# Dataset S13

# R code to simulate a Markov time series based on supplied parameters (input delta, pm and

# Pi) of a hidden Markov model:

# “in.delta” and “in.pm” formatted as vectors

# “in.Pi” formatted as an array

# “pn” is the user-supplied vector of observed species extant at each pseudolevel

# “seed” is user-supplied seed for the random number generator -

# using a particular value of seed will allow exact reproduction of a given simulation

xs <- dthmm(NULL, Pi=in.Pi, delta=in.delta, distn="binom", pm=list(prob=in.pm),   
 pn=list(size=pn), discrete=TRUE)

zs <- simulate(xs, nsim=nrow(hmmdat), seed=seed) # simulated time series is vector zs$x