

# Ideas for paper

March 24, 2020

## To improve the model

Delayed density-dependent mortality

## To go further

Use more species (up to 100 as in real data?) and look at the effect of

- fixed niche area with only varying  $T_{\text{opt}}$
- effect (or evolution ?) of generalist vs specialist ratios? Are there more generalists in the ocean?

The control over the width, height and location of the niche is not obvious with the realistic Scranton & Vasseur (2016) model. In addition to this lack of control, specialists present in our dataset tend to bloom at lower temperatures (spring and sometimes autumn), which would mean they would have both a smaller and more narrow niches.

A toy-model would allow us to have more control on the width and height, see other possibilities in Fig. S1.

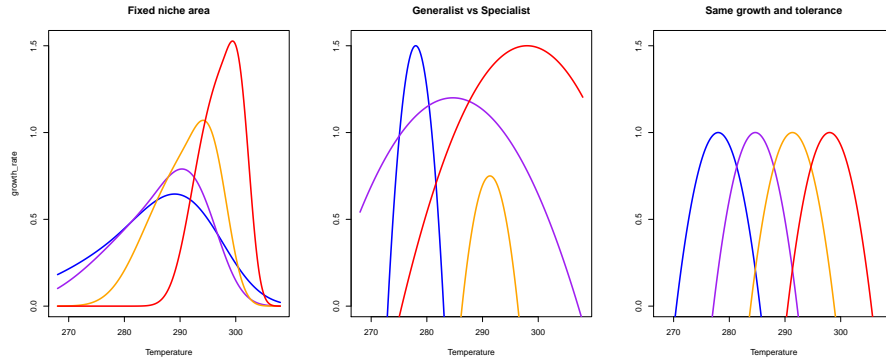


Figure 1: Example of simplistic niche shapes we could use.