

Rutt, C. L., Midway, S. R., Jirinec, V., Wolfe, J. D. and Stouffer, P. C. 2018. Examining the microclimate hypothesis in Amazonian birds: indirect tests of the 'visual constraints' mechanism. – Oikos doi: 10.1111/oik.05781

## Appendix 1

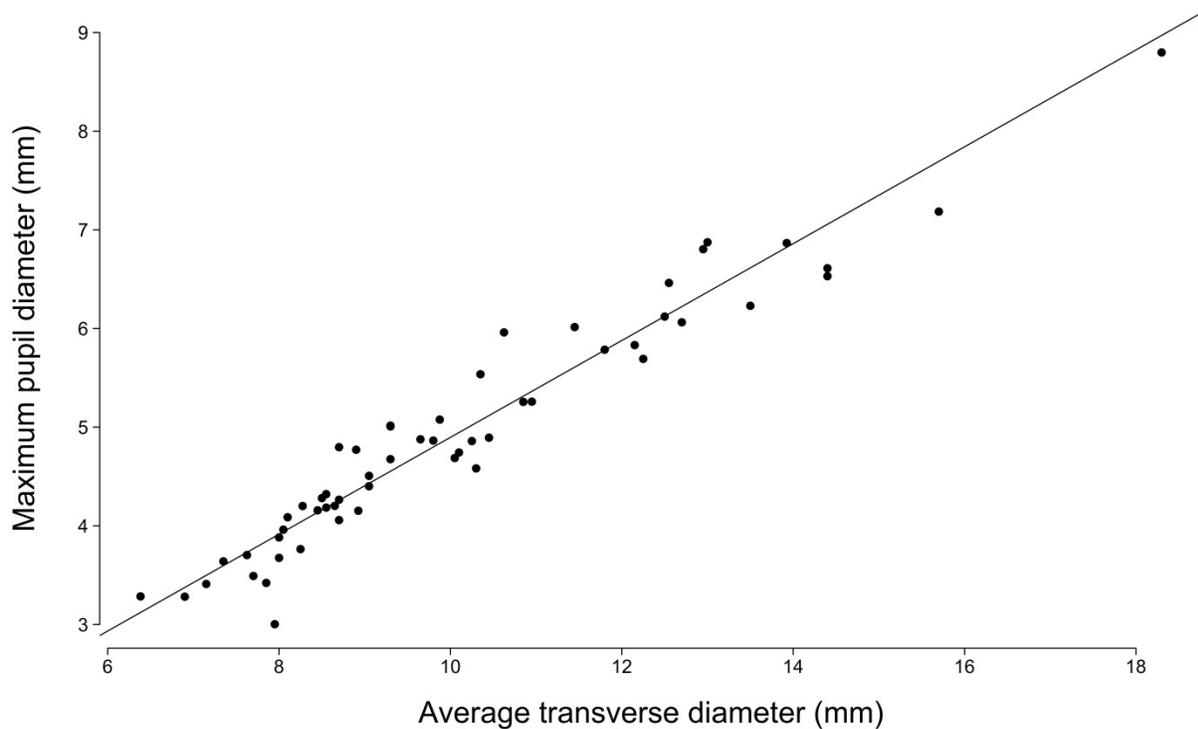


Figure A1. A simple linear regression comparing two physical measures of eye size for the 57 species shared between the two datasets: estimates of maximum pupil diameter (mm) from portrait photos of live birds is on the y-axis (this study) and average transverse diameter (mm) of dissected eyes removed from wet specimens is on the x-axis (Ritland 1982). The result suggests that using scaled photographs of live birds provides accurate relative estimates of actual eye size (Max. pupil diameter =  $-0.011 + 0.491(\text{avg. transverse diameter})$ ;  $F = 874.1$ ,  $df = 1,55$ ,  $p < 0.001$ , adjusted  $R^2 = 0.94$ ).

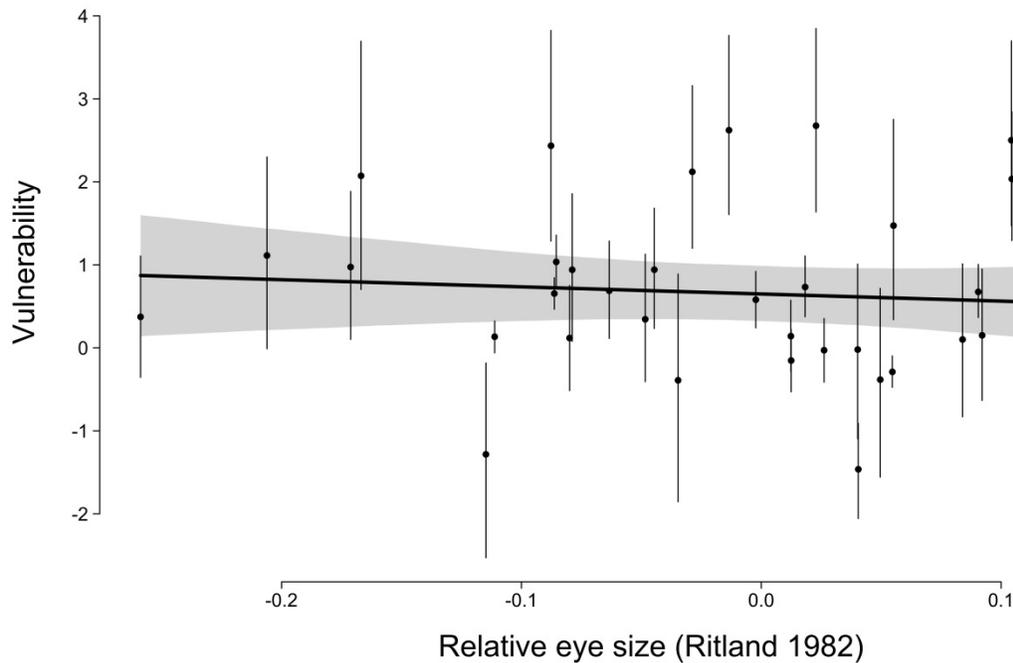


Figure A2. Another relationship between relative eye size and vulnerability for 39 species of birds. Here, relative eye size is the average species-specific residual from a linear regression of  $\log(\text{average transverse eye diameter})$  on  $\log(\text{body mass})$ . These absolute eye diameters were gleaned from Ritland (1982). Vulnerability estimates are species-specific posterior mean slopes for the effect of forest (solid circles) and 95% CRI (vertical lines), where high coefficients represent species more often found in primary forest (vulnerable) and low coefficients refer to species more often captured in degraded forest (less vulnerable). The solid regression line is bounded by a 90% CRI shaded region.

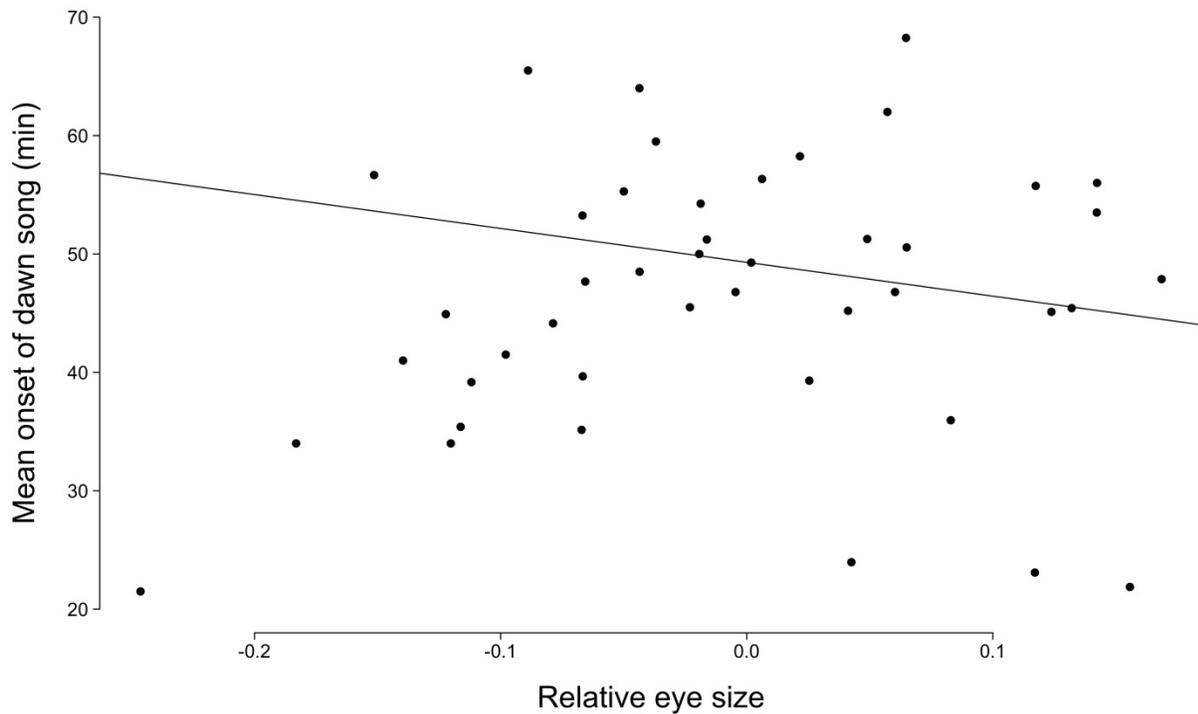


Figure A3. Relationship between the mean onset of dawn song (min) and relative eye size for 44 species of birds. We ran a phylogenetic generalized least squares (PGLS) model for this comparison, with branch length transformations for lambda optimized using maximum likelihood. The relationship depicted here was not significant ( $F = 1.36$ ,  $df = 1,22$ ,  $p = 0.26$ , adjusted  $R^2 = 0.015$ ).