**Supplementary material**

**Table S1.** Number (N) of fish used in the behavioural experiments. SL = fish standard length in mm.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|   |   | APATEMON 1 |   | APATEMON 2 |   | Control HP |   | Control LP |
| Males |   |   |   |   |   |   |   |
|  | N | 4 |  | 5 |  | 5 |  | 4 |
|  | SL (mean) | 50.0 |  | 43.4 |  | 44.1 |  | 48.6 |
|  | SL (min-max) | 45-54 |  | 40-46 |  | 36-49 |  | 40-55 |
|  |  |  |  |  |  |  |  |  |
| Females |  |  |  |  |  |  |  |
|  | N | 6 |  | 5 |  | 5 |  | 6 |
|  | SL (mean) | 36.7 |  | 35.0 |  | 34.6 |  | 37.2 |
|   | SL (min-max) | 35-38 |   | 34-36 |   | 32-39 |   | 35-40 |

**Table S2.** Model selection steps for prediction of fish vertical position using GLM. Models with ΔAICc < 2 were considered as equivalent and a simpler model was preferred in these cases. *P* represents the *P*-value of the term to be removed in the next step.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Model | Terms |  |  |  | df | AICc |  *P* |
| Full | intercept | population | sex | population:sex | 9 | –224.2 |  0.608 |
| Model 1 | intercept | population | sex |  | 6 | –230.2 |  0.636 |
| **Final** | **intercept** | **population** |  |  | **5** | **–224.2** | **< 0.001** |
| Model 2 | intercept |  |  |  | 2 | –173.1 |  |

**Table S3.** Simplified model selection statistics for predicting shifts in fish vertical position after simulated predator attacks, i.e. between starting position and that after the first attack (a) and between starting position and that after all attacks (b), using GLMM. Models with ΔAICc < 2 were considered as equivalent and a simpler model was then preferred. *P* represents the *P*-value of the term to be removed in the next step. All models included the term "individual" as a random factor.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  | model with term | model without term |  *P* |
|  | population | term tested | AIC | df | AIC | df |  |
| a) | all | **population:treatment** | 545.18 | 9 | 597.71 | 6 | **< 0.001** |
|  | APATEMON1 | **treatment** | 90.15 | 3 | 113.51 | 2 | **< 0.001** |
|  | APATEMON2 | **treatment** | 83.37 | 3 | 89.45 | 2 |  **0.004** |
|  | Control HP | treatment | 189.54 | 3 | 188.33 | 2 |  0.287 |
|  | Control LP\* | treatment | 115.03 | 3 | 112.67 | 2 |  0.537 |
| b) | all | **population:treatment** | 561.1 | 9 | 629.04 | 6 | **< 0.001** |
|  | APATEMON1 | **treatment** | 95.8 | 3 | 121.29 | 2 | **< 0.001** |
|  | APATEMON2 | treatment | 67.76 | 3 | 65.69 | 2 |  0.590 |
|  | Control HP | **treatment** | 224.18 | 3 | 231.52 | 2 |  **0.002** |
|  | Control LP\* | treatment | 110.71 | 3 | 108.65 | 2 |  0.412 |

\* Due to high overdispersion, observation-level random effects were included when testing effect of treatment in Control LP population.

**Table S4.** Model selection steps for predicting time from response using LMM. Models with ΔAICc of < 2 were considered as equivalent, with the simpler model preferred. *P* represents the *P*-value of the term to be removed in the next step. Attacks stand for number of previous attacks. Term "individual" was included as random in each model.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Model | Terms |  |  |  | df | AICc |  *P* |
| Full | intercept | population | attacks | population:attacks | 14 | 313.9 |  0.148 |
| Model 1 | intercept | population | attacks |  | 8 | 309.4 |  0.714 |
| **Final** | **intercept** | **population** |  |  | **6** | **305.7** | **< 0.001** |
| Model 2 | intercept |  |  |  | 3 | 329.3 |  |

**Table S5.** Model selection steps for predicting the incidence of four distinct response types (jump, dash, swim, freeze) to simulated predator attacks, using MLM. Models with ΔAIC of < 2 were considered as equivalent, with the simpler model preferred. *P* represents the *P*-value of the term to be removed in the next step. Attacks stand for number of previous attacks.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Model | Terms |  |  |  | df | AIC | *P* |
| Full | intercept | population | attacks | population:attacks | 24 | 290.6 | 0.442 |
| **Final** | **intercept** | **population** | **attacks** |  | **15** | **281.6** | **0.007** |
| Model 2 | intercept | population |  |  | 12 | 287.5 |  |