Project introduction

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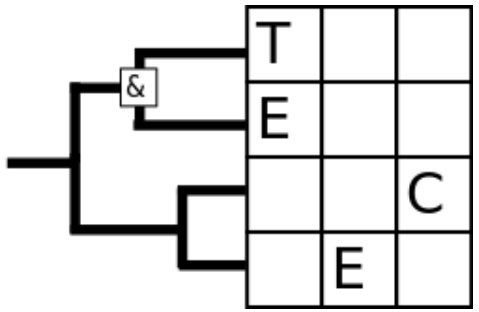
http://github.com/richelbilderbeek/Science



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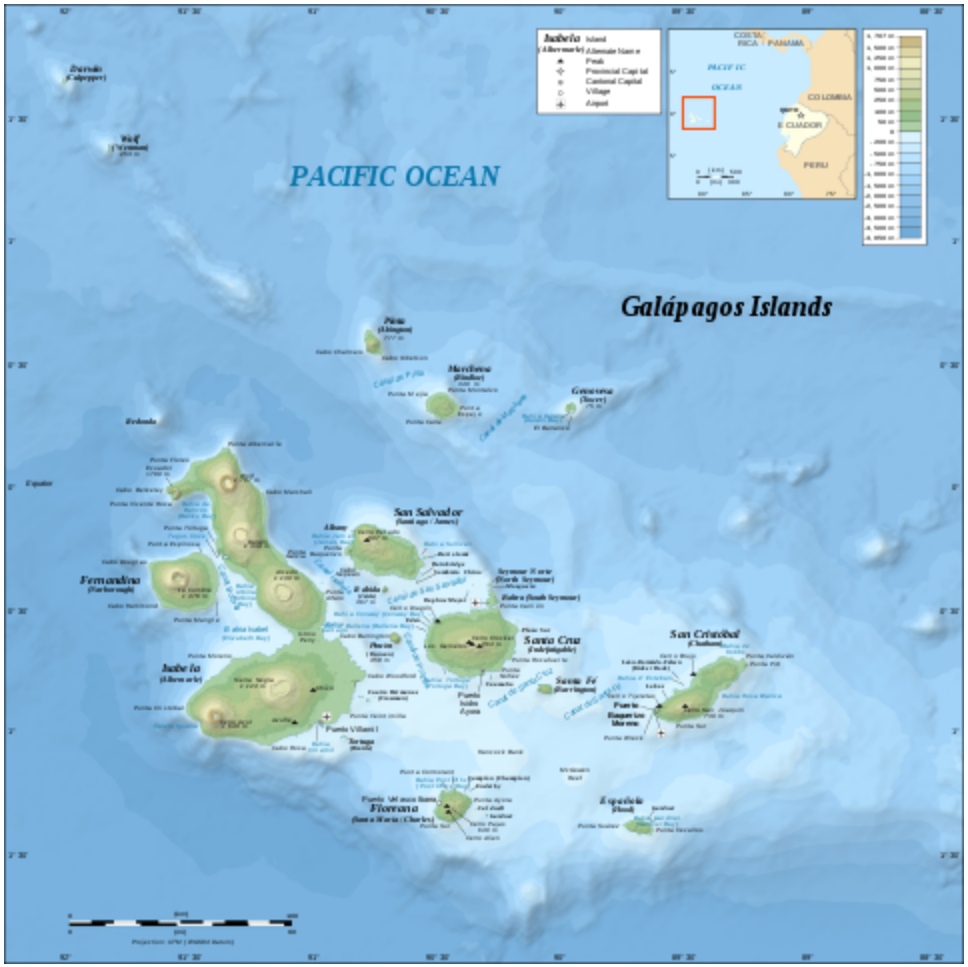
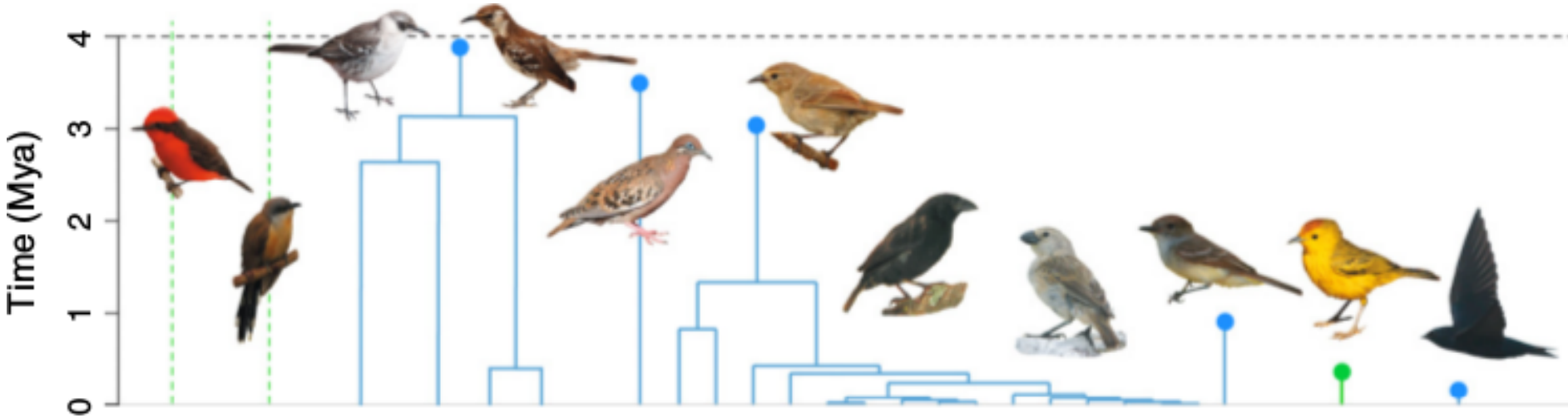
Galapagos Islands[1]



[1]By: Eric Gaba (Sting - fr:Sting), translated by NordNordWest, derivative work: MatthewStevens Galapagos_Islands_topographic_map-de.svg, CC BY-SA 3.0, https://commons.wikimedia.org/w/index.php?curid=16301316

Island history[2]



[1]From Valente, Luis M., Albert B. Phillimore, and Rampal S. Etienne. "Equilibrium and nonequilibrium dynamics simultaneously operate in the Galpagos islands." Ecology letters 18.8 (2015): 844-852.

News[3]

Science Newsline Biology

Top > Biology > Darwin's Finches Have Reached Their... >

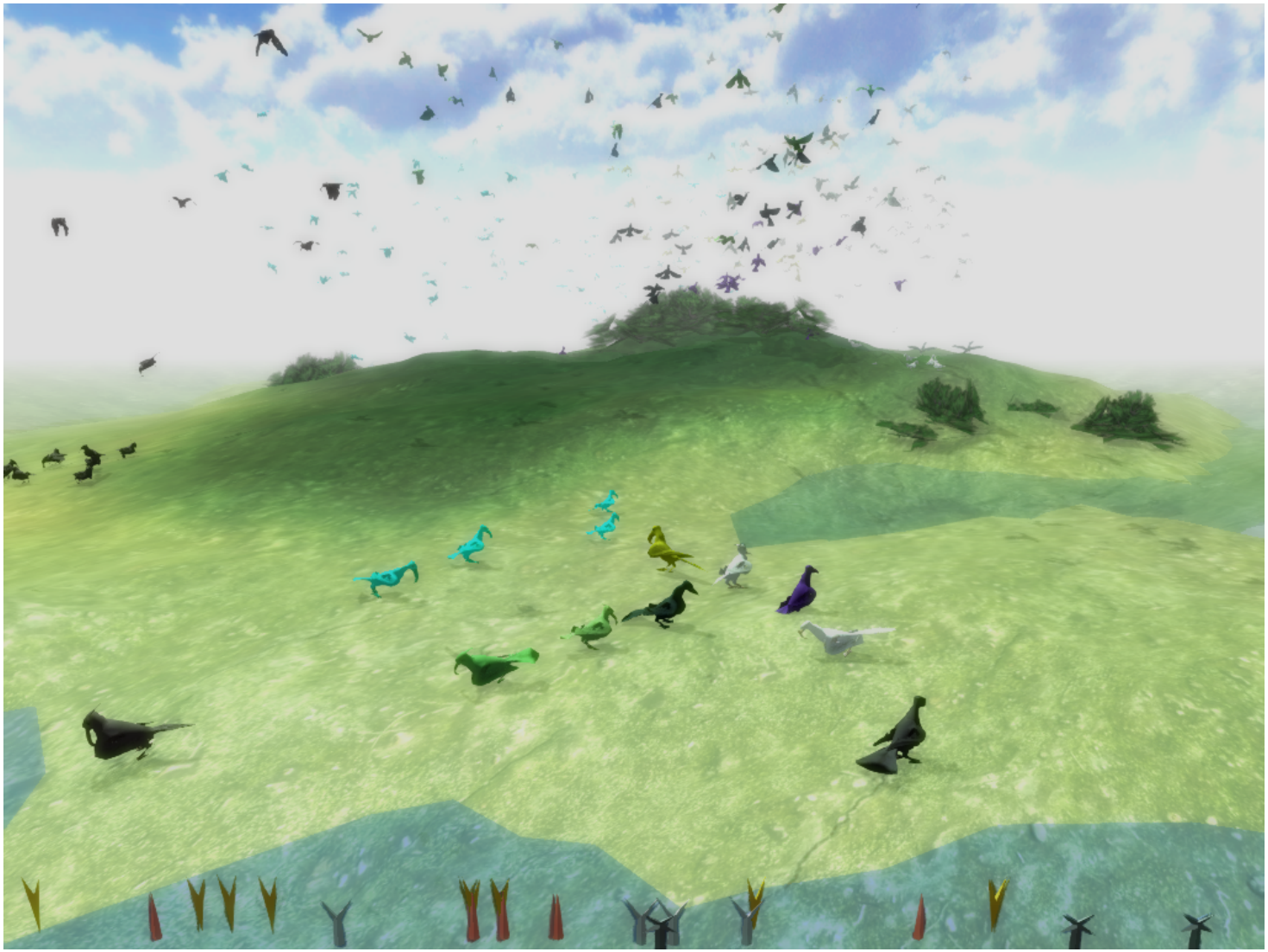
Darwin's Finches Have Reached Their Limits on the Galápagos

Published: June 23, 2015.
Released by University of Groningen

The evolution of birds on the Galápagos Islands, the cradle of Darwin's theory of evolution, is a two-speed process. Most bird species are still diversifying, while the famous Darwin's finches have already reached an equilibrium, in which new species can only appear when an existing one becomes extinct. This finding expands the classical theory on island evolution put forward in the 1960s. The study is published online on June 23 in *Ecology Letters*.

[1] http://www.sciencenewsline.com/news/20150623143700040.html

News



Caveat

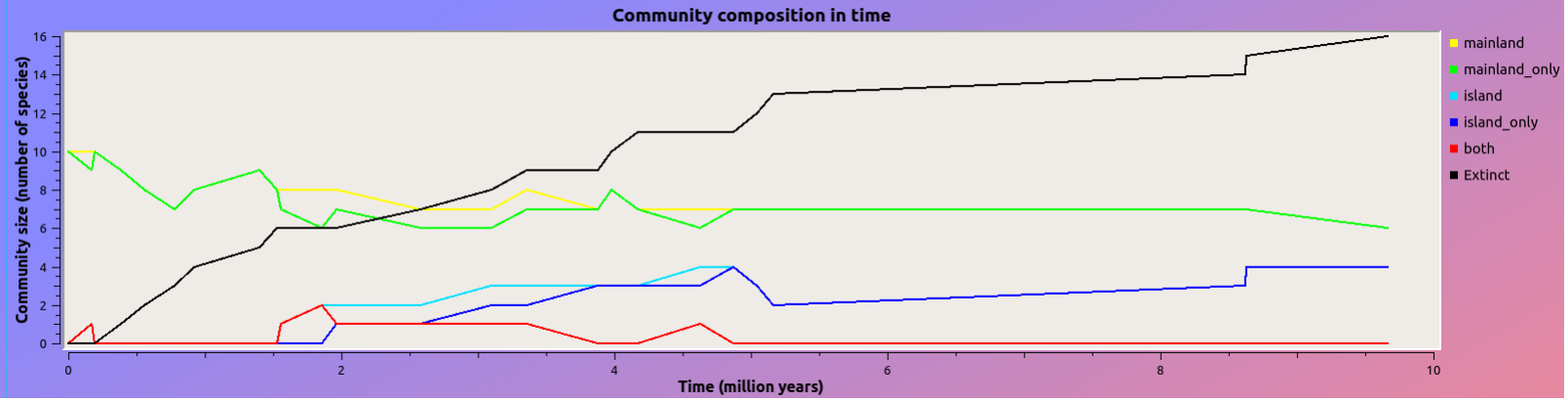
DAISIE assumes no mainland extinction

Research question

What is the error DAISIE makes in parameters estimation, for varying levels of mainland extinction?

What has been done?

	Value
clado_is	0.2
clado_main	0.2
ana	0.87
ext_is	0.1
ext_main	0.1
mig_to_is	0.02
carryingcap_is	30
carryingcap_main	10
rng_seed	385
init_n_main_cls	8
init_n_main_sps	10
crown_age	10



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init_n_main_cls	8
init_n_main_sps	10
crown_age	10

Run DAISIE

```
Ideal
-----
"lambda_c","mu","K","gamma","lambda_a","loglik","df","conv"
0.546378 2.26906e-07       3.99998  0.0435242         3.48019e-09       -25.6118 5        0

Reality
-------
"lambda_c","mu","K","gamma","lambda_a","loglik","df","conv"
0.679294 4.09606e-07       4        0.0432778         2.27861e-05       -24.7622 5        0
```

What still needs to be done?

- setup an analysis
- run simulations
- write article
- fix potenential flaws in current setup

My favorite planning

- January: Setup and run analysis. Write abstract, introduction, methods
- February and March: Analyse results. Write results, conclusion, discussion

Thanks

☺THANKS! ☺