Study of extinctions in the BEF relationship

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The biodiversity ecosystem functioning (BEF) is the relationship between the biodiversity of an ecosystem and his functioning in our case his functioning will be understood has his productivity. We have simulated thousand of ecosystem with the Lokta-Volterra dynamic population equation to approach this relationship. We have focus on the difference between ecosystem with and without extinction event during his growing phase and found that an ecosystem who is passed by extinction event his in general less competitive at equilibrium than an ecosystem who doesn't loose any species but without producing less biomass with the same quantity of species at the end of the process.

After focusing on the consequence of extinction in an ecosystem, in the second part of this work we compare the characteristics of the surviving and the extinct species under different level of competition. In our model the species that have the highest survive chance in high competition situation are the one with an high carrying capacity and a low intersic growth rate. Under less intense level of competition we see that an high growth rate increase the chance of surviving but it's less obvious than in high competition ecosystem.

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