

Which sites are under selection?



Sites



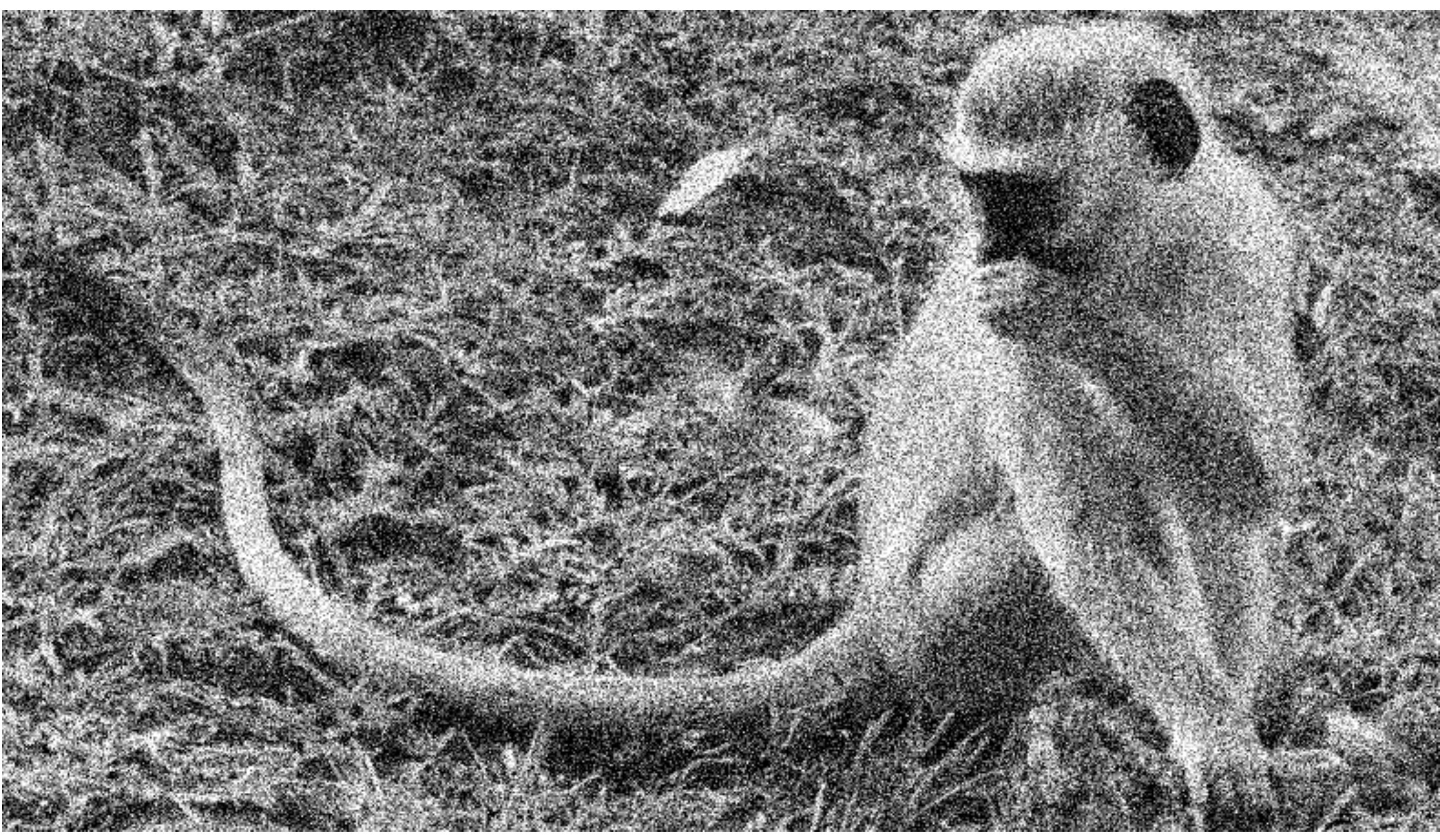




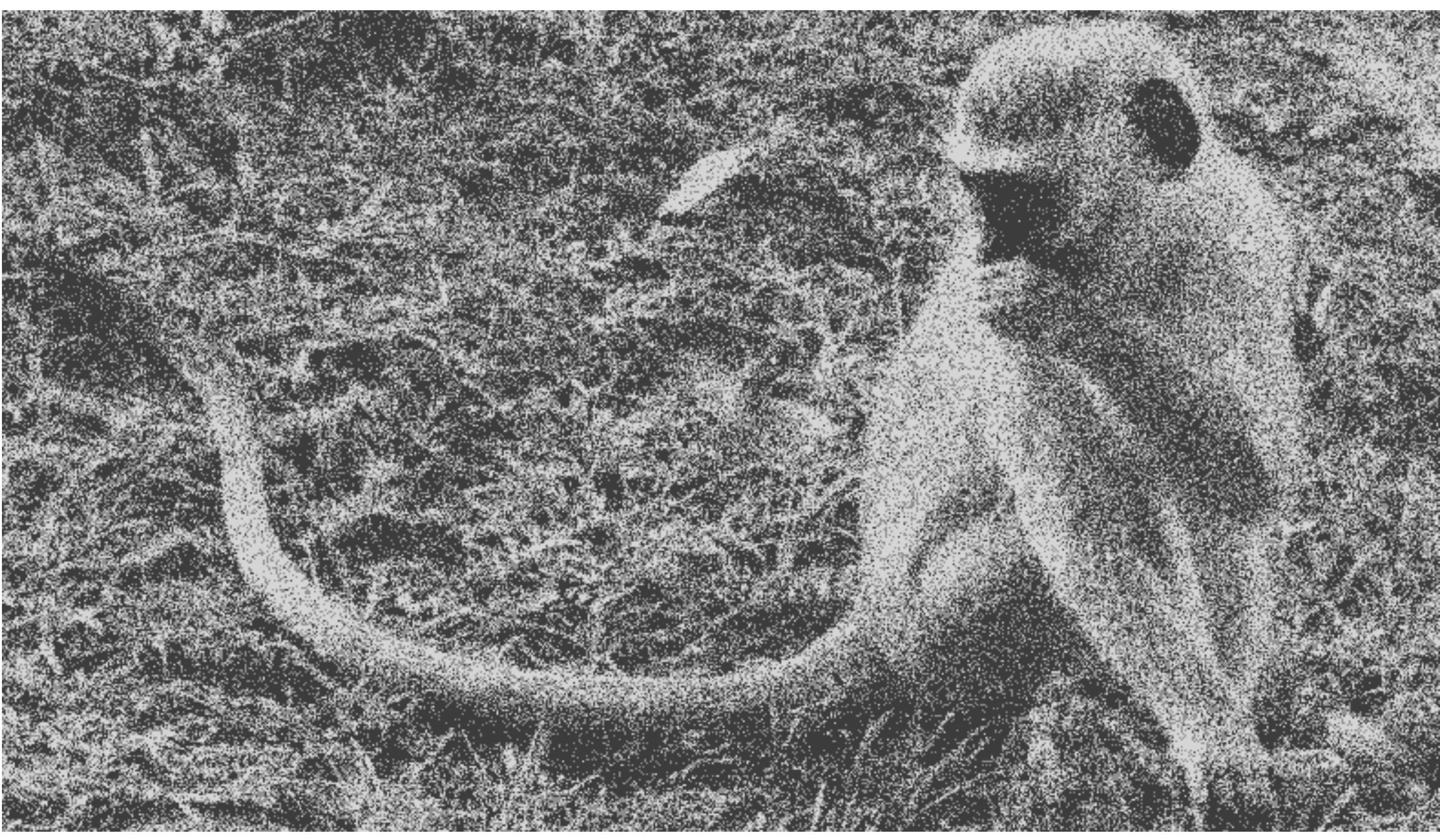
For each image column, is there a significant proportion of bright pixels, once the column has been reduced to 2 colors only?



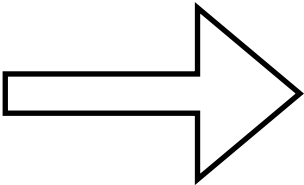
[MEME]: at a given **site**, each branch is a draw from a 2-bin (d_S , d_N) distribution, which is inferred from that site only. Test if there is a proportion of branches with $d_N > d_S$ (LRT)



Murder! at 2012



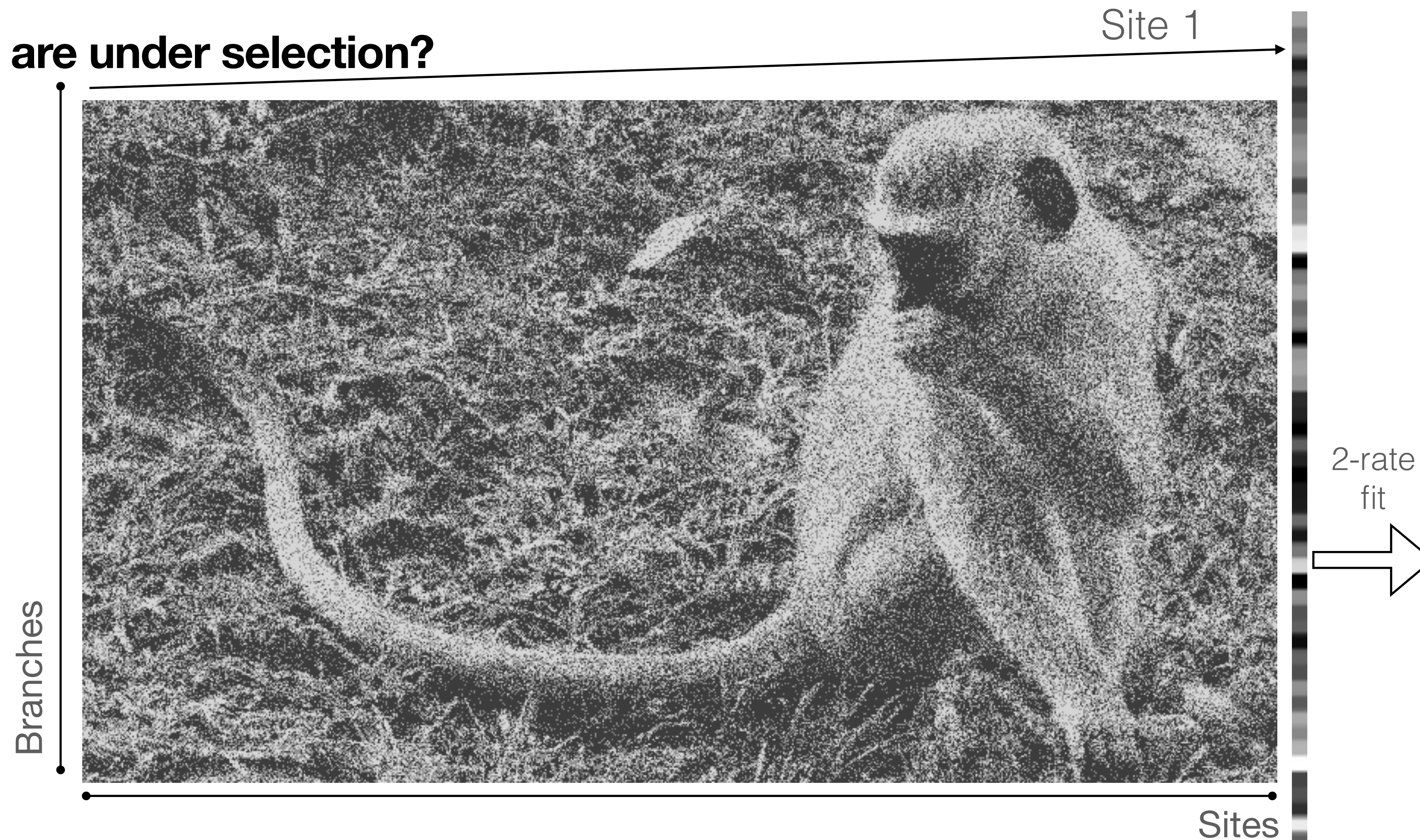




Sites 1

2-rate
fit

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Detecting Individual Sites Subject to Episodic Diversifying Selection

Ben Murrell^{1,2}, Joel O. Wertheim³, Sasha Moola², Thomas Weighill², Konrad Scheffler^{2,4},
Sergei L. Kosakovsky Pond^{4*}

 PLoS Genetics | www.plosgenetics.org

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July 2012 | Volume 8 | Issue 7 | e1002764

- Best-in-class power
- Able to detect episodes of selection, not just selection on average at a site
- Embarrassingly parallel (farm out each site), so runs reasonably fast
- Sample size is ~sequences, site level rate estimates imprecise
- Cannot estimate which individual branches are subject to selection with any precision
- Does not scale especially well with the number of sequences