

# Short Paper

Alice Anonymous<sup>\*,a</sup>, Bob Security<sup>b</sup>, Cat Memes<sup>\*\*,b</sup>, Derek Zoolander<sup>\*\*,a</sup>

<sup>a</sup>*Department, Street, City, State, Zip*

<sup>b</sup>*Department, Street, City, State, Zip*

## Abstract

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Noise, as the term itself suggests, is most often seen a nuisance to ecological insight, a inconvenient reality that must be acknowledged, a haystack that must be stripped away to reveal the processes of interest underneath. Yet despite this well-earned reputation, noise is often interesting in its own right: noise can induce novel phenomena that could not be understood from some underlying deterministic model alone. Nor is all noise the same, and close examination of differences in frequency, color or magnitude can reveal insights that would otherwise be inaccessible. Yet with each aspect of stochasticity leading to some new or unexpected behavior, the time is right to move beyond the familiar refrain of “everything is important” (Harrison et al., 2019). Stochastic phenomena can suggest new ways of inferring process from pattern, and thus spark more dialog between theory and empirical perspectives that best advances the field as a whole. I highlight a few compelling examples, while observing that the study of stochastic phenomena are only beginning to make this translation into empirical inference. There are rich opportunities at this interface in the years ahead.

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\*Corresponding Author

\*\*Equal contribution

*Email addresses:* `alice@example.com` (Alice Anonymous), `bob@example.com` (Bob Security), `cat@example.com` (Cat Memes), `derek@example.com` (Derek Zoolander)

## 23 **Introduction**

24     This is my awesome introduction that clearly defines the context and the  
25     gaps I am going to address with this beautiful paper. I will also states the  
26     hypotheses that I will test. It is going to be great, yeah yeah.

27     This introduction is going good, yes indeed, it will. And as it has been  
28     proven before (Harrison et al., 2019; Ho and Budescu, 2019), this has not been  
29     proven before. Evennnnn better!

## 30 **Methods**

31       So I used a very cool method (Ho and Budescu, 2019). Yeah yeah, but see  
32       also (Harrison et al., 2019). Oh and there is also (Salih et al., 2000), or (Baird  
33       et al., 2018).

34       Here is the model I used (it is an awesome model):

$$\frac{dn}{dt} = \underbrace{cn \left(1 - \frac{n}{N}\right)}_{\text{birth}} - \underbrace{en}_{\text{death}}, \quad (1)$$

## 35 **Results**

36       We can see that the variables increase and plateau to a maximum value (Figure  
37 1). But my favorite figure is Figure 2.

## 38 **Discussion**

## 39 **Acknowledgements**

40       The author acknowledges feedback and advice from the editor, Tim Coulson  
41 and two anonymous reviewers. This work was supported in part by USDA  
42 National Institute of Food and Agriculture, Hatch project CA-B-INS-0162-H.

## 43 **References**

44     \begin{landscape}

45     \end{landscape}

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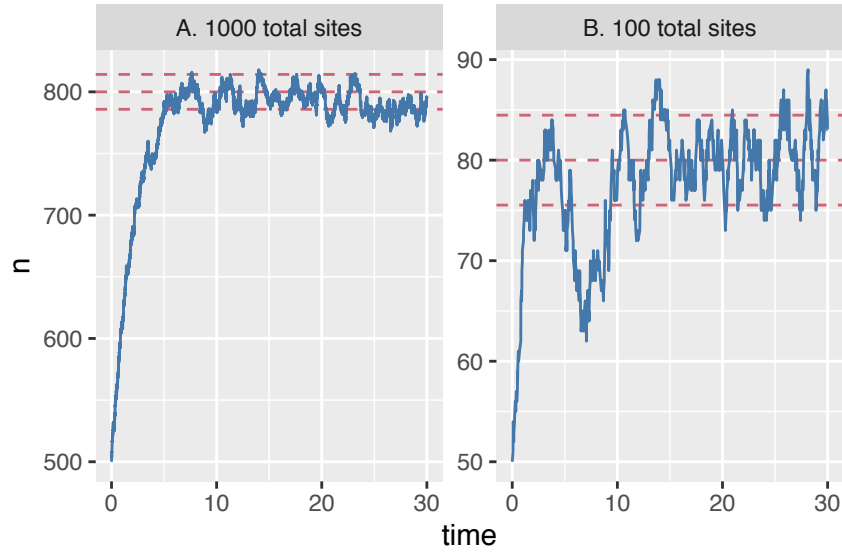


Figure 1: Population dynamics from a Gillespie simulation of the Levins model with large ( $N=1000$ , panel A) and small ( $N=100$ , panel B) number of sites (blue) show relatively weaker effects of demographic noise in the bigger system. Models are otherwise identical, with  $e = 0.2$  and  $c = 1$  (code in appendix A). Theoretical predictions for mean and plus/minus one standard deviation shown in horizontal red dashed lines.

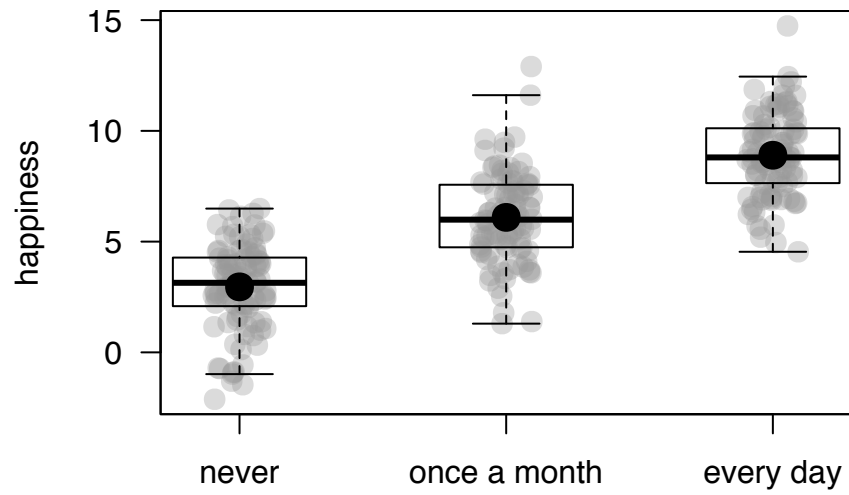


Figure 2: The is my figure. It is awesome. Plus it does not use ggplot, which is even better. It shows the level of happiness relatively to the amount of cheese people eat.