

# (R)Evolution Simulator

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## A Images and plots

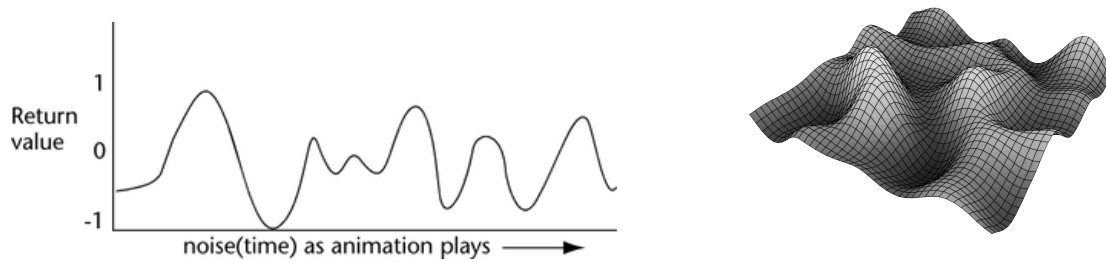


Figure 1: Example of the plot of the Perlin Noise function with one variable (on the left) and two variables (on the right)

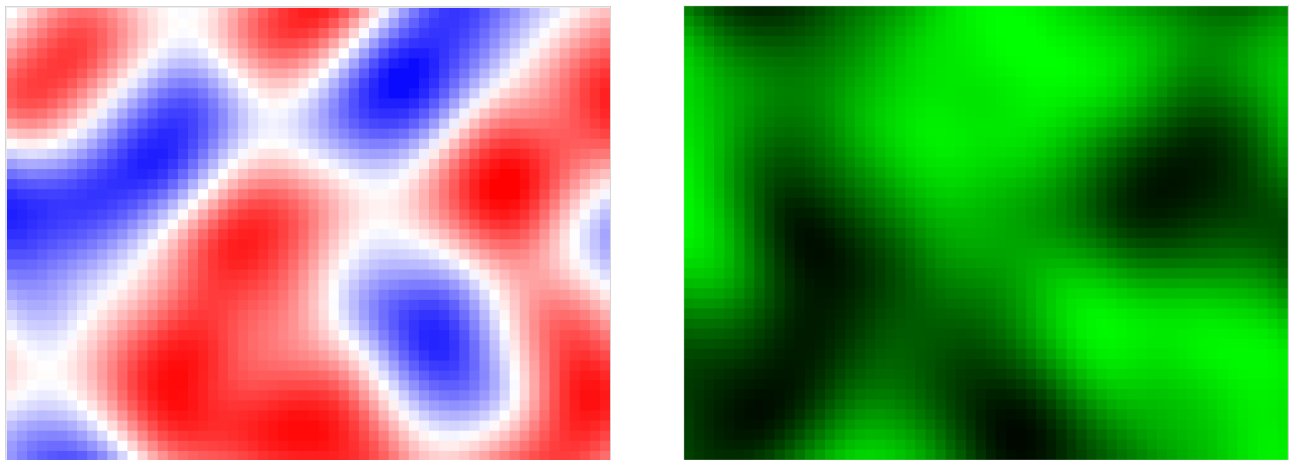


Figure 2: Distribution of temperature and food: on the left image the chunks are colored considering their temperature (red if hot, blue if cold). On the right image the chunk are dark green if they have little food, otherwise they get light green if have much food. Both images are created using Perlin Noise function in Figure 1

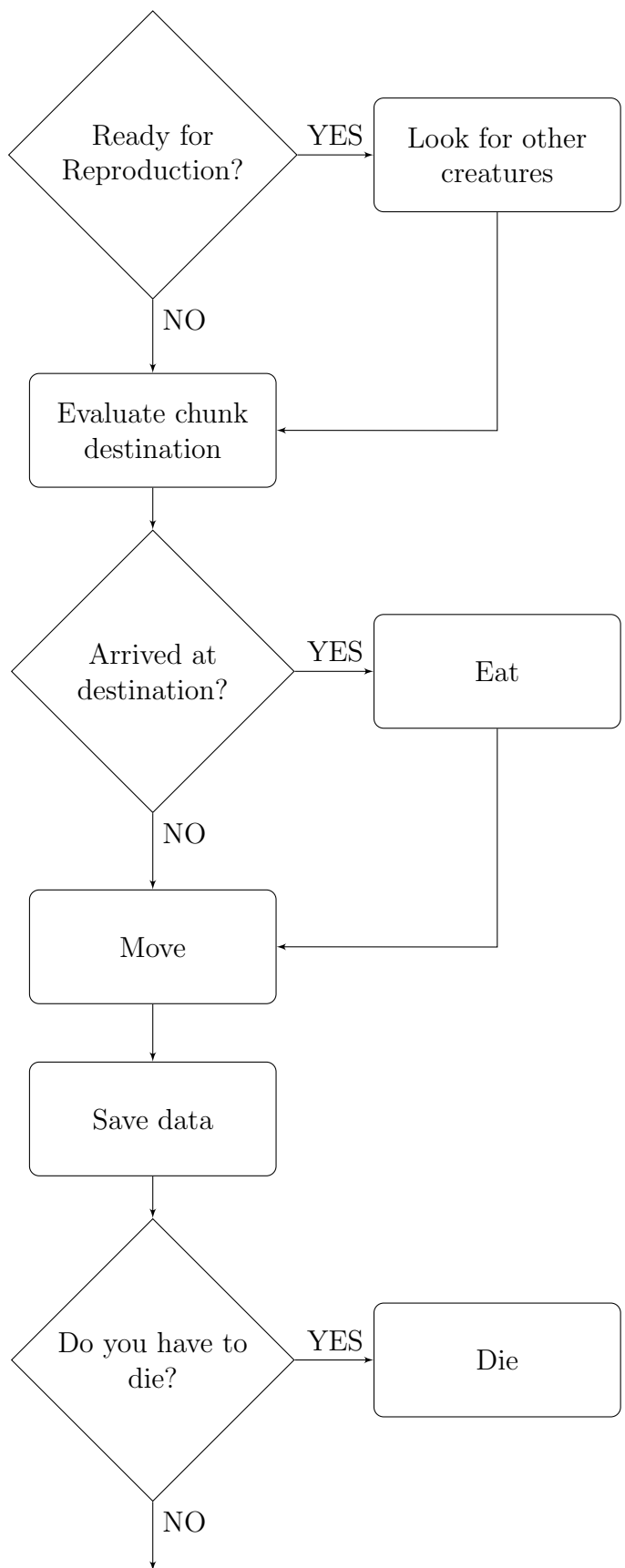


Figure 3: Flow chart of creatures behavior

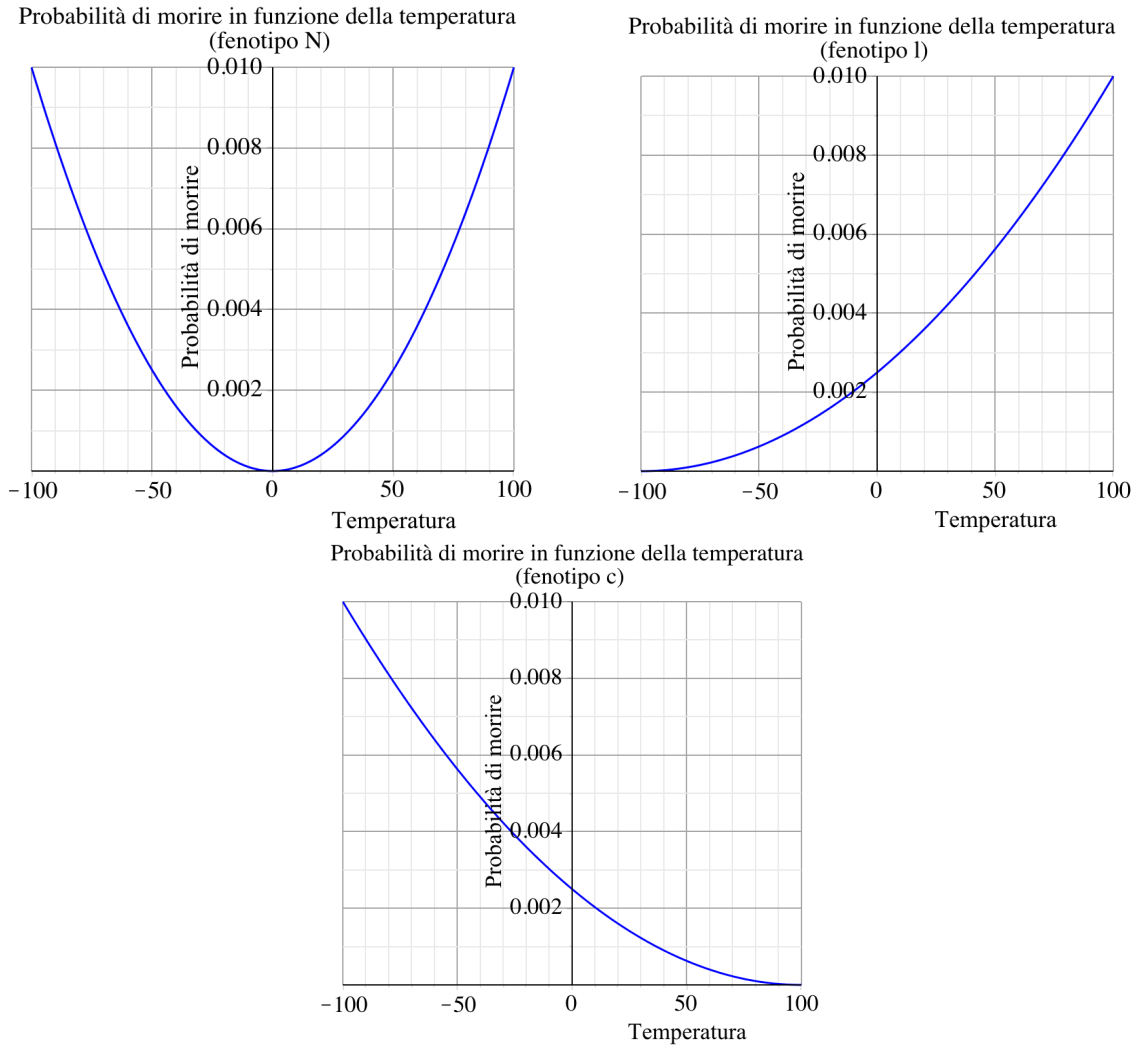


Figure 4: probability of death related to temperature considering the 3 different phenotype ( $N$ ,  $l$  e  $c$ )

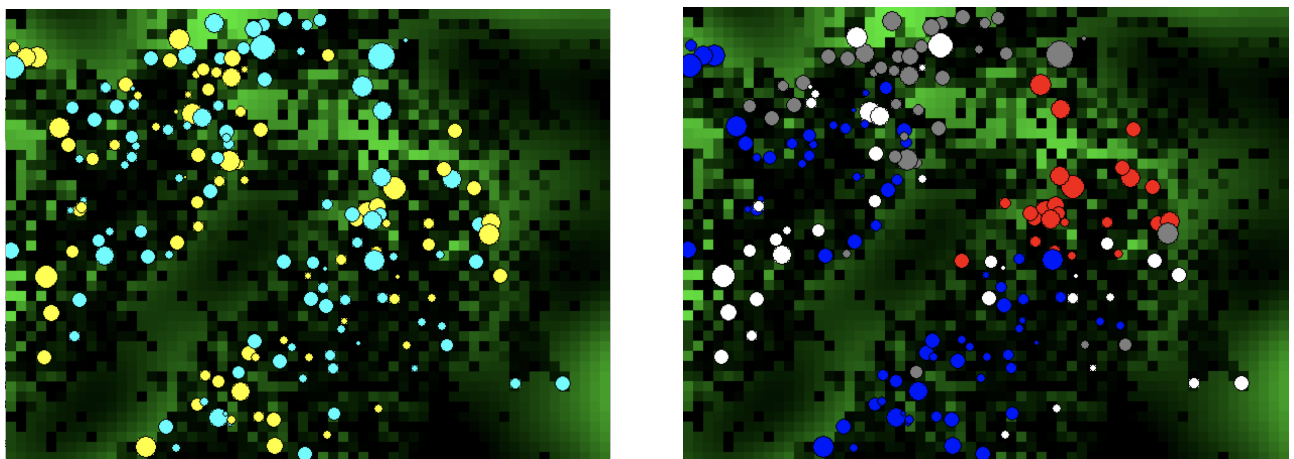


Figure 5: in the figure is represented a certain instant. On the right the creature are colored considering their resistance to temperature (blue for cold, red for hot and white/grey for mild). On the right, their are represented considering sex

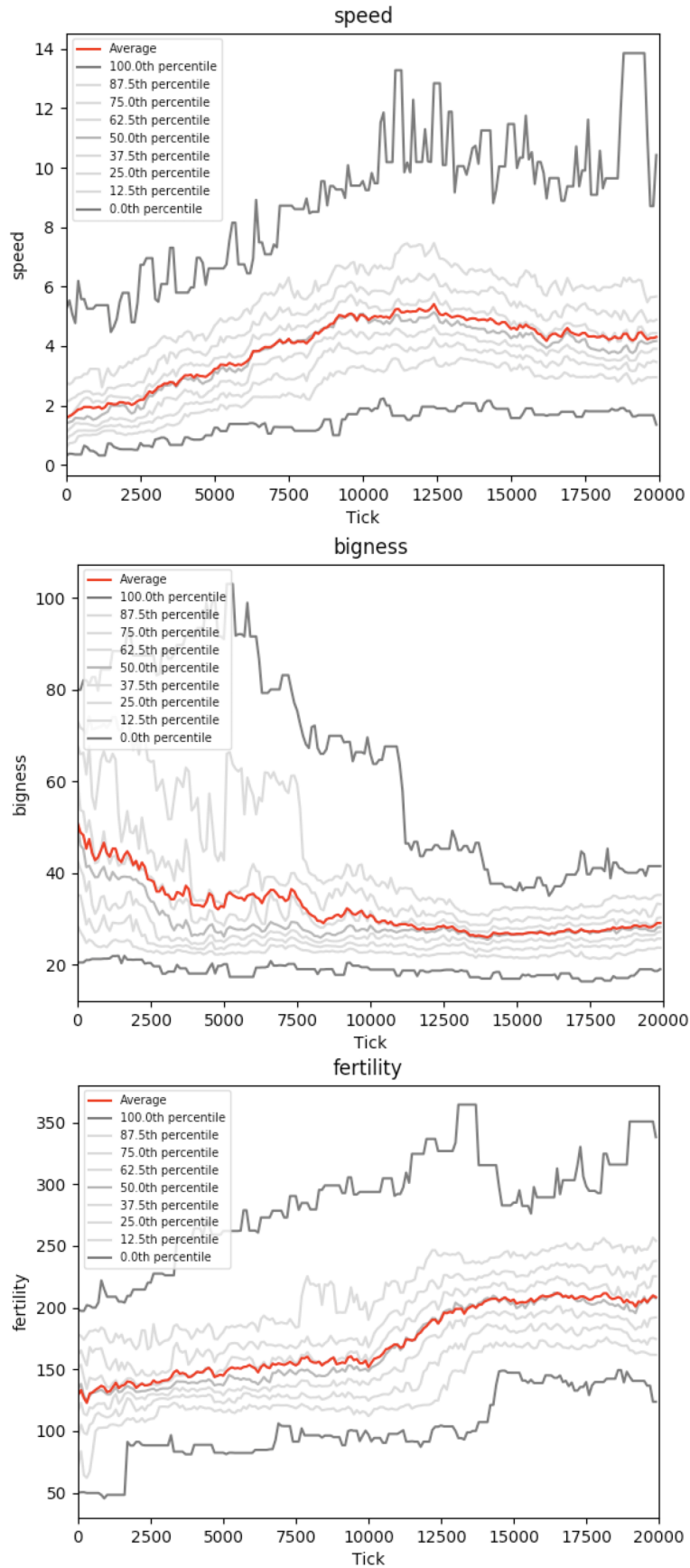


Figure 6: Plots of the evolution of the characteristics of creature (*speed*, *bigness* and *fertility*).

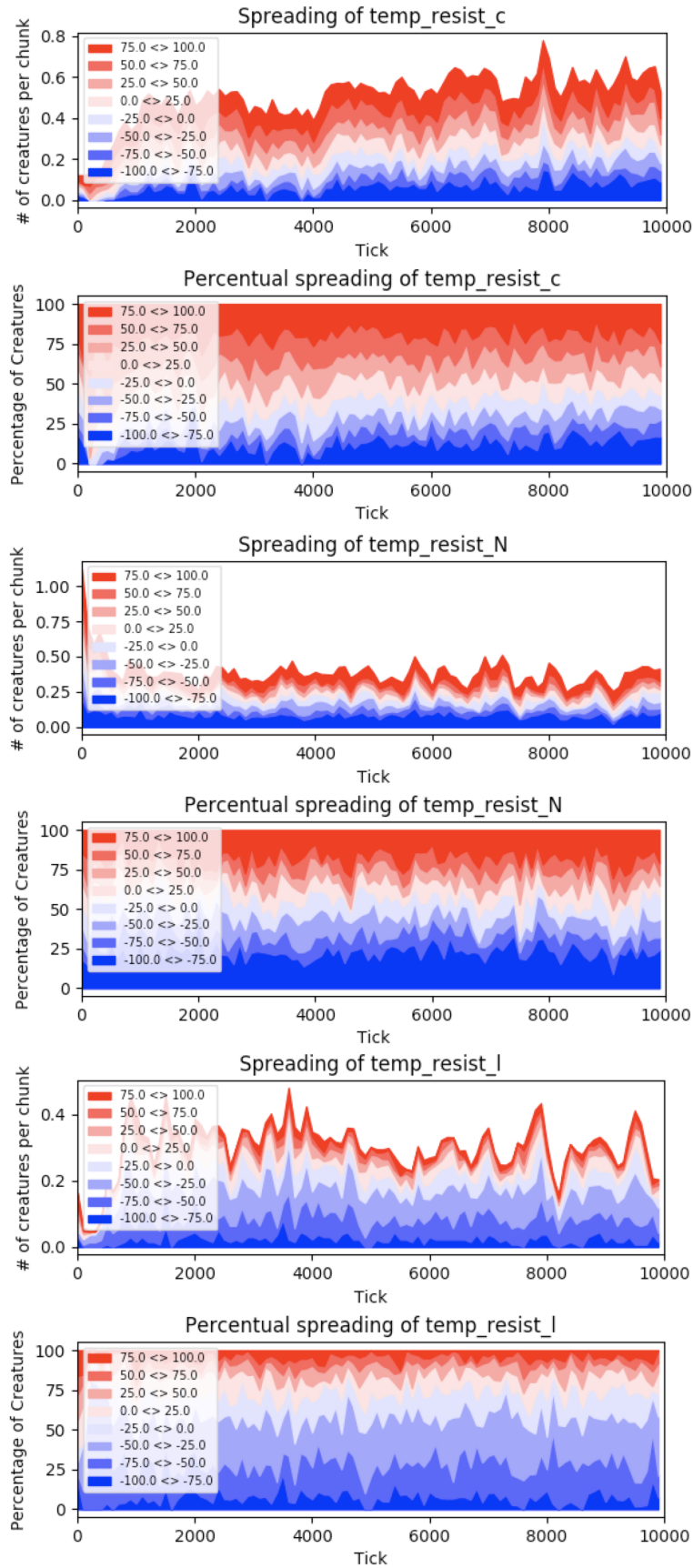


Figure 7: plots of the distribution of the creature considering temperature. The six plots represent the phenotypes (*c*, *l* and *N*) of the *temp\_resist* gene (considering the absolute number and percentage)

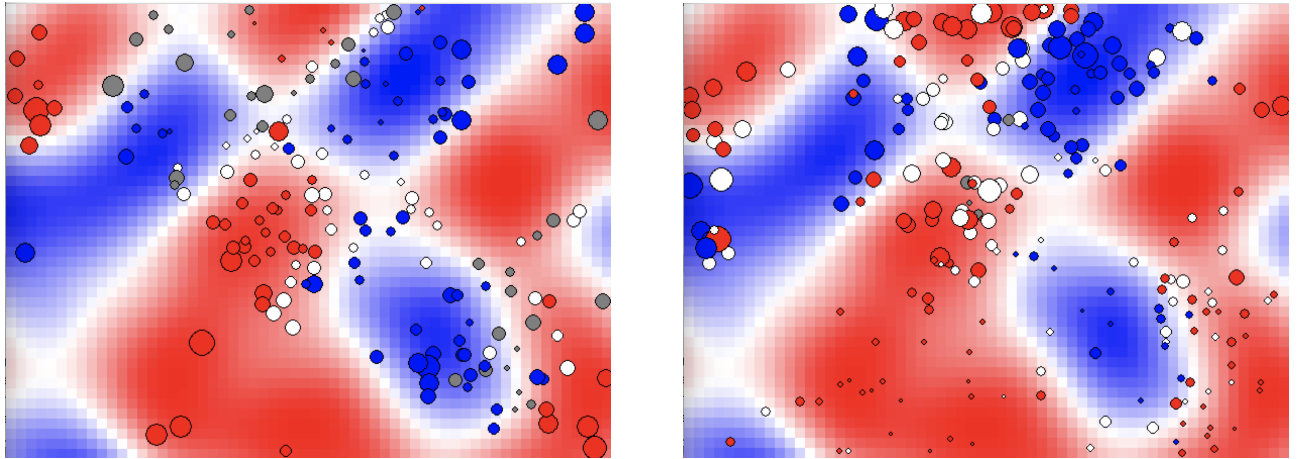


Figure 8: two instants of the simulation in which you can observe the distribution of creatures considering their phenotype and the temperature

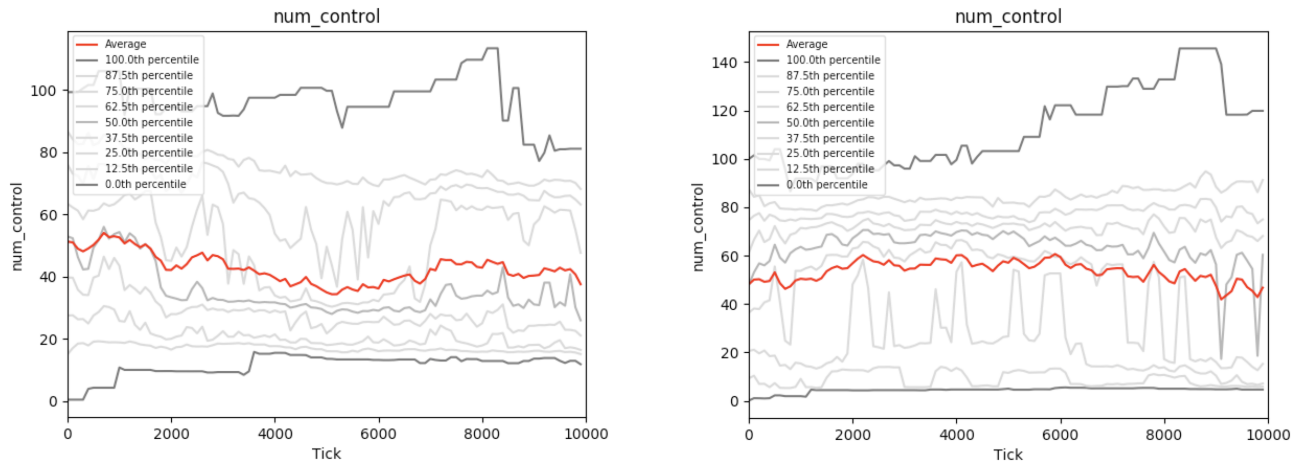
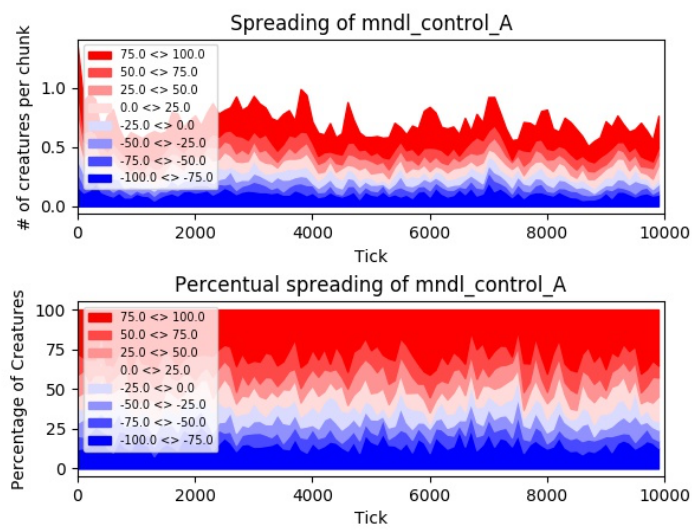


Figure 9: Plots of the evolution of the gene *num\_control*





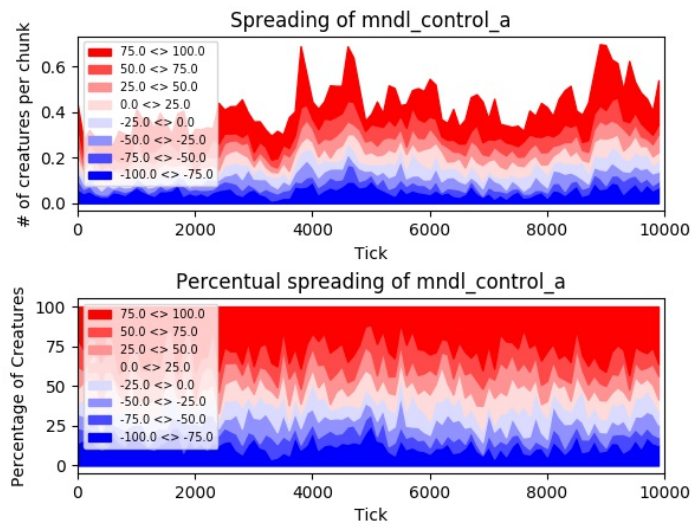


Figure 10: plots of the distribution of the creatures considering temperature. The four plot represent the phenotype  $A_{ed a}$  of the gene *mndl\_control* (considering the absolute number and the percentage)

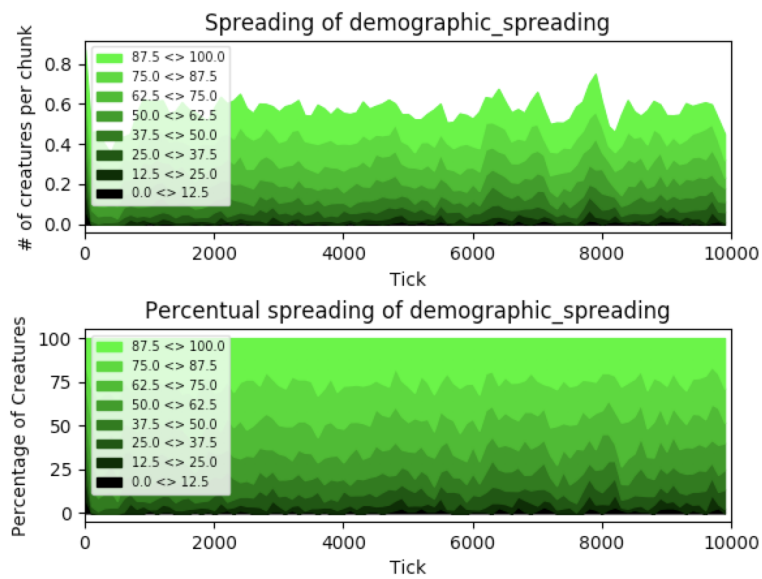


Figure 11: distribution of the creatures in areas where there is more food

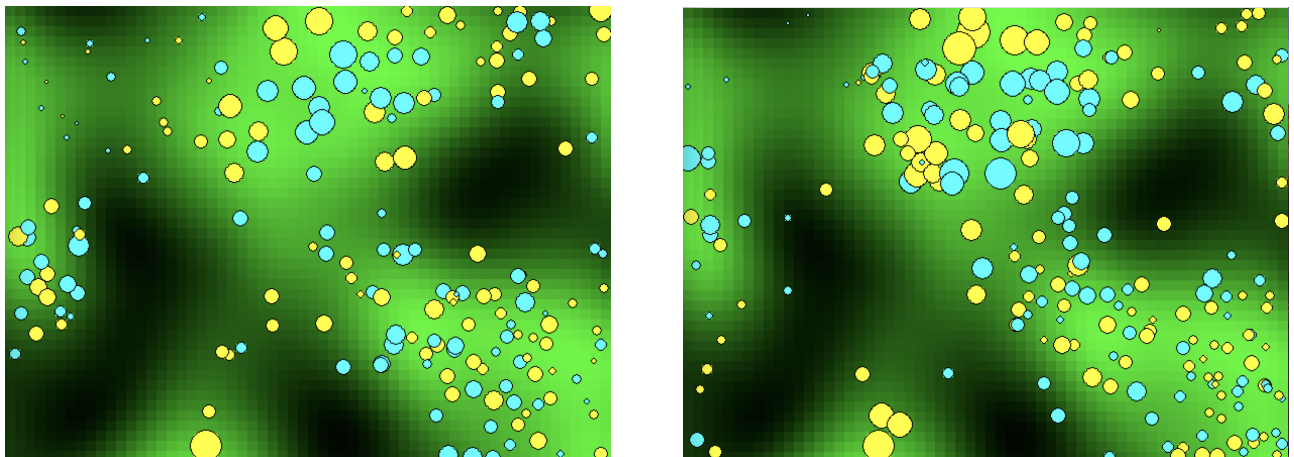




Figure 12: two instants of the simulation in which you can observe the distribution of creatures considering the quantity of food present

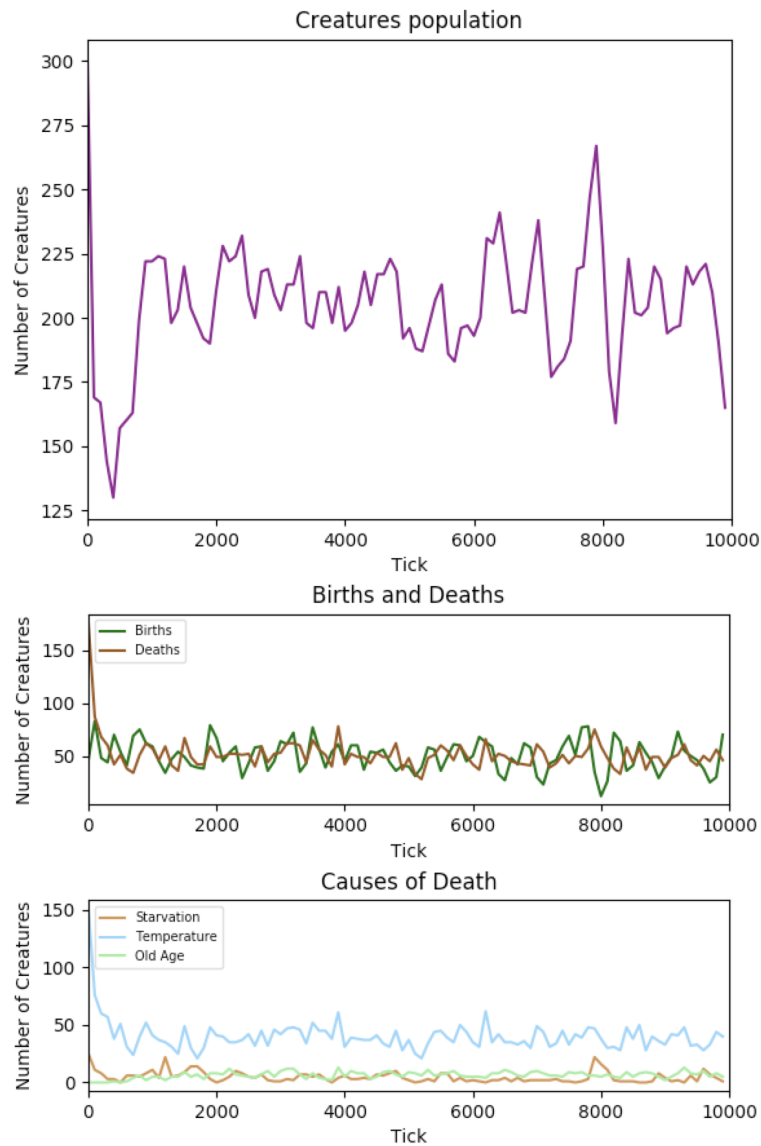


Figure 13: demographic trend: in the first plot you can observe the sinusoidal behavior of the population, while the second one shows the number of new creatures born or died and the incidence of each cause of death.