Hunting experience shapes individual foraging specialisation and predator-prey interactions in an online videogame:  
Appendix 1

Journal name : Ecology

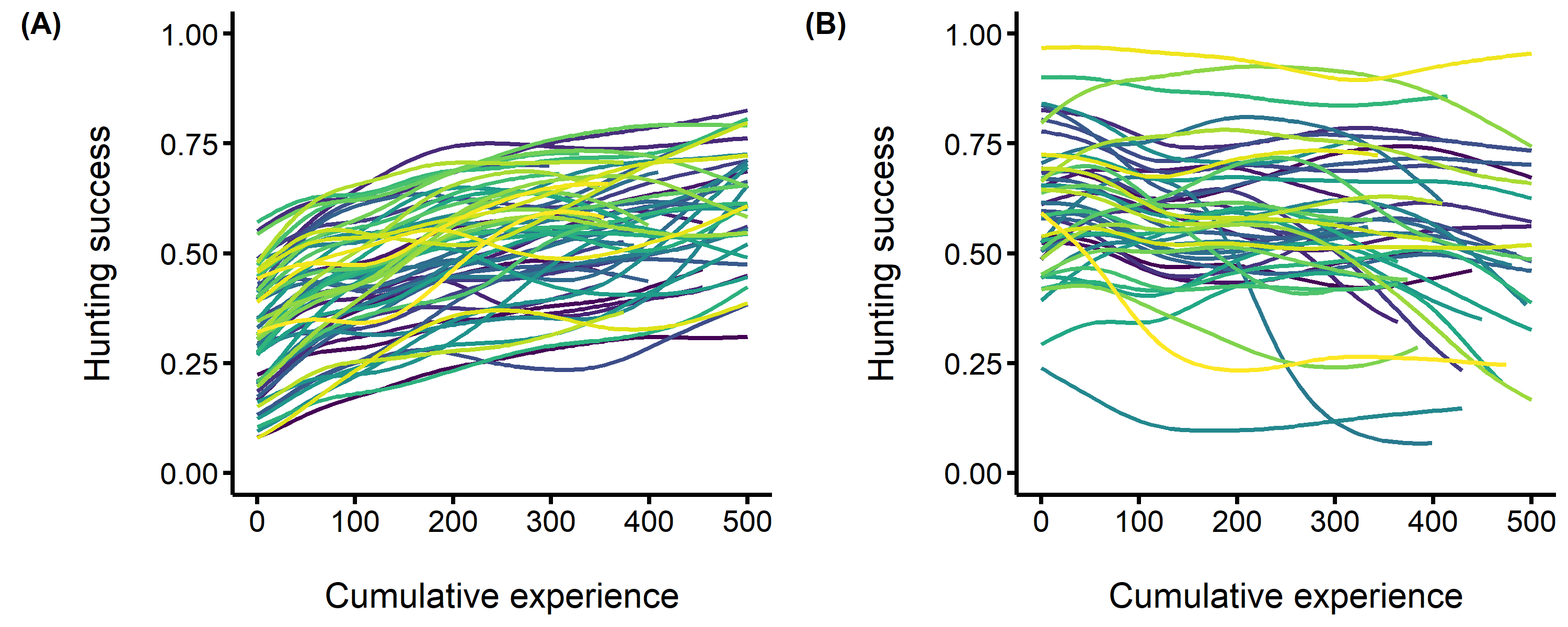
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Table S1. Posterior means and 95% credible intervals of the fixed effects estimated by the MDHGLM of predator speed, prey speed, and predator hunting success.

| Trait | Parameter | Novice | Intermediate | Advanced |
| --- | --- | --- | --- | --- |
| predator speed | intercept (mean) | 3.39 ( 3.26, 3.51) | 3.40 ( 3.26, 3.55) | 3.41 ( 3.25, 3.56) |
| prey rank (mean) | -0.03 (-0.04, -0.02) | -0.04 (-0.04, -0.03) | -0.05 (-0.05, -0.04) |
| intercept (sigma) | 0.29 ( 0.27, 0.32) | 0.32 ( 0.30, 0.34) | 0.29 ( 0.27, 0.31) |
| prey rank (sigma) | 0.99 ( 0.97, 1.00) | 0.97 ( 0.95, 0.98) | 0.99 ( 0.97, 1.01) |
| prey speed | intercept (mean) | 2.95 ( 2.91, 2.99) | 2.90 ( 2.87, 2.94) | 2.84 ( 2.81, 2.88) |
| prey rank (mean) | -0.18 (-0.19, -0.17) | -0.17 (-0.18, -0.17) | -0.16 (-0.17, -0.16) |
| intercept (sigma) | 0.20 ( 0.19, 0.21) | 0.20 ( 0.19, 0.21) | 0.21 ( 0.20, 0.22) |
| prey rank (sigma) | 1.11 ( 1.10, 1.13) | 1.12 ( 1.10, 1.13) | 1.11 ( 1.09, 1.12) |
| hunting success | intercept (mean) | 0.02 ( 0.02, 0.02) | 0.02 ( 0.01, 0.02) | 0.02 ( 0.02, 0.02) |
|  | match duration (mean) | 0.54 ( 0.54, 0.54) | 0.54 ( 0.54, 0.54) | 0.54 ( 0.54, 0.54) |
| a We exponentiated the dispersion parameters (i.e. sigma) which are estimated on a log scale. We back-transformed the hunting success values, estimated on a logit scale, back to a probability scale. b The intercept values on the mean part of the equation for all traits indicate mean behaviour and success at the population level. The intercept values on the dispersion (i.e. sigma) part of the equation for predator speed indicate behavioural specialization at the population level. | | | | |

Table S2. Posterior means and 95% credible intervals of the random effects estimated by the MDHGLM of predator speed, prey speed, and predator hunting success.

| Trait | Parameter | Novice | Intermediate | Advanced |
| --- | --- | --- | --- | --- |
| predator speed | avatar (mean) | 0.31 (0.21, 0.40) | 0.37 (0.26, 0.49) | 0.37 (0.27, 0.50) |
| environment (mean) | 0.02 (0.02, 0.03) | 0.03 (0.02, 0.03) | 0.03 (0.02, 0.03) |
| predator ID (mean) | 0.16 (0.14, 0.17) | 0.15 (0.14, 0.16) | 0.17 (0.15, 0.19) |
| predator ID (sigma) | 1.49 (1.43, 1.53) | 1.52 (1.47, 1.58) | 1.60 (1.53, 1.66) |
| prey speed | avatar (mean) | 0.05 (0.04, 0.07) | 0.06 (0.05, 0.09) | 0.06 (0.05, 0.09) |
| environment (mean) | 0.06 (0.04, 0.07) | 0.05 (0.04, 0.07) | 0.05 (0.04, 0.07) |
| predator ID (mean) | 0.09 (0.08, 0.10) | 0.08 (0.07, 0.09) | 0.10 (0.09, 0.11) |
| predator ID (sigma) | 1.06 (1.05, 1.07) | 1.07 (1.06, 1.08) | 1.10 (1.09, 1.12) |
| hunting success | predator ID (mean) | 0.72 (0.67, 0.79) | 0.58 (0.53, 0.63) | 0.59 (0.53, 0.64) |
| a We exponentiated the dispersion parameters (i.e. sigma) which are estimated on a log scale. All the reported values are standard deviations. b The intercept values on the mean part of the equation for all traits indicate among individual differences in mean behaviour and success. c The intercept values on the dispersion (i.e. sigma) part of the equation for predator speed indicate among individual differences in behavioural specialization. For prey speed and hunting success, they indicate among individual differences in the variability of prey encounters and variability in hunting success, respectively. | | | | |



**Figure S1.** Among individual differences in the development of hunting expertise. The predators’ hunting success (i.e. the probability of capturing the four prey) is on the y axis, and the predators’ cumulative experience (i.e. the number of matches played prior to each observation) is on the x axis. Each fitted curve represents an individual predator. (A) Individuals with the greatest increase in hunting success with experience (B) Individuals with the greatest decrease in hunting success with experience.