APPENDIX 1 – Supplemental Materials for Prealternate molt intensity and timing in six Nearctic-Neotropical migratory warblers

Table A1.1. Estimates for significant predictors (p-value < 0.05) of molt intensity as measured by the Combined Contour Molt Index, in the American Redstart and Prairie Warbler, modelled three ways using a linear model to handle individuals with repeated measurements (recaptured birds): a. excluding the second capture, b. excluding the first capture, and c. including both captures. Linear modelling followed a stepwise regression (backward elimination), starting with the full initial model including the explanatory variables: Julian date, Julian date^2, age, and sex. We included sex in the initial models, but it was not a significant predictor of molt intensity for either species; consequently, we excluded it from the final models. For the American Redstart, we considered the interaction term age*Julian date. It was not significantly related to molt intensity, so we removed it from the final model.

Species	Model	Explanatory variable	Estimate	Residual standard error (degrees of freedom)	t-value	p-value
American Redstart	a. excluding second capture	Julian date	0.063	0.024 (82)	2.667	0.009
		Julian date^2	-0.0004	0.0002 (82)	-2.710	0.008
		Age	0.377	0.106 (82)	3.545	0.0007
	b. excluding first capture	Julian date	0.061	0.023 (82)	2.683	0.009
		Julian date^2	-0.0004	0.0001 (82)	-2.817	0.006
		Age	0.307	0.103 (82)	2.976	0.004
	c. including both captures	Julian date	0.063	0.022 (90)	2.930	0.004
		Julian date^2	-0.0004	0.0001 (90)	-3.034	0.003
		Age	0.335	0.100 (90)	3.347	0.001
Prairie Warbler	a. excluding second capture	Julian date	0.086	0.029 (17)	2.955	0.009
		Julian date^2	-0.0007	0.0002 (17)	-3.229	0.005
	b. excluding first capture	Julian date	0.056	0.026 (17)	2.141	0.047
		Julian date^2	-0.0005	0.0002 (17)	-2.461	0.025
	c. including both captures	Julian date	0.060	0.027 (18)	2.285	0.035
		Julian date^2	-0.0005	0.0002 (18)	-2.585	0.019

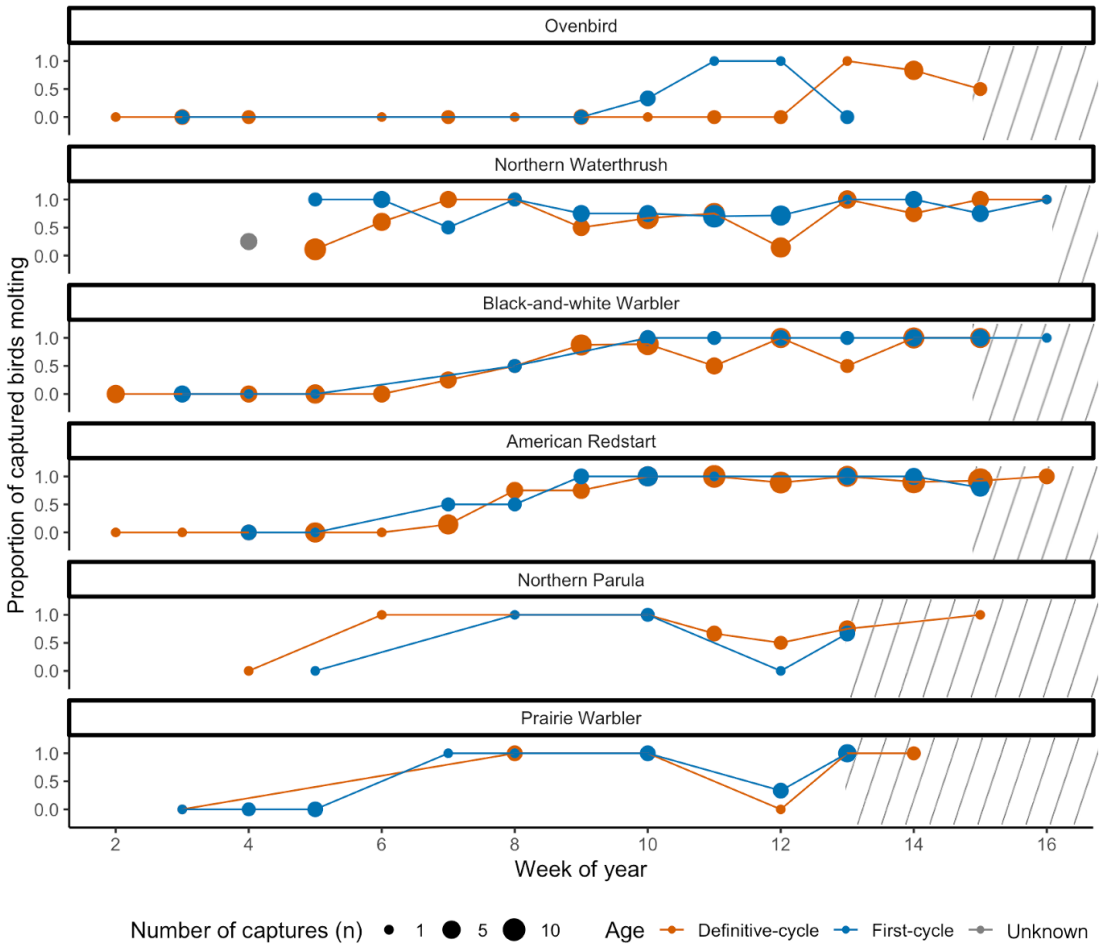

Figure A1.1. The proportion of captured birds of six species, split by age class molting by week of year from 13 January through 18 April 2023, at Font Hill Nature Preserve, Jamaica. The size of the circles represents the number (*n*) of captured birds of each age class per week. The hatched area shows where the molting period overlaps with the early end of migration departure windows from Jamaica for each species, based on eBird data (Fink et al. 2023) and unpublished tracking data from the study site (*unpublished data*, BCD and PPM).

Table A1.2 Sample sizes of the numbers of six species molting and not molting at capture, after the observed onset of molt, used as input for a Pearson's chi-squared test.

Species	# molting	# not molting
Ovenbird	10	8
Northern Waterthrush	75	36
Black-and-white Warbler	62	8
American Redstart	89	14
Northern Parula	14	5
Prairie Warbler	18	3

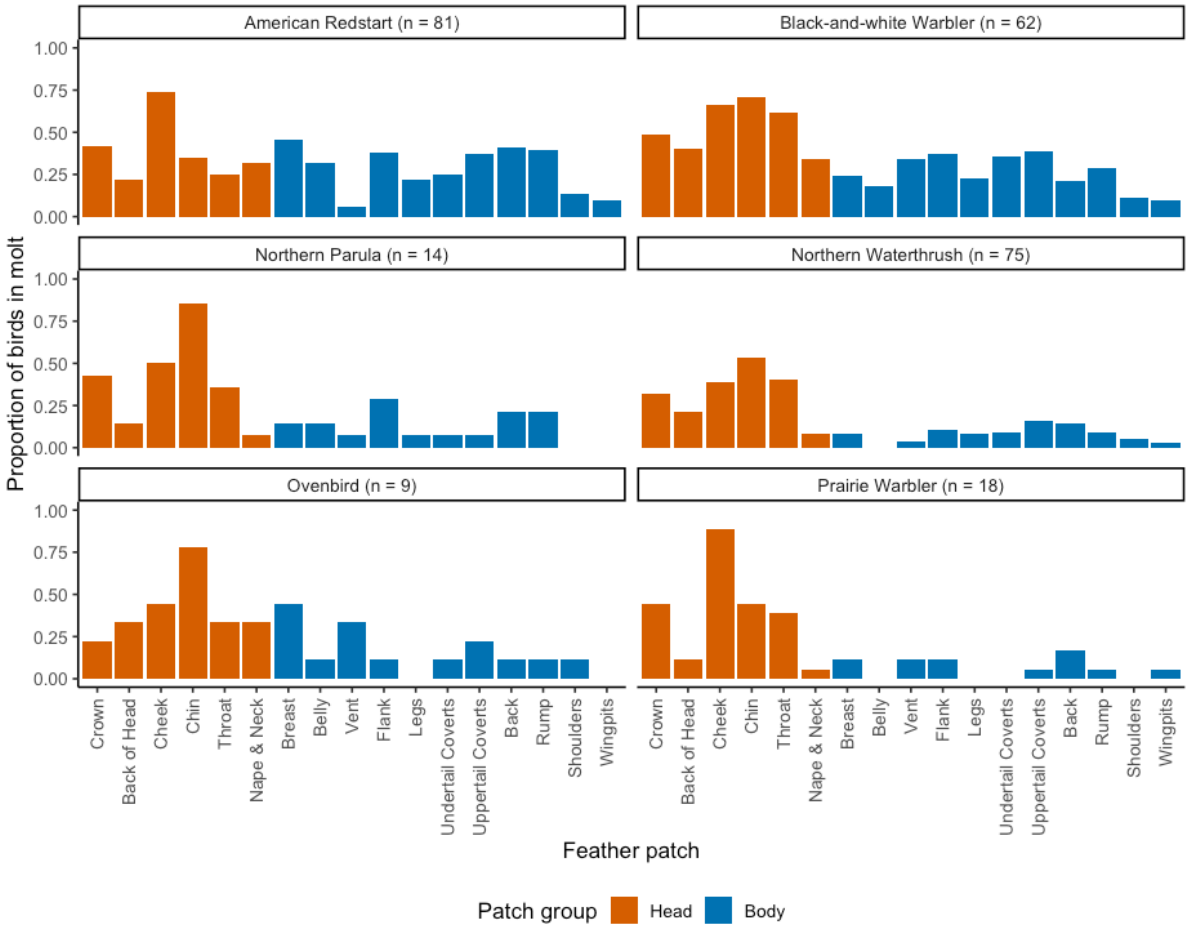

Figure A1.2. The proportions of birds from six species molting each of 17 contour feather patches captured from 13 January through 18 April 2023, at Font Hill Nature Preserve, Jamaica. To highlight that molt intensity tended to be greater in patches on the head than on the body, we show patches on the head in orange and patches on the body in blue.

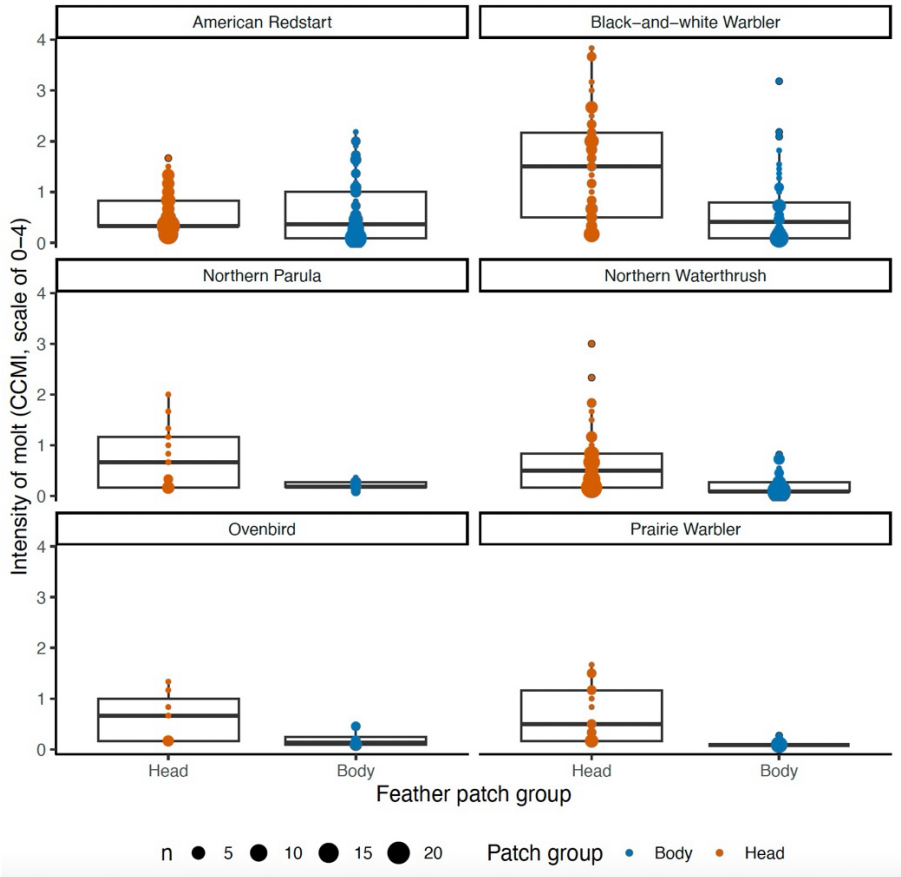

Figure A1.3. The intensity of molt, measured as a Combined Contour Molt Index on a scale of zero to four, for head feathers and body feathers in six species captured from 13 January through 18 April 2023, at Font Hill Nature Preserve, Jamaica. The size of the circles represents the number (*n*) of birds sampled that had the corresponding molt intensity score for each patch group. For each bird sampled, we scored the intensity of molt on a scale of zero to four in each of 6 feather patches on the head and 11 on the body. We then used those scores to calculate a Combined Contour Molt Index for each of the head and body, by summing the patch scores and dividing by the number of patches (6 for the head, 11 for the body).