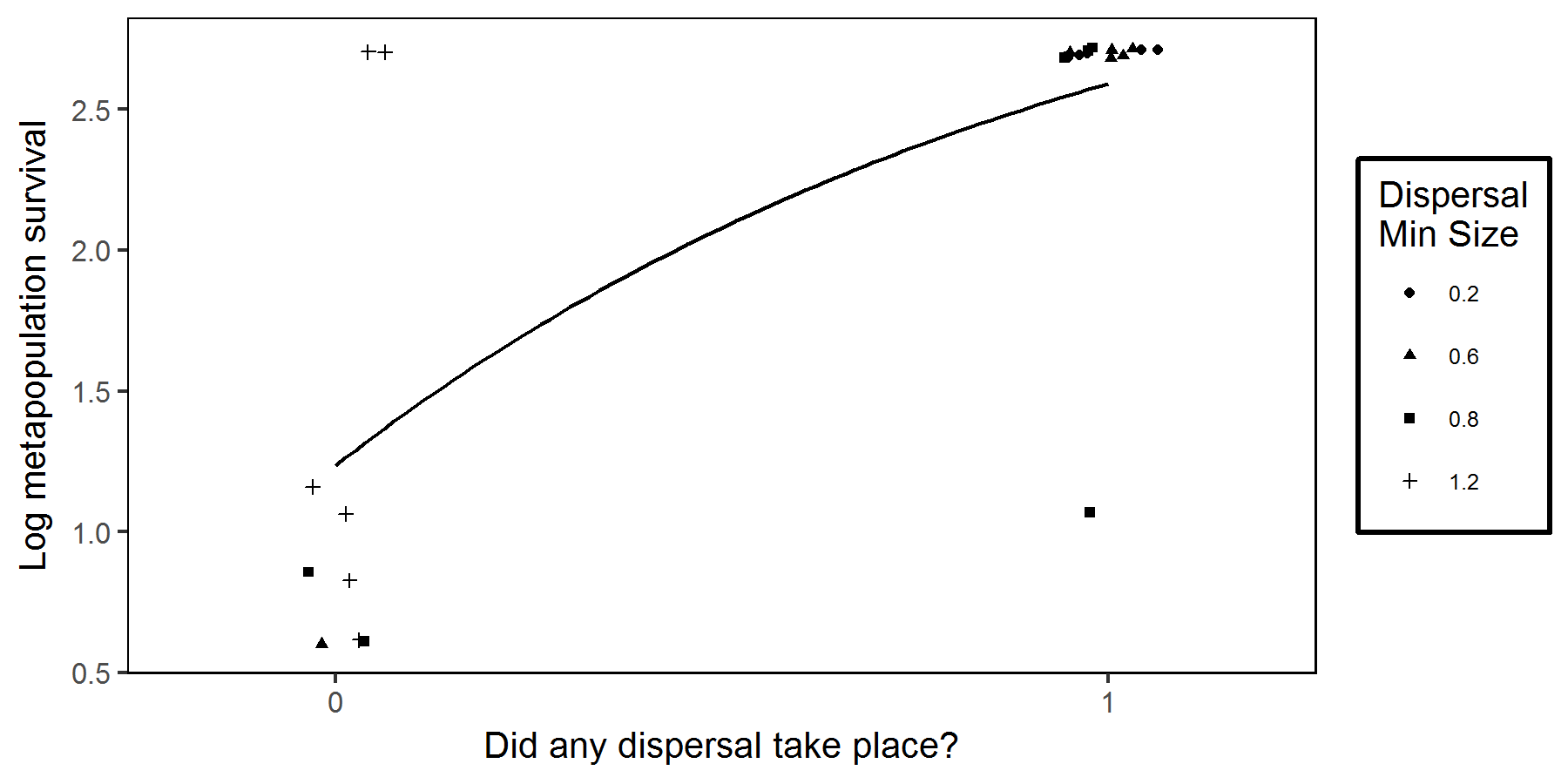
Warning: Removed 129 rows containing missing values (geom\_smooth).

Warning: Removed 20 rows containing missing values (geom\_point).



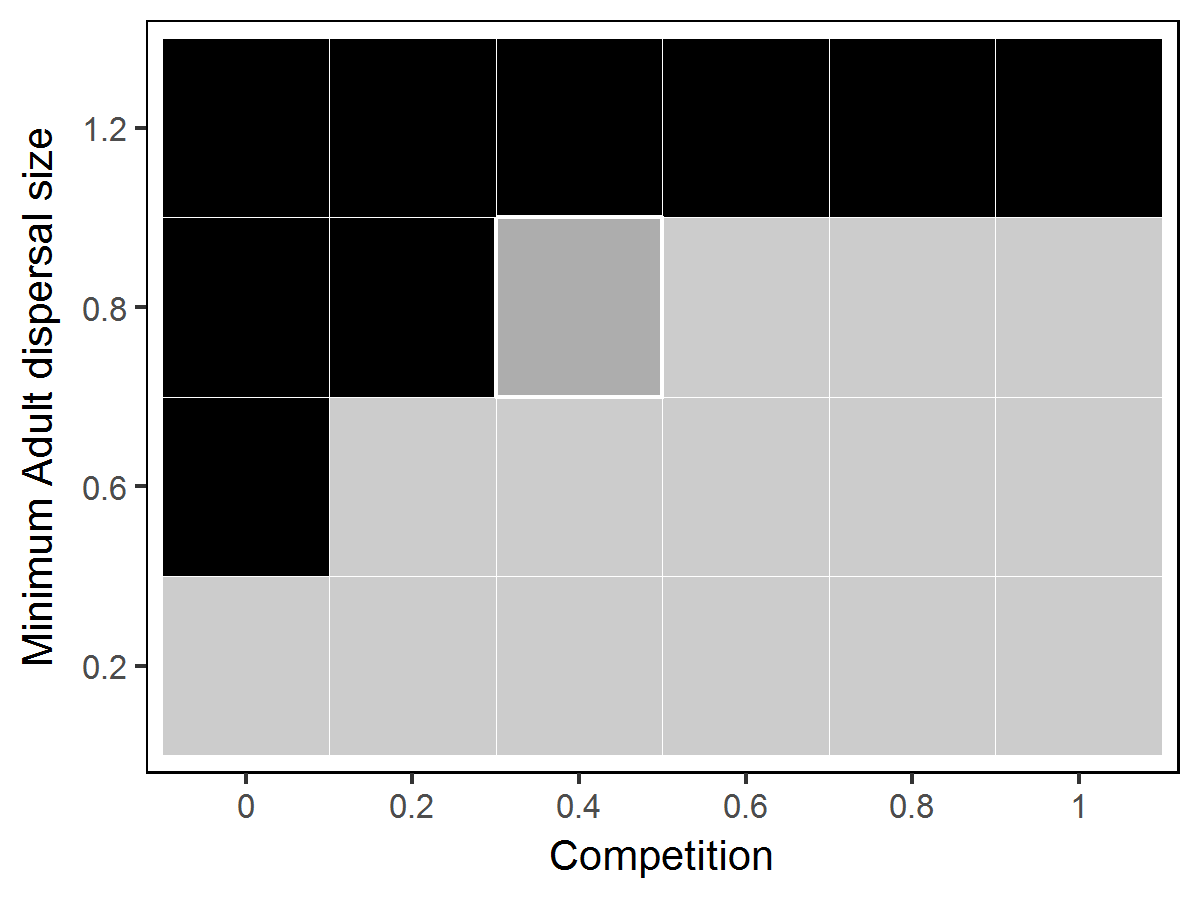
1. *Figure [MetSurvPop] :Metapopulation against population survival. Environmental variance is 0 and number of offspring set to 6. All generations included. Survival calculated from survival function*

## Metapopulation survival and dispersal



1. *Figure [MetDis]: Comparing metapopulation survival to whether any populations produced dispersers*

## What affects dispersal?

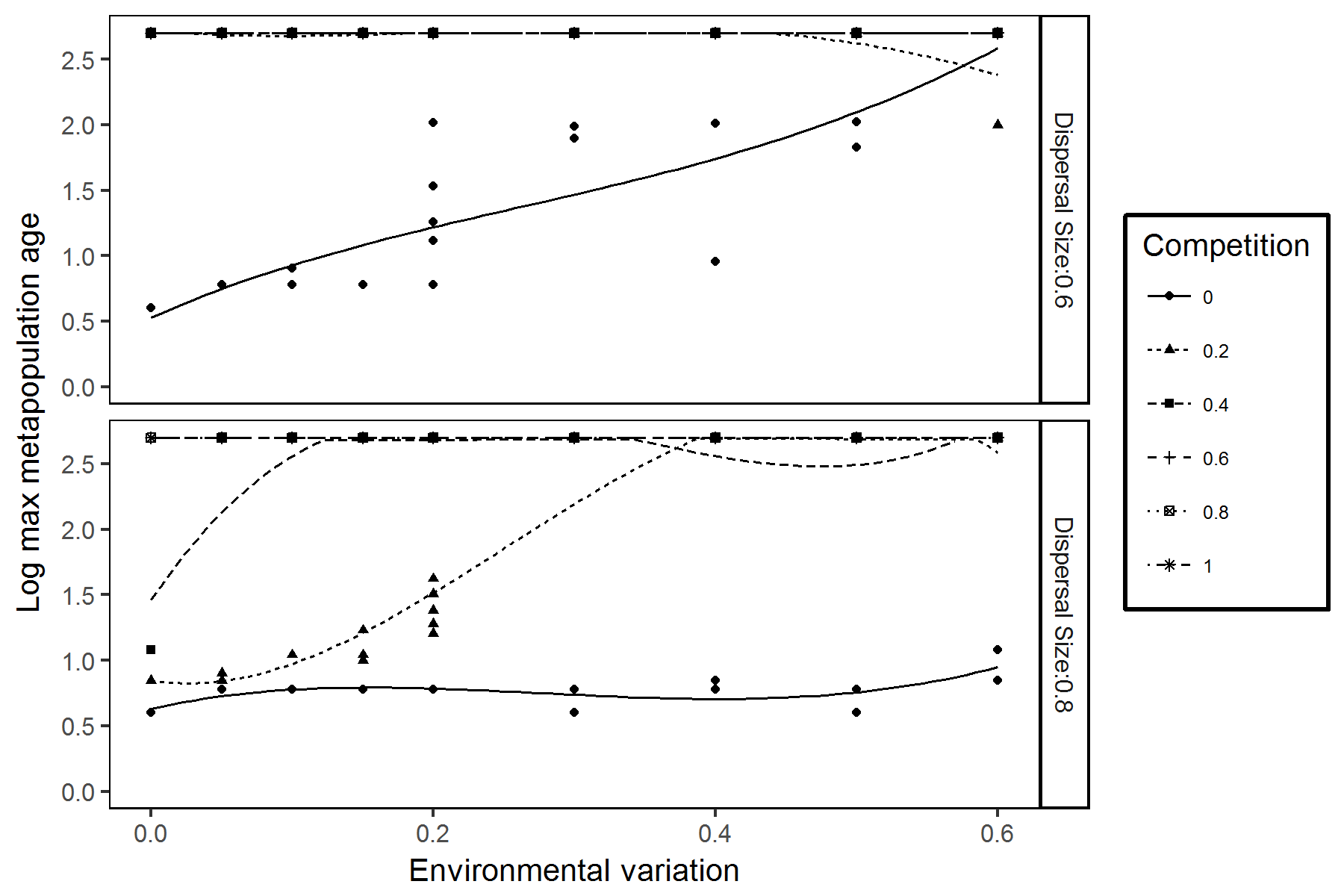


1. *Figure [Disp]: Comparing metapopulation survival to whether any populations produced dispersers*

# With environmental variance

## Metapopulation Survival

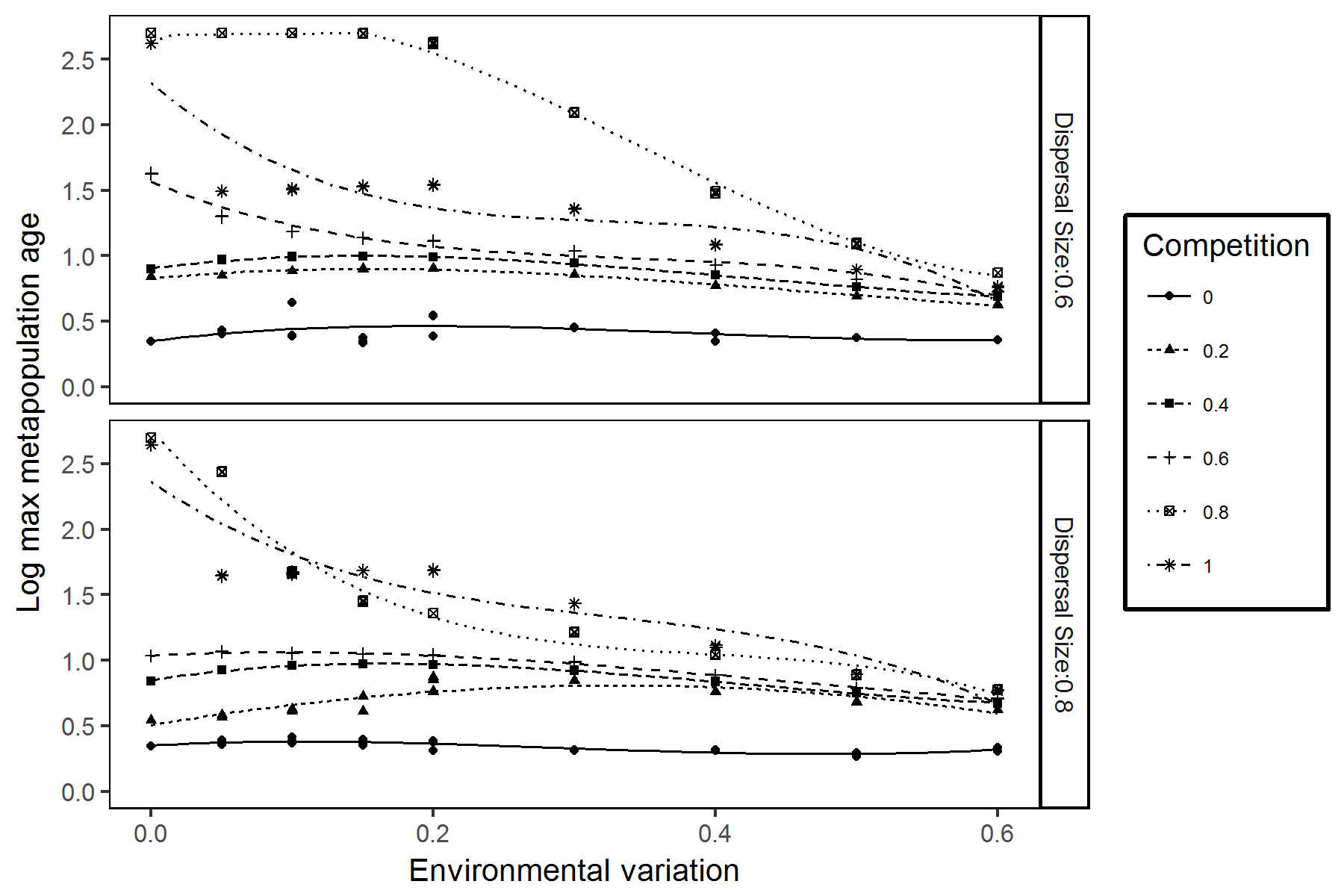
Warning: Removed 94 rows containing missing values (geom\_smooth).



1. *Figure [EnvMetSurv]:Metapopulation survival environmental variance. Number of offspring set to 6. All generations included*

## Population Survival

Warning: Removed 18 rows containing missing values (geom\_smooth).

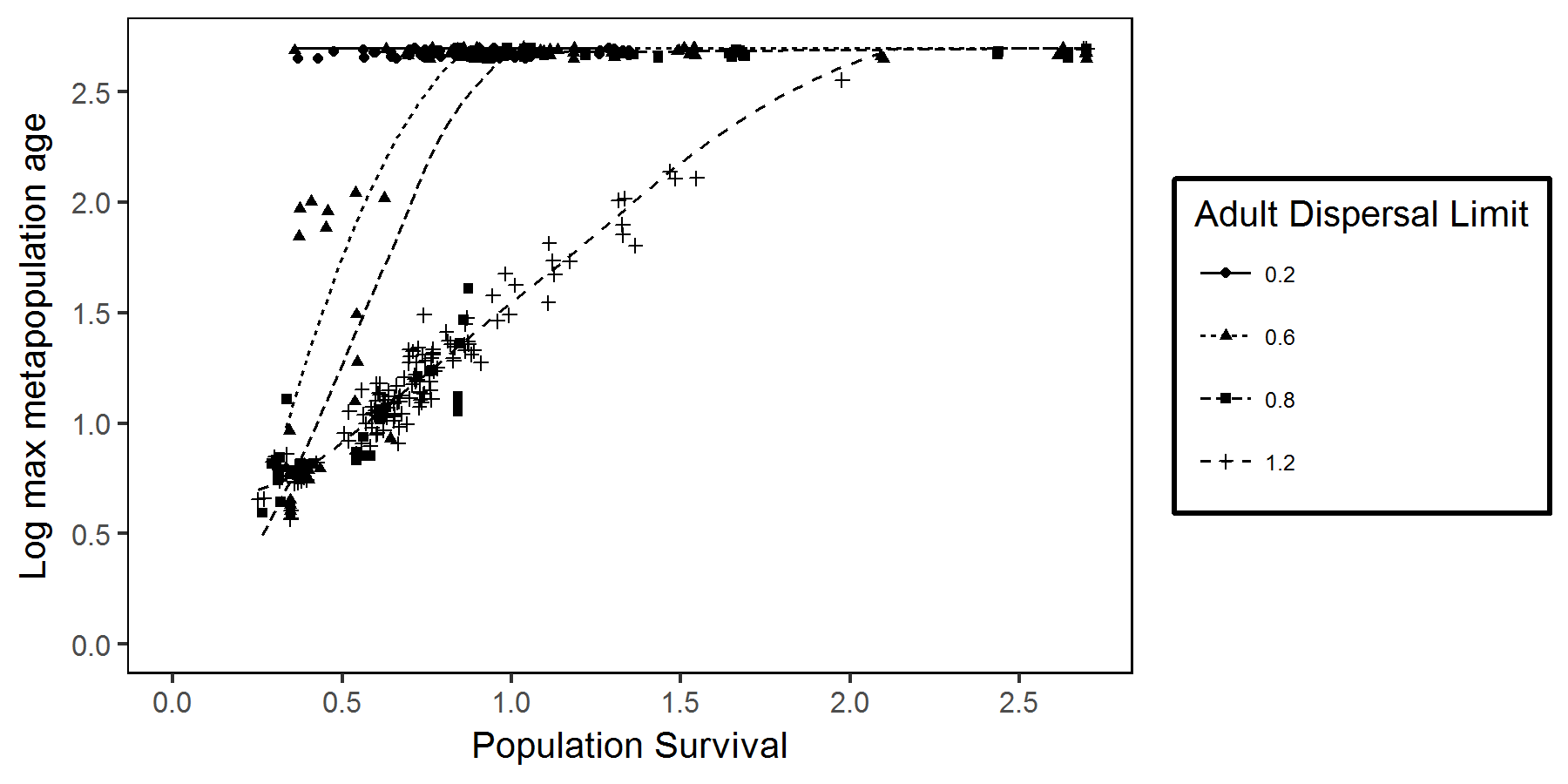


1. *Figure [EnvPopSurv]:Metapopulation survival environmental variance. Number of offspring set to 6. All generations included*

## Metapopulation vs population survival by minimum disperal size

Warning: Removed 206 rows containing missing values (geom\_point).

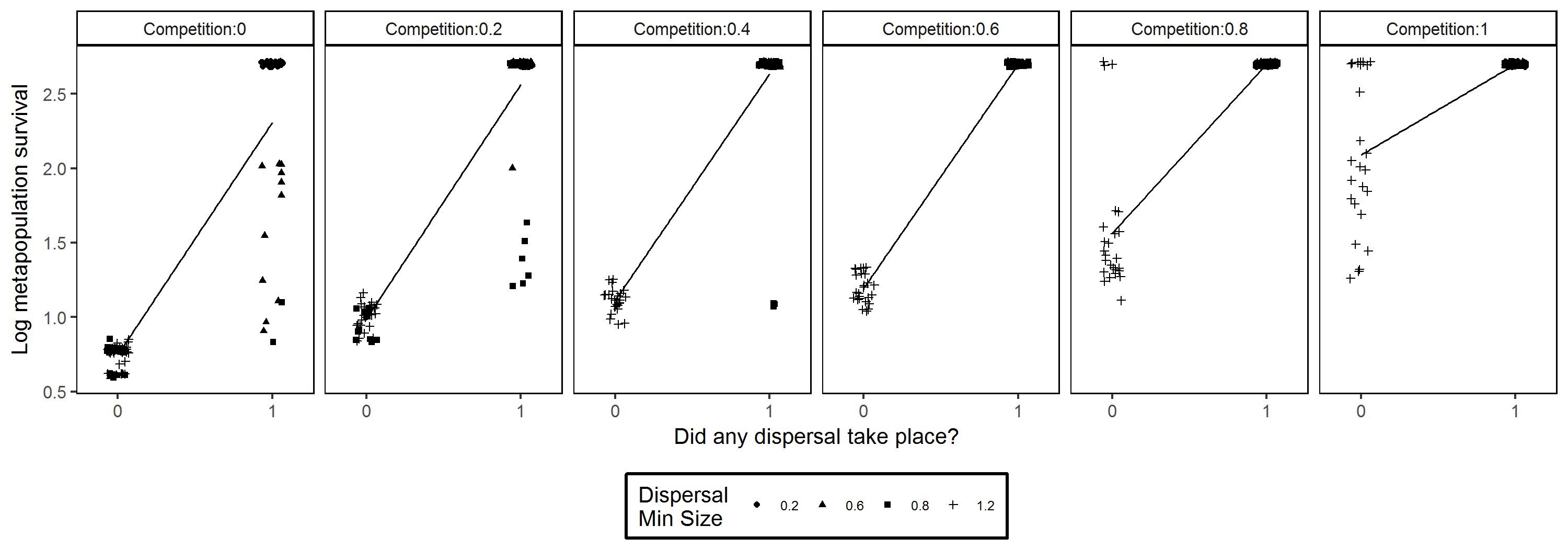
Warning: Removed 102 rows containing missing values (geom\_smooth).



1. *Figure [EnvMetSurvPop]*

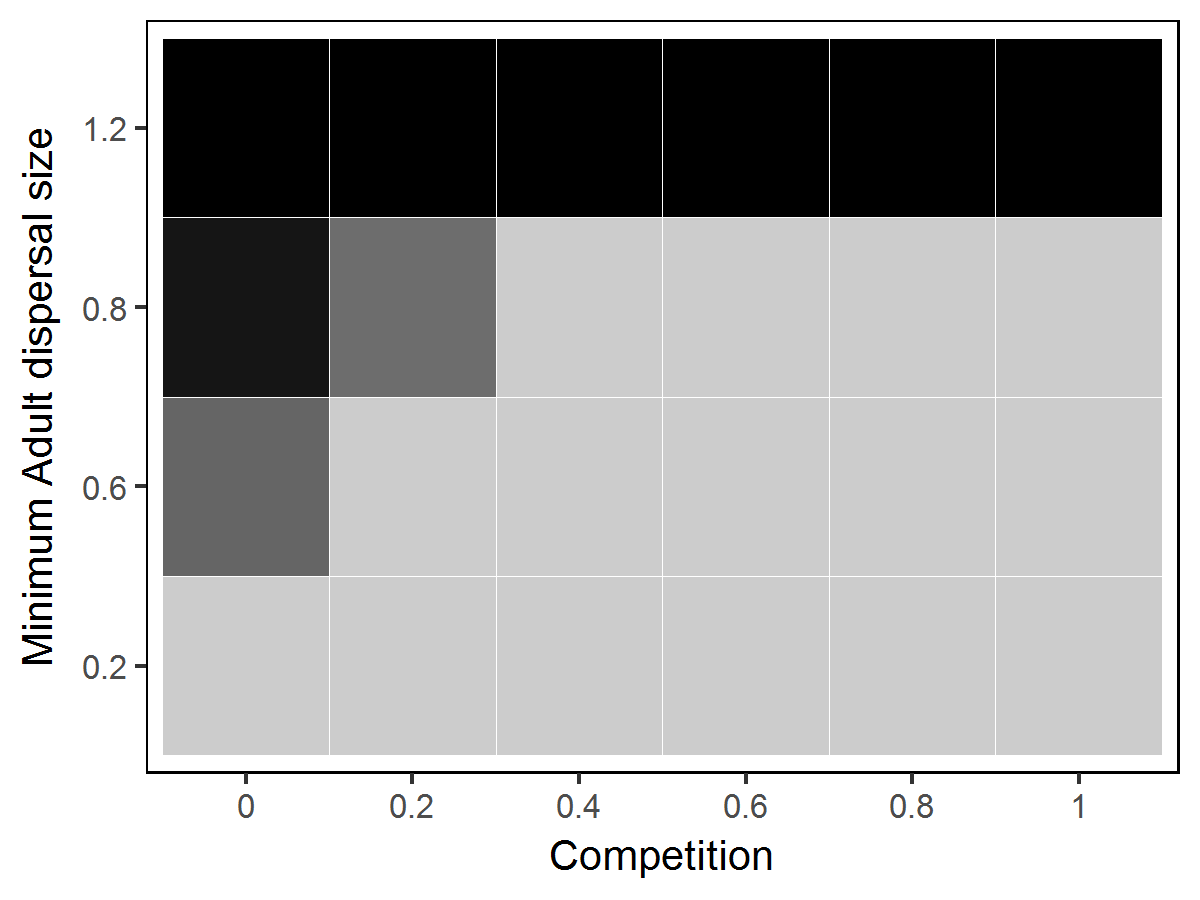
# Metapopulation survival and dispersal

Warning in predict.lm(model, newdata = data.frame(x = xseq), se.fit = se, :  
prediction from a rank-deficient fit may be misleading  
  
Warning in predict.lm(model, newdata = data.frame(x = xseq), se.fit = se, :  
prediction from a rank-deficient fit may be misleading  
  
Warning in predict.lm(model, newdata = data.frame(x = xseq), se.fit = se, :  
prediction from a rank-deficient fit may be misleading  
  
Warning in predict.lm(model, newdata = data.frame(x = xseq), se.fit = se, :  
prediction from a rank-deficient fit may be misleading  
  
Warning in predict.lm(model, newdata = data.frame(x = xseq), se.fit = se, :  
prediction from a rank-deficient fit may be misleading  
  
Warning in predict.lm(model, newdata = data.frame(x = xseq), se.fit = se, :  
prediction from a rank-deficient fit may be misleading



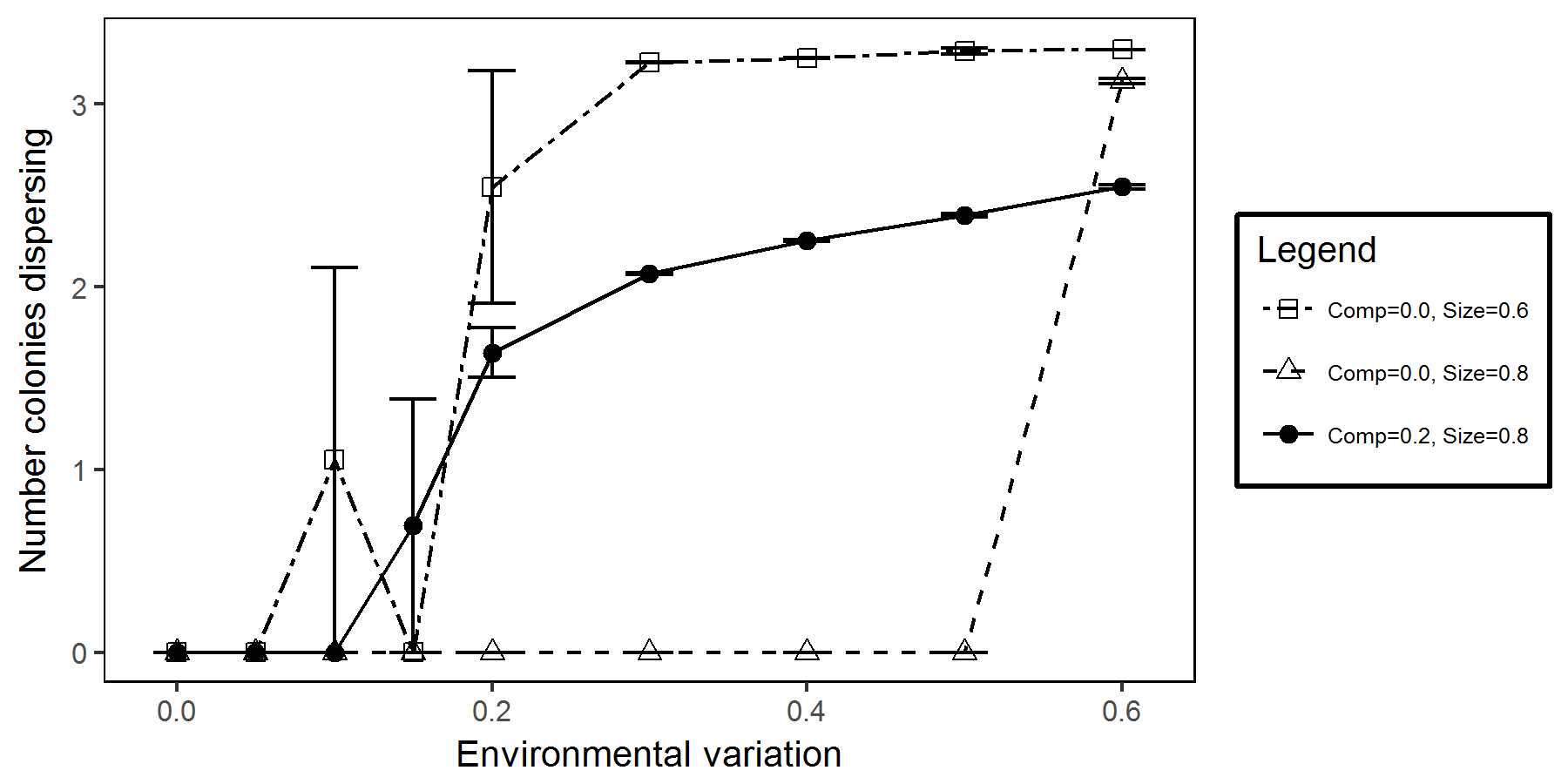
1. *Figure [EnvMetDisp]*

## What restricts dispersal?



1. *Figure [EnvDisp]: Comparing metapopulation survival to whether any populations produced dispersers. From comparing figure (above) to figure (other), we can see that disperal has gone from zero to some dispersal when size is 0.6 and competition is 0, size is 0.8, comp is zero, and when size is 0.8 and comp is 0.2*

## Disperal amount and environmental variation



1. *Figure [EnvVarDisp]: Average of log10 number of dispersers per time step*