Table S1. Results of the general linear mixed effects model on the approach frequencies before entering the novel open and dense habitats of Gouldian finches addressing a) the effect of ecological variables and color morphs and b) social effects. Outcomes of the restricted data set (n = 25) excluding all pairings with experienced partners. Only the final model is shown.

a)

|  |  |
| --- | --- |
|  | Effects of ecological variables and head color (model S1) |
|  | Esti-mate | SE | z-value | P-value | CI (2.5%) | CI (97.5%) |
| (Intercept) | 2.63 | 0.36 | 7.36 | <0.001 | 1.93 | 3.33 |
| **Key Predictor** |  |  |  |  |  |  |
| Habitat type (open) | -1.28 | 0.40 | -3.20 | 0.001 | -2.06 | -0.50 |
| Head color (red) | -1.21 | 0.47 | -2.60 | 0.009 | -2.13 | -0.30 |
| **Controls** |  |  |  |  |  |  |
| Experiment | -0.76 | 0.20 | -3.83 | <0.001 | -1.15 | -0.37 |
| Age (1-year-old) | 0.01 | 0.22 | 0.06 | 0.955 | -0.41 | 0.44 |
| **Interactions** |  |  |  |  |  |  |
| Experiment x habitat | 0.58 | 0.28 | 2.07 | 0.038 | 0.03 | 1.12 |
| Experiment x head color | 0.86 | 0.30 | 2.86 | 0.004 | 0.27 | 1.44 |
| Habitat x head color | 1.21 | 0.61 | 1.99 | 0.047 | 0.02 | 2.41 |
| Experiment x habitat x head color | -0.93 | 0.41 | -2.27 | 0.023 | -1.74 | -0.13 |

b)

|  |  |
| --- | --- |
|  | Social effects (model S2) |
|  | Esti-mate | SE | z-value | P-value | CI (2.5%) | CI (97.5%) |
| (Intercept) | 1.26 | 0.36 | 3.46 | <0.001 | 0.54 | 1.97 |
| **Key Predictor** |  |  |  |  |  |  |
| Head color (red) | 0.74 | 0.38 | 1.94 | 0.052 | -0.01 | 1.48 |
| Partner head color | -0.03 | 0.16 | -0.16 | 0.871 | -0.35 | 0.29 |
| **Controls** |  |  |  |  |  |  |
| Relative age (within pairs) | 0.11 | 0.18 | 0.61 | 0.544 | -0.24 | 0.46 |
| **Interactions** |  |  |  |  |  |  |
| Head color x partner head color | -0.59 | 0.24 | -2.47 | 0.014 | -1.05 | -0.12 |

Fig. S1: Effects of head color, habitat type and experiment on approach frequencies before entering the novel habitats

Mean and SE of approach frequencies to novel open and dense habitats in the first and second experiment for each head color for the restricted data set (n = 25). \*\*: P < 0.01

Black bars: Black-headed birds (BH), striped red and gray bars: red-headed birds (RH).

Fig. S2: Interaction between head color and partner head color affecting approach frequencies before entering the novel habitats.

Mean and SE of approach frequencies of red-headed and black-headed focal birds to novel habitats in relation to partner head color for the restricted data set (n = 25). \*: P < 0.05

Black bars: Black-headed birds (BH), striped red and gray bars: red-headed birds (RH).

Table S2. Results of the linear mixed effects models on the entry latencies of Gouldian finches into open and dense habitats addressing a) the relationship between ecological variables and color morph and b) social effects. Outcomes of the restricted data set (n = 25) excluding all pairings with experienced partners. Only the final model is shown.

a)

|  |  |
| --- | --- |
|  | Effects of ecological variables and color morph (model S1) |
|  | Esti-mate | SE | t-value | P-value | CI (2.5%) | CI (97.5%) |
| (Intercept) | -0.82 | 0.02 | -46.97 | <0.001 | -0.85 | -0.78 |
| **Key Predictor** |  |  |  |  |  |  |
| Habitat type (open) | -0.03 | 0.02 | -1.42 | 0.154 | -0.07 | 0.01 |
| Head color (red) | -0.08 | 0.02 | -3.06 | 0.002 | -0.12 | -0.03 |
| **Controls** |  |  |  |  |  |  |
| Experiment | -0.02 | 0.01 | -1.96 | 0.050 | -0.04 | <0.01 |
| Age (1-year-old) | 0.01 | 0.01 | 1.19 | 0.235 | -0.01 | 0.03 |
| **Interactions** |  |  |  |  |  |  |
| Habitat type x experiment | 0.01 | 0.01 | 1.01 | 0.315 | -0.01 | 0.04 |
| Habitat type x head color | 0.07 | 0.03 | 2.49 | 0.013 | 0.02 | 0.13 |
| Experiment x head color | 0.04 | 0.02 | 2.63 | 0.009 | 0.01 | 0.07 |
| Habitat type x experiment x head color | -0.04 | 0.02 | -2.09 | 0.036 | -0.08 | <-0.01 |

b)

|  |  |
| --- | --- |
|  | Social effects (model S2) |
|  | Esti-mate | SE | z-value | P-value | CI (2.5%) | CI (97.5%) |
| (Intercept) | -0.85 | 0.02 | -53.86 | <0.001 | -0.88 | -0.82 |
| **Key Predictor** |  |  |  |  |  |  |
| Head color (red) | -0.01 | 0.01 | -1.15 | 0.250 | -0.03 | 0.01 |
| Partner head color | <0.01 | 0.01 | 0.15 | 0.877 | -0.01 | 0.02 |
| **Controls** |  |  |  |  |  |  |
| Relative age (within pairs) | 0.01 | 0.01 | 0.75 | 0.456 | -0.01 | 0.02 |