

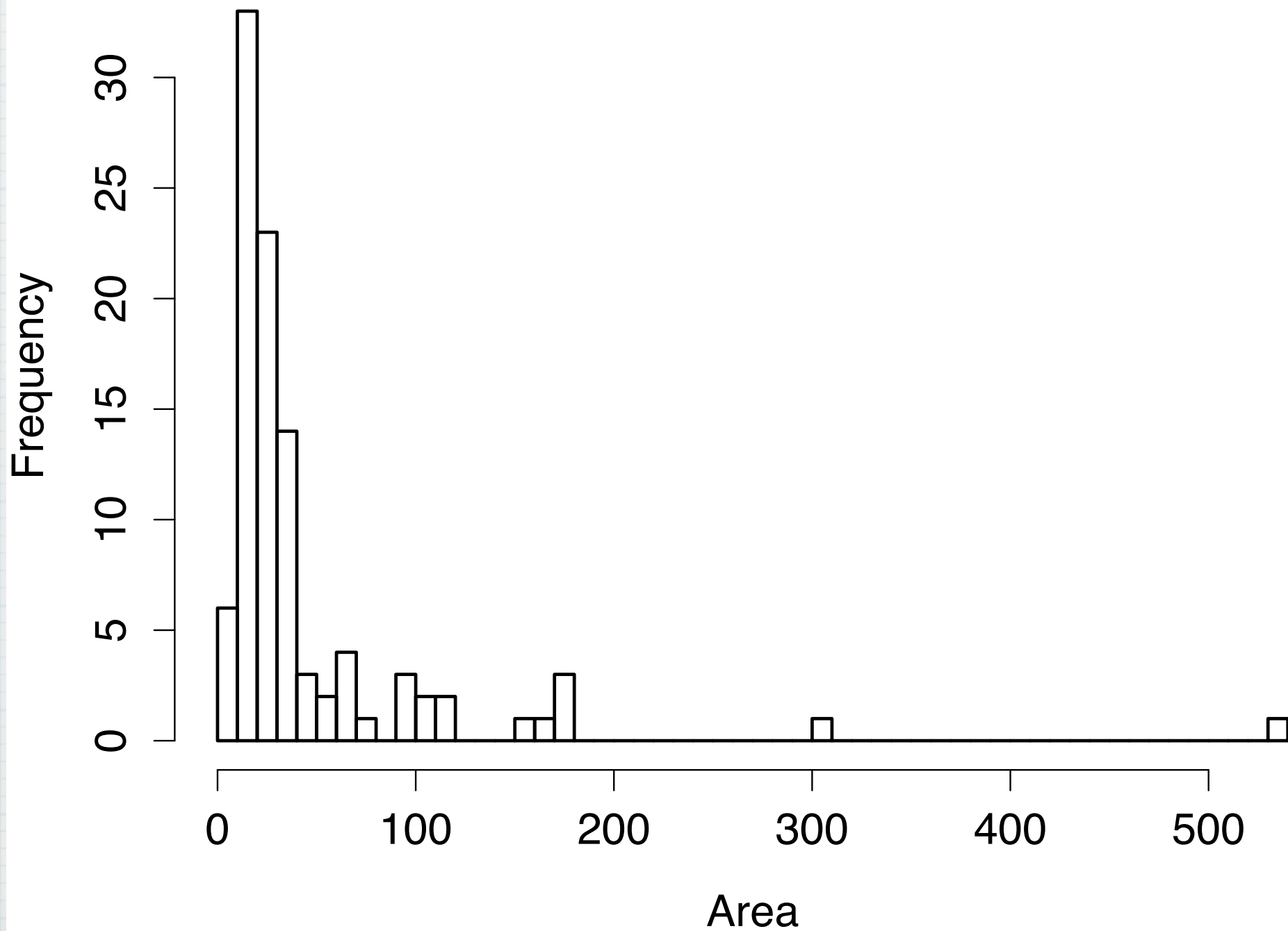
# Sampling

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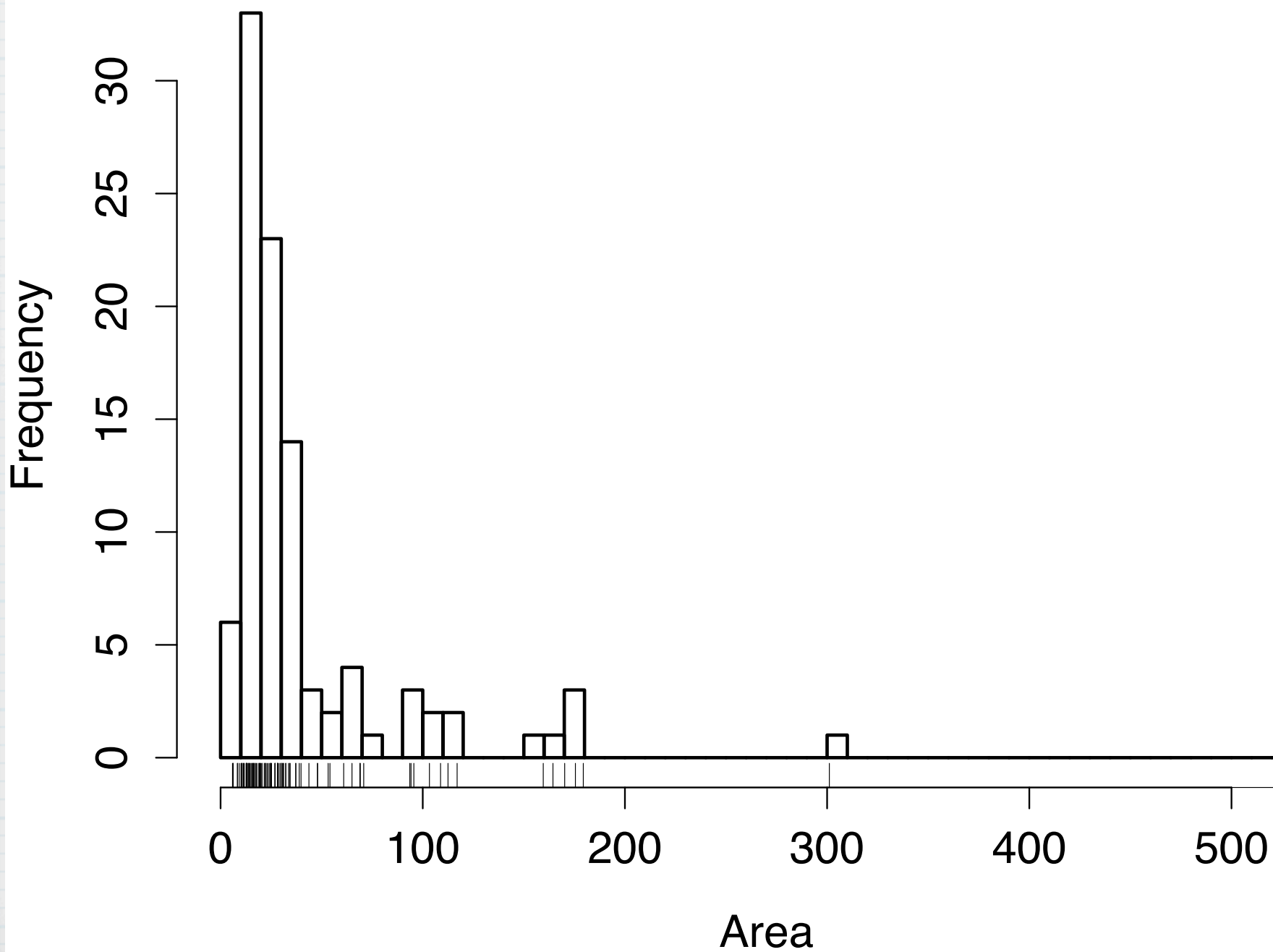
1/19/07

# Summary of our sampling experiment

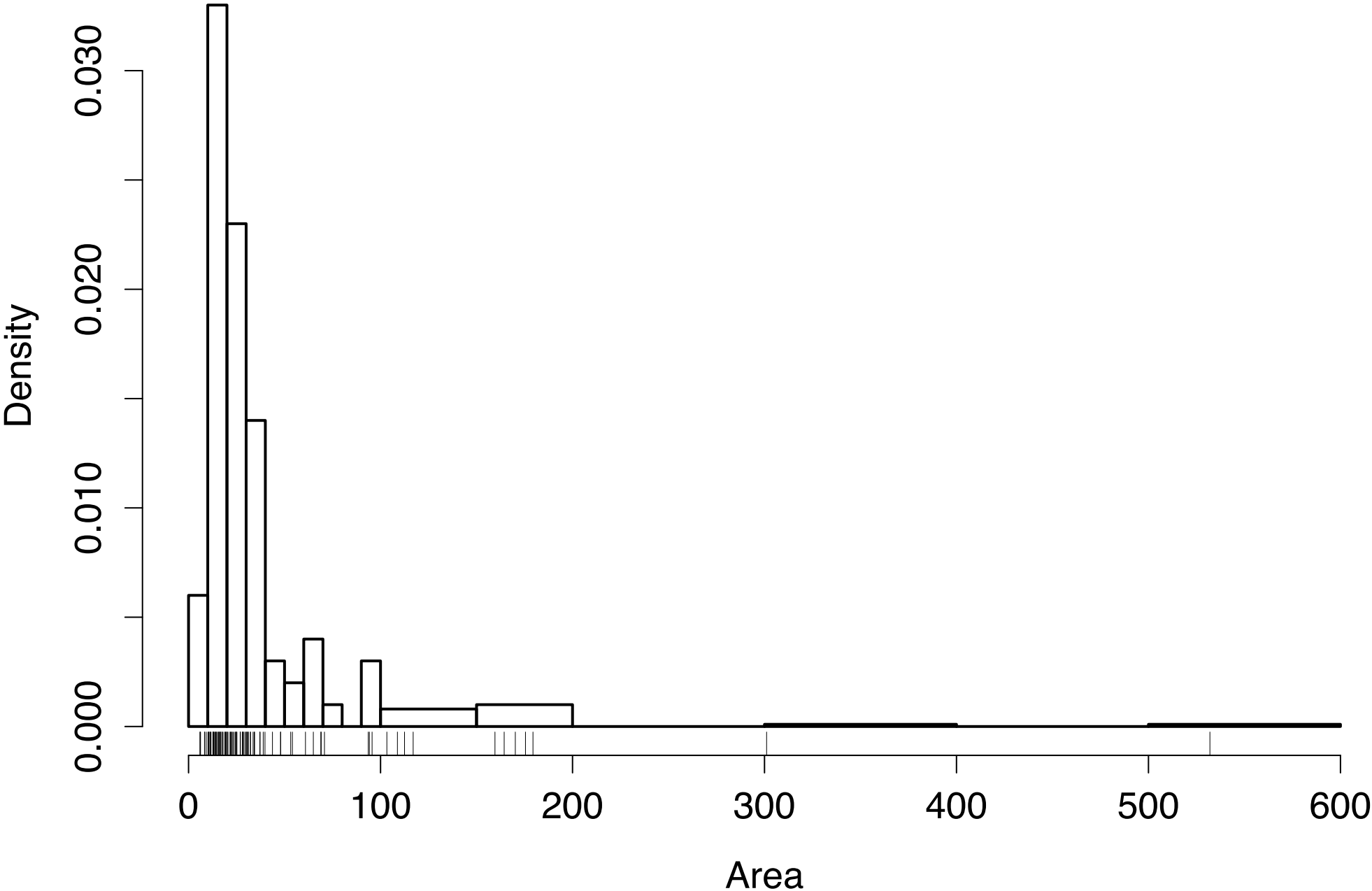
# Histogram of areas of 100 blocks



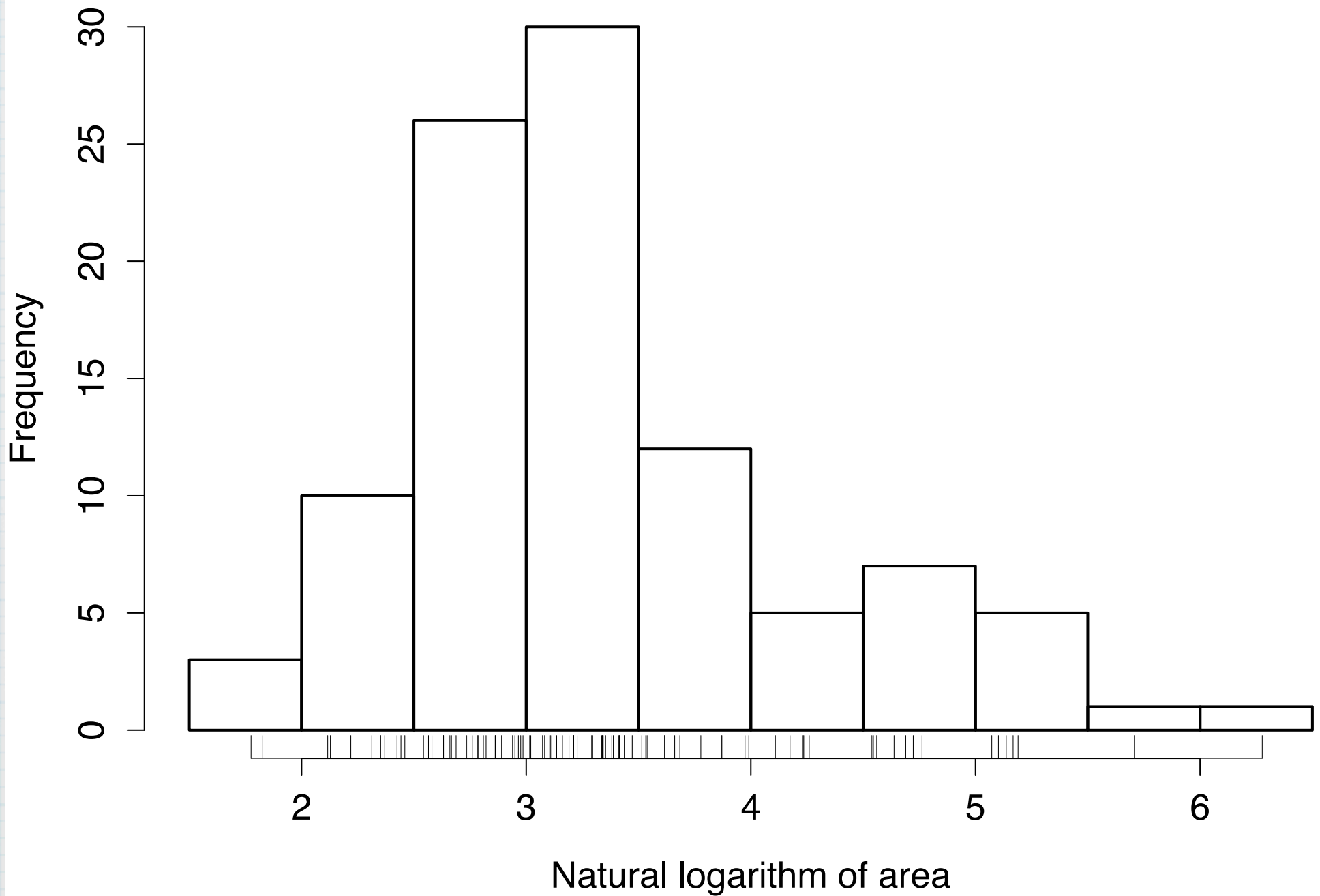
# Histogram of areas of 100 blocks with rugplot



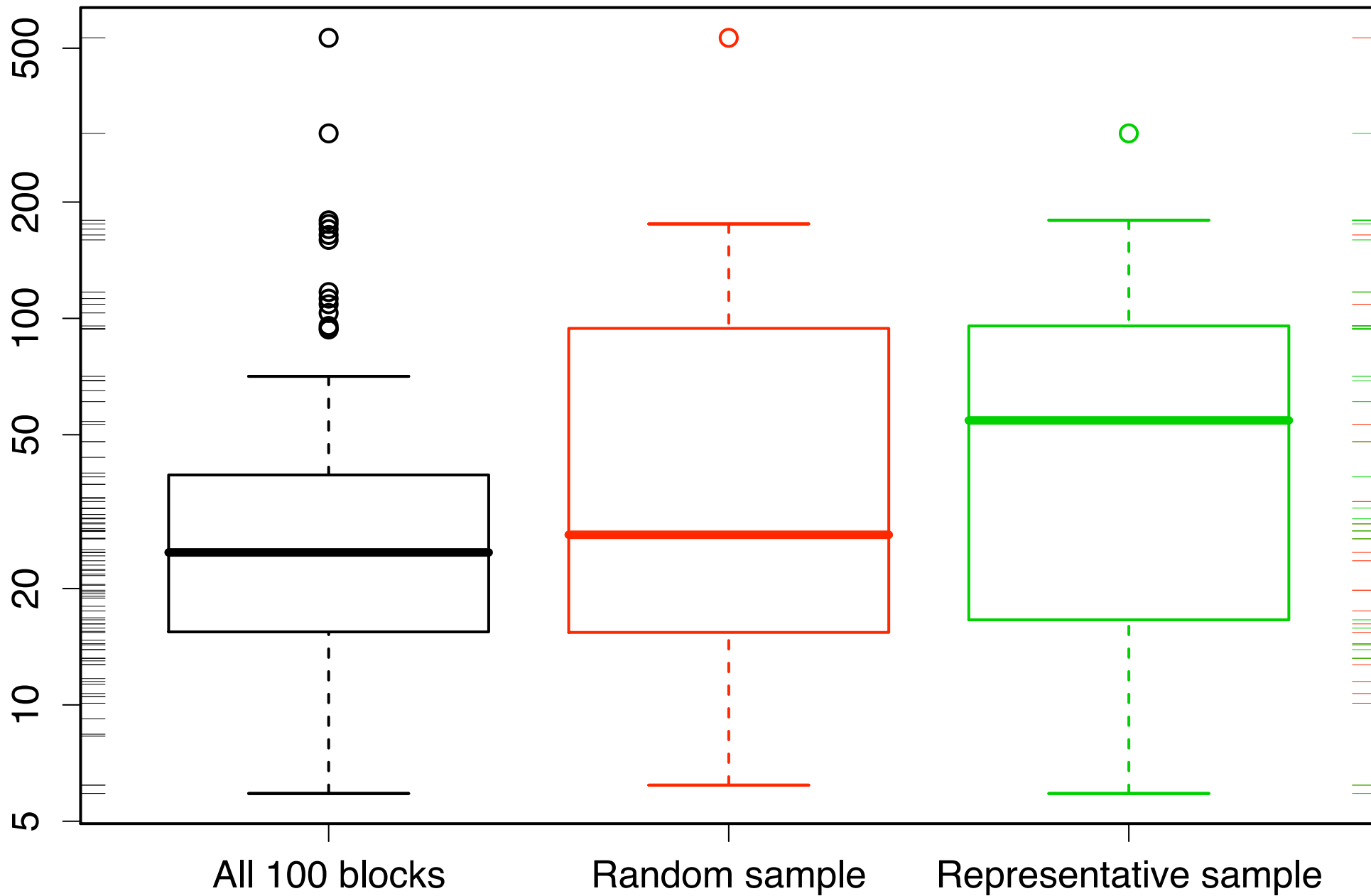
**Histogram of areas of 100 blocks with rugplot**



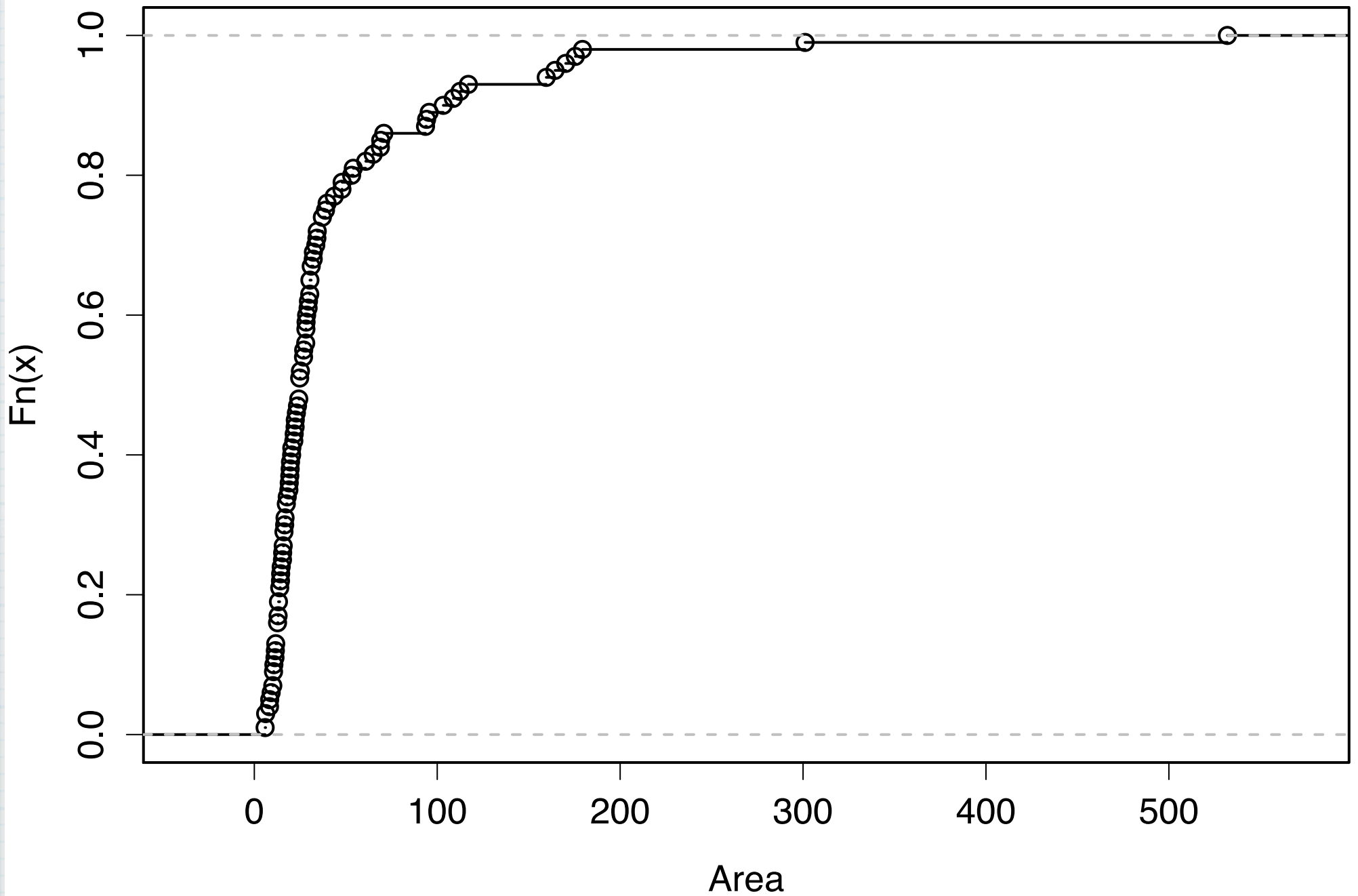
**Histogram of log areas of 100 blocks with rugplot**



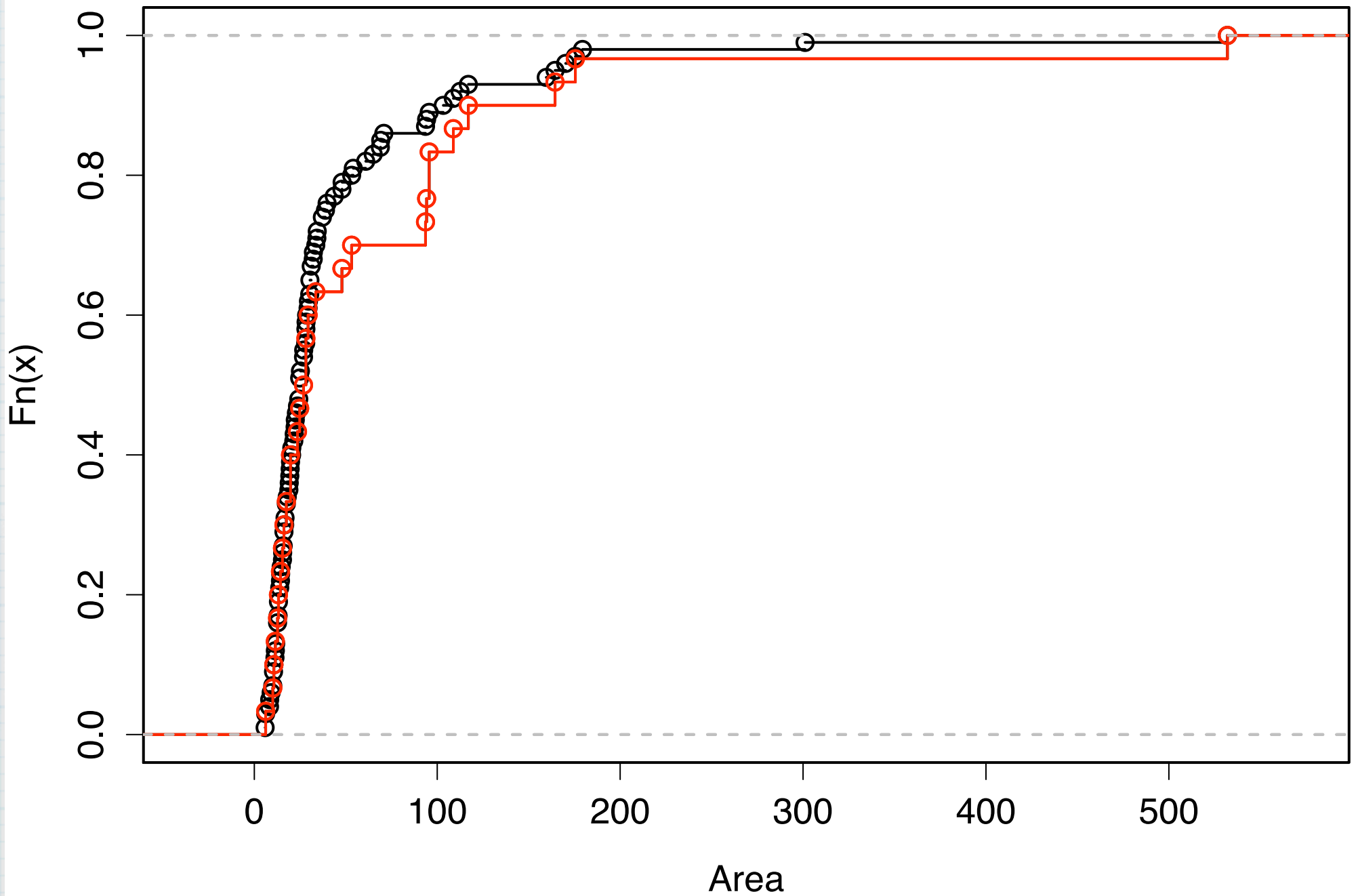
# Boxplots of Areas



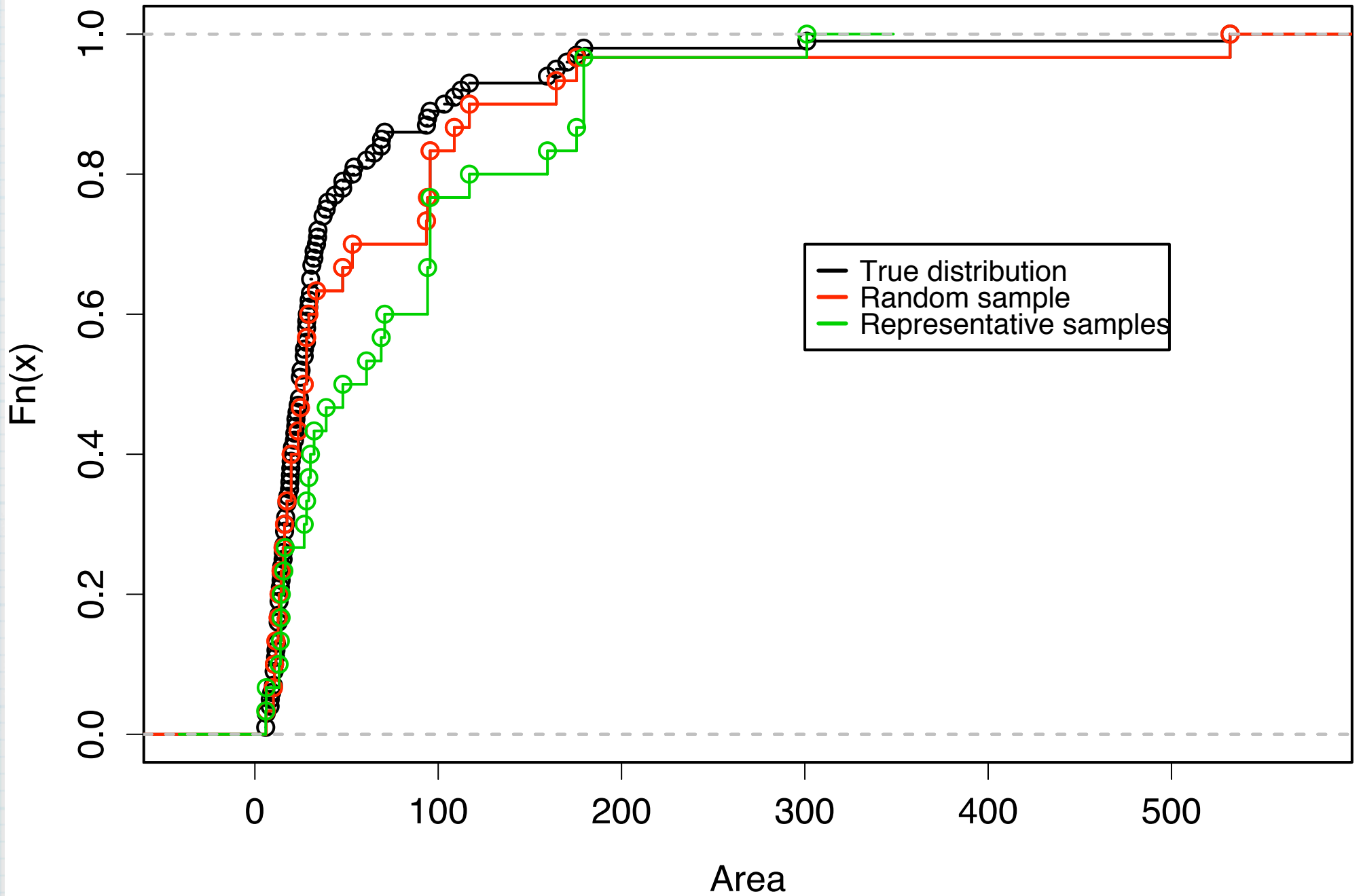
# Empirical distribution function of Areas



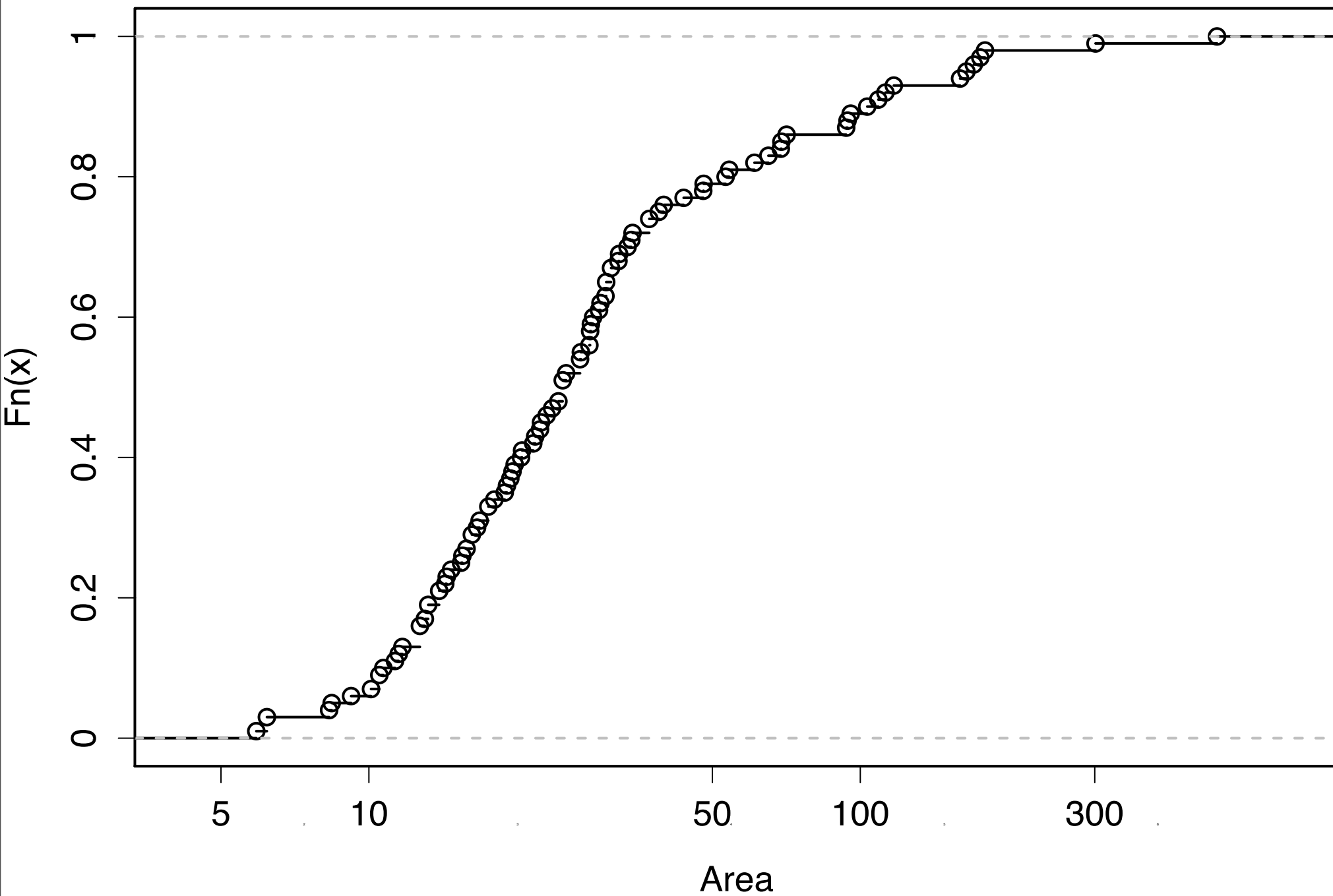
# Empirical distribution function of Areas



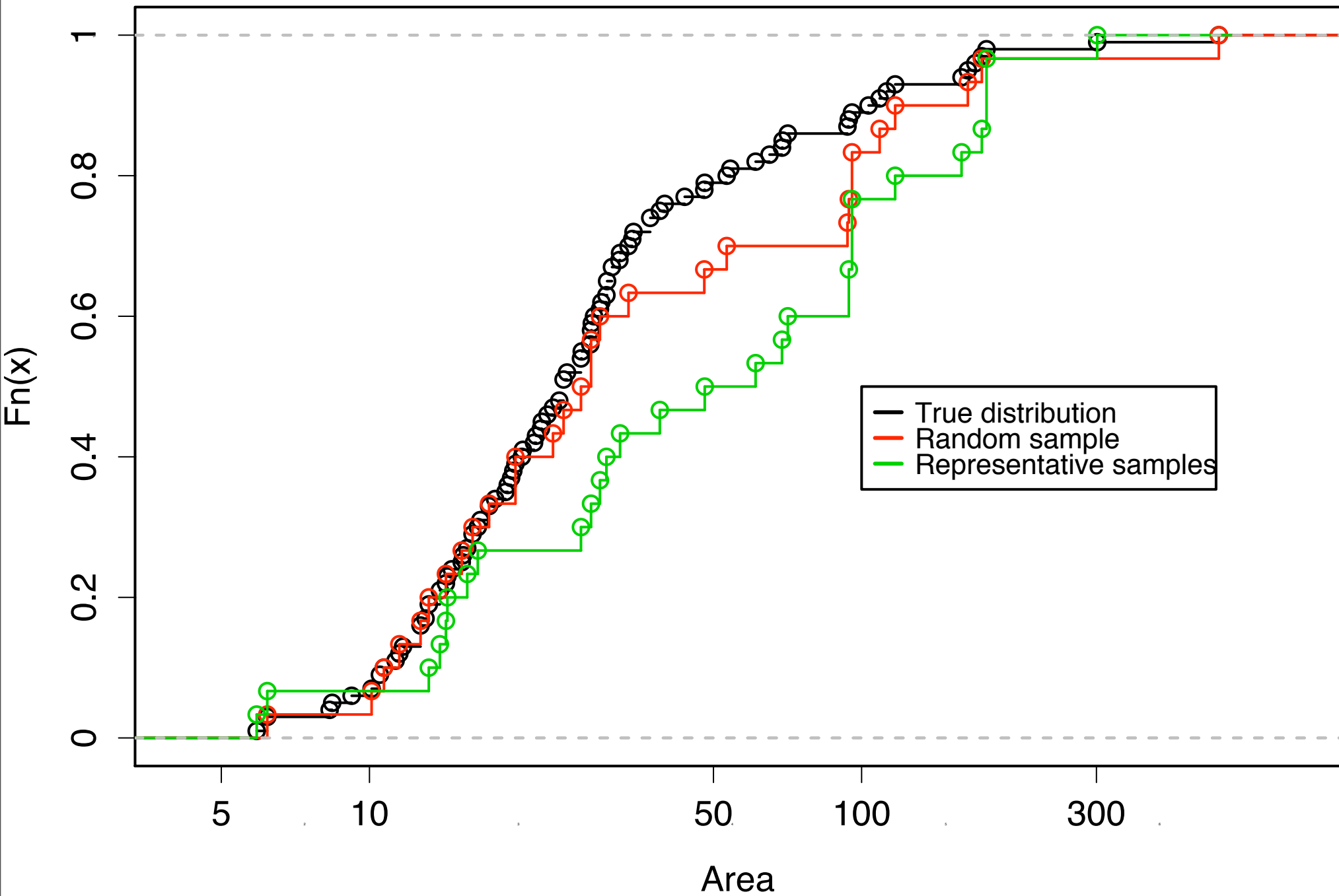
# Empirical distribution function of Areas



# Empirical distribution function of Areas



# Empirical distribution function of Areas



# Inferring (Estimating) Means

- \* Sampling from a population or from a probability distribution is like drawing from a box
- \* Sums or averages (or other functions) of the sample have a “sampling distribution”
- \* If it's a simple random sample (with or without replacement) the expectation of the sampling mean is the same as the mean of the numbers in the box.

10 weighings of unknown weight  
average 10.5g. Known SD 2g,  
errors normally distributed

- \* What should you estimate for the true weight?
- \* How confident should you be about that answer?