ERRATUM

Carotenoid Coloration in Greenfinches Is Individually Consistent Irrespective of Foraging Ability

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In "Carotenoid Coloration in Greenfinches Is Individually Consistent Irrespective of Foraging Ability" (*Physiological and Biochemical Zoology* 80:663–670 [2007]), the feather coloration measurement data were erroneously calculated from raw reflectance spectrograms because of computational error. Thus, the measurements were not referred to a standard white reference tile (WS-2) and to the dark. We regret this error and have now remeasured the feathers correctly, as described in the "Methods." The correct results and new versions of Table 1 and Figures 1–3 are presented below.

Results

Color of the replacement feathers grown in captivity depended on carotenoid supplementation but was not associated with the original feather color (Table 1; Fig. 1). Correlation between the color of wild-grown and lab-grown feathers was different among carotenoid-supplemented and unsupplemented birds as indicated by the relatively weak but significant interaction term (Table 1). When analyzed separately in both treatment groups, no correlation was found between chromas of wild-grown and lab-grown feathers among carotenoid-supplemented birds ($r = 0.014$, $P = 0.95$, $N = 25$), while significant negative correlation emerged in the unsupplemented group ($r = -0.55$, $P = 0.005$, $N = 24$). Lab-grown feathers were paler (i.e., less saturated) than original ones in both the control (60.0% difference, wild-grown chroma 0.230 ± 0.028 vs. lab-grown chroma 0.092 ± 0.024; paired t-test: $t = 14.6$, $P < 0.0001$, $N = 24$) and the supplemented group (23.9% difference, wild-grown chroma 0.238 ± 0.031 vs. lab-grown chroma 0.181 ± 0.026; paired t-test: $t = 7.06$, $P < 0.0001$, $N = 25$). Chroma of lab-grown feathers was 96.9% higher among carotenoid-supplemented birds than among controls ($t = 12.3$, $P < 0.0001$, $N = 49$).

Coccidian infection intensity did not predict the color of replacement feathers in the model accounting for the original feather color and the effect of carotenoid supplementation. When analyzed separately in both treatment groups, a marginally significant negative correlation between infection intensity and chroma emerged among unsupplemented birds (Fig. 2). This relationship was also weak but significant in the whole sample ($r = -0.287$, $P = 0.046$, $N = 49$), while this relationship was not significant among carotenoid-supplemented birds (Fig. 2). Neither did we detect significant carotenoid supplementation × infection interaction term ($F_{1,45} = 0.41$, $P = 0.525$) in a model with main effects of infection intensity ($F_{1,45} = 2.55$, $P = 0.117$) and carotenoid supplementation ($F_{1,45} = 1.88$, $P = 0.176$). For both groups, plasma carotenoid levels that were determined during feather growth straightforwardly predicted the color of replacement feathers (Fig. 3).

Thus, when correctly measured data on feather coloration were analyzed in this data set, most of the results did not support the conclusions presented in our article. Therefore, this article should not be cited as proof of the existence of a significant component of variation in carotenoid coloration that reflects physiological qualities or genetic differences among individuals independently of foraging ability. However, the results and discussion on the relationships of plumage coloration with plasma carotenoid concentrations and coccidian infections remain relevant. In all other publications on plumage coloration by P. Hõrak's group, all color variables are calculated correctly.

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Table 1: Effect of carotenoid supplementation, coccidian infection intensity, and natural plumage color on chroma of lab-grown feathers

Factor	F_{df}	P
Carotenoid supplementation	$160.1_{1,46}$	<.00001
Wild-grown chroma	$2.8_{1,46}$	.099
Carotenoid supplementation × wild-grown chroma	$4.2_{1,45}$	.047
Infection intensity	$2.5_{1,45}$	.121
Carotenoid supplementation × infection intensity	$.2_{1,44}$	.654

Note. Only significant factors were maintained in the final model; factors and interaction terms [illegible] the line were entered into final model one at time, with the exception of the carotenoid supplementation × infection intensity interaction term, which was entered into the model with all main effects

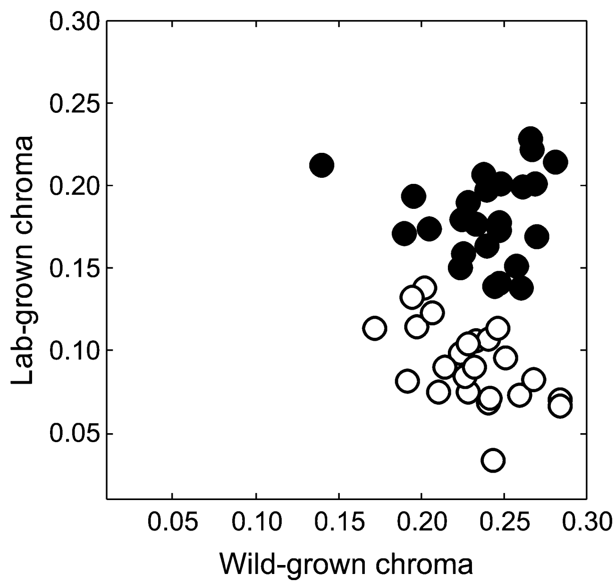

Figure 1. Relationship between the colors of wild-grown feathers and replacement feathers grown in captivity. *Filled circles*, carotenoid-supplemented birds; *open circles*, unsupplemented birds. See Table 1 for the statistics.

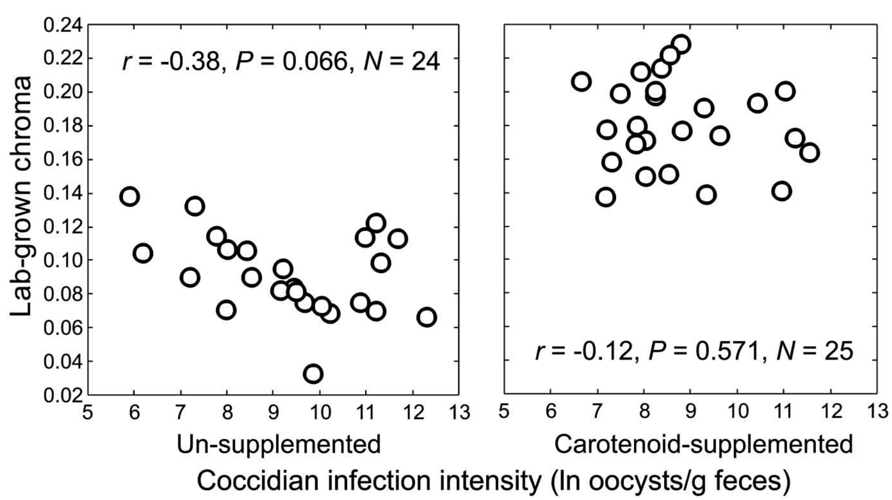

Figure 2. Relationship between the coccidian infection intensity during feather growth and color of replacement feathers grown in captivity.

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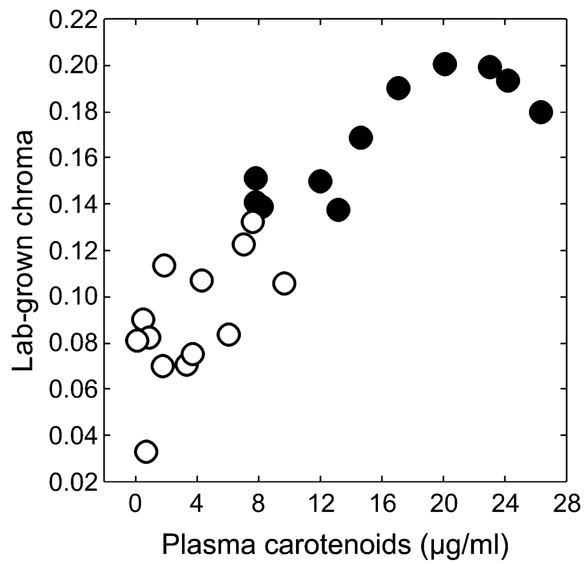

Figure 3. Relationship between plasma carotenoid concentration during feather growth and chroma of the yellow parts of tail feathers grown in captivity. For carotenoid-supplemented birds (*filled circles*): $r = 0.84$, $P = 0.0012$, $N = 11$. For unsupplemented birds (*open circles*): $r = 0.60$, $P = 0.030$, $N = 13$.