**Appendix**

**A) Supplementary materials**

In the supplementary materials, there is a zip file (supplementary\_materials.zip) that contains the following:

i) the simulation program for the model of sex (sex\_model\_program.exe, and source files), supplementary results and raw data of the simulations;

ii) the simulation programs for models of ageing (aging\_model\_programs.exe, and source files).

**B) Modifications of equations (10)-(15), which are necessary when *z* > 0**

If the condition “c” is attenuated, namely if *z* > 0, in the 2G case, (10), (11), (12) become:

Pa,n = Pab,n + PaB,n + *z* (Pab’,n + PaB’,n); ... (10’)

Pab,n+1 = ½ Pab,n + ½ Pa,n Pb,n PR+,n; ... (11’)

T T

Pab’,n+1 = Pab’n – ½ *z* Pab,n + ½ Pa,n Pb,n *z* PR-,n ; ... (12’)

T T

and, in the 3G case, (13), (14), (15) become:

Pa = Pabc,n + PaBc,n + PabC,n + PaBC,n + *z* (Pabc’,n + PaBc’,n + PabC’,n + PaBC’,n) ; ... (13’)

Pabc,n+1 = ½ Pabc,n + ½ Pa,n Pb,n Pc,n PR+,n ; ... (14’)

T T T

Pabc’,n+1 = Pabc’n – ½ *z* Pabc,n + ½ Pa,n Pb,n Pc,n *z* PR-,n ; ... (15’)

T T T

with T = PR+,n + *z* PR-,n in both cases.