**SUPLEMENTARY MATERIAL**

**Table S1.** Time-coverage (shaded) of the length-weighted *S. aurita* from Mauritania during the study period (2004-2012).

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **2004** | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** | **2011** | **2012** |
| Jan | nm |  |  |  |  |  |  |  |  |
| Feb | nm |  |  |  |  |  |  |  |  |
| Mar | nm |  |  |  |  |  |  |  | nm |
| Apr | nm |  |  |  |  |  |  |  | nm |
| May |  |  |  |  |  |  |  |  | nm |
| Jun |  |  |  |  |  |  |  |  | nm |
| Jul |  |  |  |  |  |  |  |  | nm |
| Aug |  |  |  |  |  |  |  |  | nm |
| Sep |  |  |  |  |  |  |  |  | nm |
| Oct |  |  |  |  |  |  |  |  | nm |
| Nov |  |  |  |  |  |  |  |  | nm |
| Dec |  |  |  |  |  |  |  |  | nm |

X: additional biological analysis; nm: not monitored

**Table S2.** Quarterly mean values of Sea Surface Temperature (SST) and its anomaly (SSTA) in the Mauritanian waters.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Quarter | SST (°C) | SSTA (°C) |
| 2004 | 1 | 20.0 | 0.71 |
| 2 | 20.2 | 0.29 |
| 3 | 25.6 | 0.68 |
| 4 | 24.1 | 0.77 |
| 2005 | 1 | 19.5 | 0.21 |
| 2 | 21.5 | 1.62 |
| 3 | 26.3 | 1.38 |
| 4 | 24.8 | 1.39 |
| 2006 | 1 | 19.6 | 0.32 |
| 2 | 20.8 | 0.90 |
| 3 | 26.3 | 1.34 |
| 4 | 24.9 | 1.51 |
| 2007 | 1 | 19.9 | 0.61 |
| 2 | 20.0 | 0.11 |
| 3 | 24.5 | -0.42 |
| 4 | 23.3 | -0.12 |
| 2008 | 1 | 20.2 | 0.92 |
| 2 | 20.6 | 0.72 |
| 3 | 26.3 | 1.41 |
| 4 | 22.9 | -0.43 |
| 2009 | 1 | 18.8 | -0.52 |
| 2 | 19.7 | -0.18 |
| 3 | 26.6 | 1.65 |
| 4 | 24.5 | 1.09 |
| 2010 | 1 | 21.0 | 1.70 |
| 2 | 21.3 | 1.38 |
| 3 | 26.4 | 1.47 |
| 4 | 25.4 | 2.01 |
| 2011 | 1 | 20.6 | 1.22 |
| 2 | 21.0 | 1.02 |
| 3 | 25.3 | 0.35 |
| 4 | 23.8 | 0.45 |
| 2012 | 1 | 19.0 | -0.28 |
| 2 | 20.0 | 0.05 |
| 3 | 26.4 | 1.50 |
| 4 | 24.1 | 0.78 |

**Table S3.** Results for the Kolmogorov & Smirnov test (Nelson, 2019), comparing annual length frequency distributions of *S. aurita* landings from Mauritania.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** | **2011** | **2012** |
| **2004** | Ds | 0.245 | 0.104 | 0.306 | 0.223 | 0.225 | 0.304 | 0.134 | 0.482 |
|  | p-value | 0.26 | 0.91 | 0.31 | 0.39 | 0.26 | 0.25 | 0.85 | 0.62 |
| **2005** | Ds |  | 0.227 | 0.138 | 0.124 | 0.359 | 0.142 | 0.26 | 0.582 |
|  | p-value |  | 0.58 | 0.55 | 0.51 | 0.04\* | 0.55 | 0.31 | 0.09 |
| **2006** | Ds |  |  | 0.347 | 0.29 | 0.134 | 0.351 | 0.065 | 0.39 |
|  | p-value |  |  | 0.55 | 0.50 | 0.69 | 0.59 | 0.99 | 0.84 |
| **2007** | Ds |  |  |  | 0.144 | 0.473 | 0.17 | 0.38 | 0.641 |
|  | p-value |  |  |  | 0.52 | 0.00\* | 0.37 | 0.27 | 0.36 |
| **2008** | Ds |  |  |  |  | 0.424 | 0.085 | 0.336 | 0.679 |
|  | p-value |  |  |  |  | 0.03\* | 0.99 | 0.20 | 0.04\* |
| **2009** | Ds |  |  |  |  |  | 0.477 | 0.133 | 0.256 |
|  | p-value |  |  |  |  |  | 0.02\* | 0.77 | 0.77 |
| **2010** | Ds |  |  |  |  |  |  | 0.385 | 0.694 |
|  | p-value |  |  |  |  |  |  | 0.24 | 0.13 |
| **2011** | Ds |  |  |  |  |  |  |  | 0.348 |
|  | p-value |  |  |  |  |  |  |  | 0.94 |

(\*) indicate significant differences between samples (*p*<0.05)

**Table S4.** ANCOVA results for the inter-annual comparisons of the slopes (*b* parameter) and intercepts (*a* parameter) for Mauritanian *S. aurita* LWRs.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **2005** | **2006** | **2007** | **2008** | **2009** | **2010** | **2011** | **2012** |
| ***b*** | **2004** | F | 746.5 | 4.7 | 112.4 | 395.7 | 1471.0 | 563.0 | 2303.0 | 812.6 |
|  |  | p-value | <0.0001 | 0.0303 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
|  | **2005** | F |  | 706.2 | 20.5 | 102.4 | 7.5 | 176.5 | 161.4 | 20.9 |
|  |  | p-value |  | <0.0001 | <0.0001 | <0.0001 | 0.0063 | <0.0001 | <0.0001 | <0.0001 |
|  | **2006** | F |  |  | 100.2 | 351.4 | 1444.0 | 587.3 | 2358.0 | 766.9 |
|  |  | p-value |  |  | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
|  | **2007** | F |  |  |  | 1.63 | 38.7 | 206.1 | 130.6 | 68.2 |
|  |  | p-value |  |  |  | 0.2010 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
|  | **2008** | F |  |  |  |  | 240.4 | 338.8 | 681.1 | 209.3 |
|  |  | p-value |  |  |  |  | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
|  | **2009** | F |  |  |  |  |  | 152.8 | 166.6 | 6.9 |
|  |  | p-value |  |  |  |  |  | <0.0001 | <0.0001 | 0.0085 |
|  | **2010** | F |  |  |  |  |  |  | 52.1 | 135.4 |
|  |  | p-value |  |  |  |  |  |  | <0.0001 | <0.0001 |
|  | **2011** | F |  |  |  |  |  |  |  | 40.5 |
|  |  | p-value |  |  |  |  |  |  |  | <0.0001 |
| ***a*** | **2004** | F | na | na | na | na | na | na | na | na |
|  |  | p-value |  |  |  |  |  |  |  |  |
|  | **2005** | F |  | na | na | na | na | na | na | na |
|  |  | p-value |  |  |  |  |  |  |  |  |
|  | **2006** | F |  |  | na | na | na | na | na | na |
|  |  | p-value |  |  |  |  |  |  |  |  |
|  | **2007** | F |  |  |  | 42.85 | na | na | na | na |
|  |  | p-value |  |  |  | <0.0001 |  |  |  |  |
|  | **2008** | F |  |  |  |  | na | na | na | na |
|  |  | p-value |  |  |  |  |  |  |  |  |
|  | **2009** | F |  |  |  |  |  | na | na | na |
|  |  | p-value |  |  |  |  |  |  |  |  |
|  | **2010** | F |  |  |  |  |  |  | na | na |
|  |  | p-value |  |  |  |  |  |  |  |  |
|  | **2011** | F |  |  |  |  |  |  |  | na |
|  |  | p-value |  |  |  |  |  |  |  |  |

na: test not applicable due to significant differences between slopes