**Table 1.** Summary statistics for swimming performance parameters and the results of general linear models (GLM)

examining variation in swimming performance parameters between bold and shy Siberian sturgeon.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test** | **Personality** | **Fatigue time (min)** | **Recovery time (min)** | **Ucrit (cm/s)** |
| **First** | Bold sturgeon | 44.52 ± 2.99 | 64.36 ± 18.56 | 31.93 ± 2.12 |
| Shy sturgeon | 53.54 ± 2.09 | 53.80 ± 11.74 | 43.58 ± 1.92 |
| **Second** | Bold sturgeon | 37.31 ± 3.54 | 57.56 ± 21.39 | 28.45 ± 2.39 |
| Shy sturgeon | 57.43 ± 2.44 | 75.52 ± 21.90 | 45.17 ± 2.21 |
| **Time** | F, *p* | 0.03, 0.87 | 0.004, 0.95 | 1.19, 0.29 |
| **Personality** | F, *p* | 17.42, **<0.001** | 0.33, 0.57 | 20.99, **<0.001** |
| **Time\*personality** | F, *p* | 14.21, **<0.001** | 1.59, 0.22 | 9.16, **0.006** |

Statistically significant outcomes are shown in bold.

**Table 2.** Changes in the proportion of time spent in swimming state with individual differences and the tail beat frequency

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Personality** | **Water velocity** | **Countercurrent**  **Forward (%)** | **Countercurrent**  **Stationary (%)** | **Float**  **downstream (%)** | **Countercurrent**  **Backward (%)** | **Tail beat frequency (times/s)** |
| **Bold sturgeon** | 1BL/s | 0.54 ± 0.19 | 0.24 ± 0.21 | 0.04 ± 0.06 | 0.17 ± 0.14 | 3.69 ± 0.83 |
| 2BL/s | 0.49 ± 0.18 | 0.21 ± 0.12 | 0.01 ± 0.02 | 0.17 ± 0.11 | 4.15 ± 1.98 |
| 3BL/s | 0.19 ± 0.31 | 0.11 ± 0.27 | 0.00 ± 0.01 | 0.08 ± 0.16 | 0.84 ± 1.75 |
| **Shy sturgeon** | 1BL/s | 0.26 ± 0.15 | 0.47 ± 0.22 | 0.07 ± 0.05 | 0.18 ± 0.09 | 3.11 ± 1.35 |
| 2BL/s | 0.29 ± 0.15 | 0.51 ± 0.16 | 0.06 ± 0.05 | 0.13 ± 0.05 | 4.64 ± 1.04 |
| 3BL/s | 0.23 ± 0.19 | 0.44 ± 0.29 | 0.04 ± 0.05 | 0.13 ± 0.10 | 4.31 ± 2.18 |
| **df** |  | 61.12 | 78.96 | 78.04 | 61.86 | 2.76 |
| **p** |  | **<0.01** | **<0.001** | **<0.001** | 0.76 | 0.39 |

Statistically significant outcomes are shown in bold.

**Table 3.** Blood of plasma glucose, lactic acid and total protein levels (Mean±SD) in individual differences test fish at each test stage, and the results of general linear models (GLM) examining variation in different physiological indicators between bold and shy test Siberian sturgeon.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Test** | **Test time** | **Plasma Glucose**  **(mmol /L)** | **Lactic acid**  **（mmol/L）** | **Total Protein**  **(g/L)** |
| **Bold sturgeon** | 0h | 3.29 ± 0.18 | 6.19 ± 0.51 | 29.52 ± 1.26 |
| 3h | 3.40 ± 0.12 | 4.59 ± 0.28 | 25.50 ± 0.69 |
| 24h | 3.88 ± 0.20 | 2.69 ± 0.32 | 20.12 ± 1.37 |
| **Shy sturgeon** | 0h | 3.47 ± 0.15 | 8.04 ± 0.32 | 34.59 ± 1.47 |
| 3h | 4.16 ± 0.23 | 5.28 ± 0.27 | 29.94 ± 1.44 |
| 24h | 5.06 ± 0.28 | 2.80 ± 0.31 | 22.23 ± 2.17 |
| **Normal** | 0h | 4.38 ± 1.07 | 2.50 ± 0.88 | 17.79 ± 9.04 |
| 3h | 4.17 ± 1.19 | 2.08 ± 1.12 | 17.57 ± 6.33 |
| 24h | 3.84 ± 1.68 | 2.61 ± 0.76 | 19.52 ± 4.26 |
| **Time** | F, *p* | 15.36, **<0.001** | 73.82, **<0.001** | 61.86, **<0.001** |
| **Personality** | F, *p* | 17.08, **<0.001** | 11.60, **<0.001** | 6.38, **0.03** |
| **Time\*personality** | F, *p* | 3.27, **0.04** | 4.47, **0.02** | 1.39, 0.27 |

Statistically significant outcomes are shown in bold.

**Table 4**. Eigenvalues and contribution rates of the first 5 principal components of relative warps

scores of different morphological features of the test Siberian sturgeon.

|  |  |  |  |
| --- | --- | --- | --- |
| **Principal component** | **Eigen values** | **Contribution rate** | **Cumulative contribution rate** |
| **1** | 0.33145 | 66.89% | 66.89% |
| **2** | 0.12304 | 9.22% | 76.11% |
| **3** | 0.10874 | 7.20% | 83.31% |
| **4** | 0.06880 | 2.88% | 86.19% |
| **5** | 0.06127 | 2.29% | 88.48% |