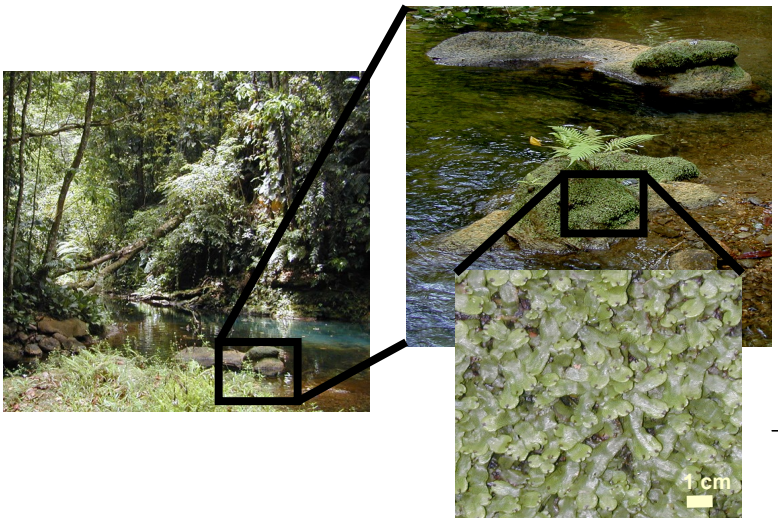
The Effects of Spatial Configuration of Populations on the Maintenance of the Sexes

Christopher Stieha

Doctoral Exit Seminar



$$\frac{dN_{1j}}{dt}=\frac{M_7 N_{4j} N_{7j}}{K}-T_{51} N_{1j}-N_{1j}\sum_{i=2,i\neq 4}^{6} G_i \frac{N_{ij}}{K}$$

$$\frac{dN_{2j}}{dt}=(F_1\sum_{k=1}^{n} f_{jk} N_{1k}+A_3\sum_{k=1}^{n} a_{jk} N_{1k})(1-\sum_{i=1}^{7}\frac{N_{ij}}{K})+T_{23} N_{3j}+T_{24} N_{4j}$$
$$-(T_{32}+T_{42}) N_{2j}+G_2 N_{2j}(1-\frac{N_{2j}}{K})-N_{2j}\sum_{i=3,5,6} G_i \frac{N_{ij}}{K}$$

$$\frac{dN_{3j}}{dt}=T_{32} N_{2j}-T_{23} N_{3j}+G_3 N_{3j}(1-\frac{N_{3j}}{K})-N_{3j}\sum_{i=2,5,6} G_i \frac{N_{ij}}{K}$$

$$\frac{dN_{4j}}{dt}=T_{42} N_{2j}-T_{24} N_{4j}-N_{4j}\sum_{i=2,i\neq 4}^{6} G_i \frac{N_{ij}}{K}$$

$$\frac{dN_{5j}}{dt}=(F_1\sum_{k=1}^{n} f_{jk} N_{1k}+A_6\sum_{k=1}^{n} a_{jk} N_{6k})(1-\sum_{i=1}^{7}\frac{N_{ij}}{K})+T_{51} N_{1j}+T_{56} N_{1j}$$
$$+T_{57} N_{7j}-(T_{65}+T_{75}) N_{5j}+G_5 N_{5j}(1-\frac{N_{5j}}{K})-N_{5j}\sum_{i=2,3,6} G_i \frac{N_{ij}}{K}$$

$$\frac{dN_{6j}}{dt}=T_{65} N_{5j}-T_{56} N_{6j}+G_6 N_{6j}(1-\frac{N_{6j}}{K})-N_{6j}\sum_{i=2,3,5} G_i \frac{N_{ij}}{K}$$

$$\frac{dN_{7j}}{dt}=\frac{-M_7 N_{4j} N_{7j}}{K} T_{75} N_{5j}-T_{57} N_{7j}-N_{7j}\sum_{i=2,i\neq 4}^{6} G_i \frac{N_{ij}}{K}$$

Thomas Hunt Morgan
Room 116

14 May 2012

Monday 1:00pm

Advisors
Dr. Nicholas McLetchie
Dr. Philip Crowley