Let be the presence (=1) or absence (=0) of species s in location l. We assume that:

Where is a latent variable that indicates to which group location l belongs to.

#----------------------------------------

FCD’s are given below

- for

Taking logs, this becomes:

- for

where and is the number of locations assigned to group c for which species s is present or absent, respectively.

- for

Where is the number of locations assigned to group k

This implies that