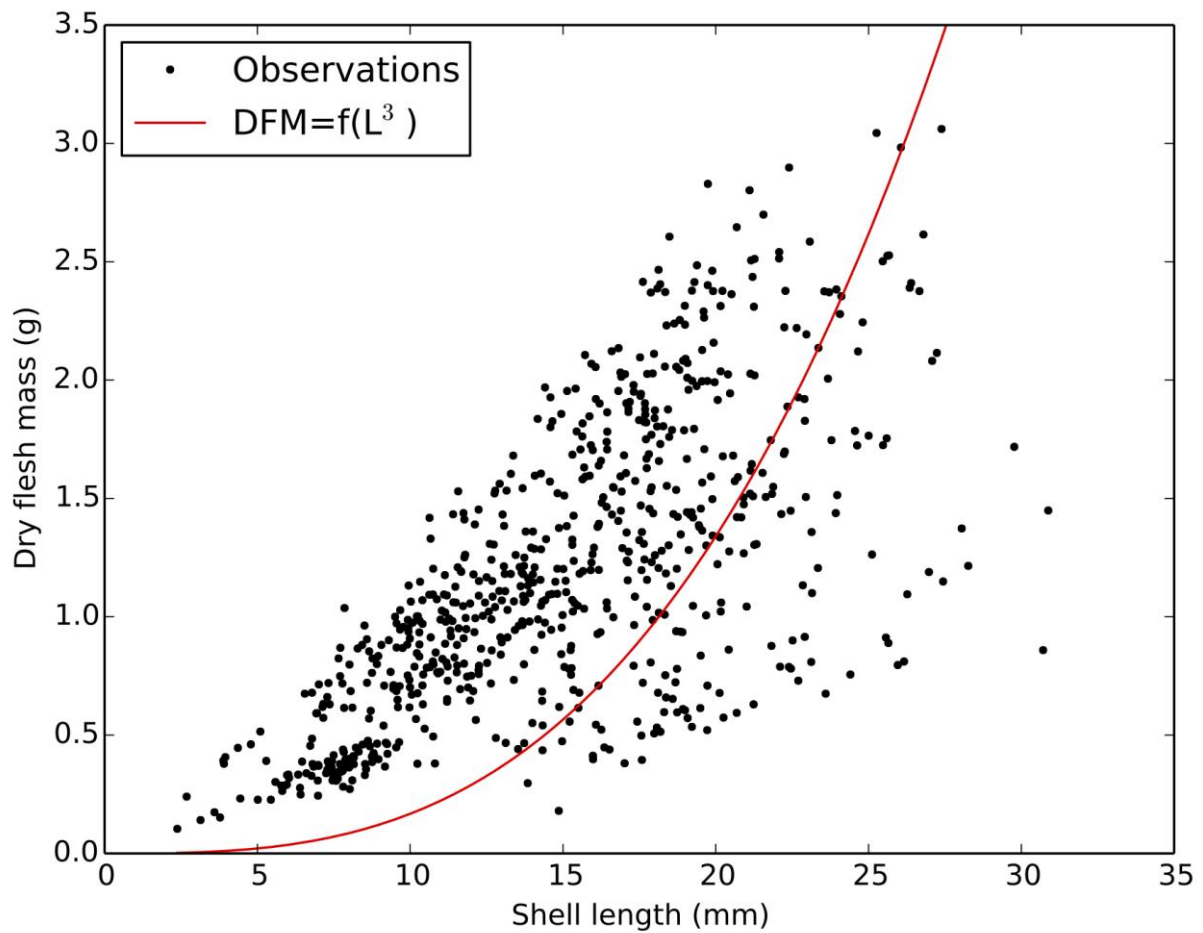


**Fig S1**

**Comparisons of observed and modeled DFM as a function of cubed length.**

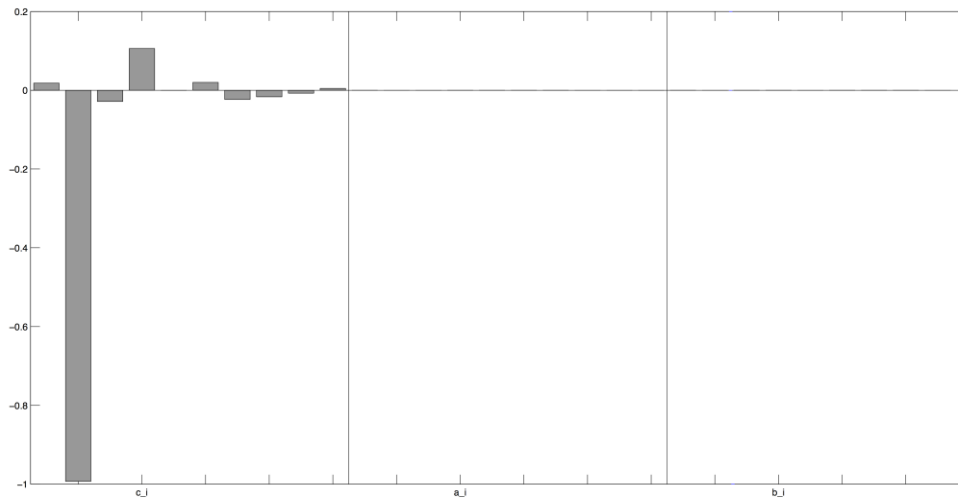
doi:10.1371/journal.pone.0109796.s001



**Fig S2**

**Example of an eigenvector contribution to the model coefficients for the smallest eigenvalue, using a model optimizing the scaling coefficient  $c_i$  and simultaneous contributions of  $a_i$  and  $b_i$ .**

doi:10.1371/journal.pone.0109796.s002



**Fig S3**

**Evolution of the parameter identifiability with the number of species taken into account.** The condition number of the Hessian matrix of the model cost function (in grey) is related to the convergence rate of the model. The fit is measured by the mean square model error (in black).

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