SUPPLEMENTARY MATERIAL

Supplementary Figure 1: Local richness of *Plasmodium* as a function of the percentage of migratory individuals out of all bird individuals sampled per locality. Each point represents a different locality. No correlation was found between percentage of migratory individuals and haemosporidian richness (p = 0.26).

Supplementary Table 1: Parameter estimates, standard errors, and p values for the mixed model testing the variation of local *Plasmodium* richness as a function of the percentage of migratory individuals out of all individual birds sampled per locality, as well as other potential predictors.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Estimate** | **Std. error** | **p** |
| Intercept | 1.22 | 0.15 | <0.001 |
| Percentage of migrant individuals | -6.19 | 2.16 | 0.004 |
| Host richness | 0.01 | 0.0 | <0.001 |
| Prevalence | 0.02 | 0.0 | <0.001 |
| Percentage of migrant species | 0.05 | 0.02 | 0.017 |
| Number of migrants | 0.0 | 0.0 | 0.127 |

Supplementary Figure 2: Local richness of *Haemoproteus* as a function of the percentage of migratory individuals out of all bird individuals sampled per locality. Each point represents a different locality. No correlation was found between percentage of migratory individuals and haemosporidian richness (p = 0.65)

Supplementary Table2: Parameter estimates, standard errors, and p values for the mixed model testing the variation of local *Haemoproteus* richness as a function of the percentage of migratory individuals out of all individual birds sampled per locality, as well as other potential predictors.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Estimate** | **Std. error** | **p** |
| Intercept | 0.55 | 0.30 | 0.06 |
| Percentage of migrant individuals | -3.37 | 2.39 | 0.15 |
| Host richness | 0.01 | 0.0 | <0.001 |
| Prevalence | 0.01 | 0.01 | 0.006 |
| Percentage of migrant species | 0.02 | 0.03 | 0.41 |
| Number of migrants | 0.0 | 0.0 | <0.001 |

Supplementary Figure 3: Correlation between local prevalence of *Plasmodium* and percentage of migratory host individuals per locality. Each point represents the prevalence value per host species per site. We observed no effect of migratory behavior on parasite prevalence (p = 0.08).

Supplementary Table 3: Parameter estimates, standard errors, and p values for the mixed model testing the variation of local *Plasmodium* prevalence per species as a function of the percentage of migratory all individual birds sampled per locality and temperature.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Estimate** | **Std. error** | **p** |
| Intercept | 0.81 | 1.22 | 0.50 |
| Percentage of migrant individuals | -1.86 | 1.65 | 0.26 |
| Temperature | -0.009 | 0.005 | 0.06 |

Supplementary Figure 4: Correlation between local prevalence of *Haemoproteus* and percentage of migratory host individuals per locality. Each point represents the prevalence value per host species per site. We observed no effect of migratory behavior in parasite prevalence (p = 0.34).

Supplementary Table 4: Parameter estimates, standard errors, and p values for the mixed model testing the variation of local *Haemoproteus* prevalence per species as a function of the percentage of migratory all individual birds sampled per locality and temperature.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Estimate** | **Std. error** | **p** |
| Intercept | -1.27 | 1.27 | 0.31 |
| Percentage of migrant individuals | -0.68 | 1.54 | 0.65 |
| Temperature | >0.001 | 0.005 | 0.98 |