**Supplementary Material**

**Supplementary table 1.** Relative values of *rh1* transcript levels in larvae and juveniles of Senegalese sole during development under the different light regimes tested.

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|  |  | **LDW** | **LDB** | **LDR** | **LL** |
| **Hatching** | **dph 0** | 2.6 ± 0.3a | 2.5 ± 0.4 a | 4.3 ± 1.3a | 3.8 ± 1.5a |
| **Pre-metamorphic larvae** | **dph 4** | 871.3 ± 132.4ab | 741.4 ± 110.4ab | 946.4 ± 23.8b | 376.6 ± 160.5a |
| **dph 7** | 1351.1 ± 180.7a | 1549.1 ± 148. 4a | 1626.2 ± 293.5a | 1418.2 ± 118.9a |
| **Metamorphic larvae** | **dph 9** | 402.4 ± 49.6a | 481.2 ± 28.9a | 797.2 ± 104.2ab | 1260.7 ± 248.7b |
| **dph 17** | 639.3 ± 86.7a | 788.1 ± 93.3a | 711.2 ± 80.9a | 464.8 ± 125.9a |
| **Post-metamorphic juvenile** | **dph 21** | 4728.1 ± 1183.1b | 397.3 ± 77.3a | 1744.9 ± 63.1ab | 4556.7 ± 25.3b |
| **dph 32** | 34796.4 ± 3075.9b | 11944.1 ± 774.8a | † | 5038.6 ± 264.8a |

Relative expression was normalised to the dph -1 group. At each day post-hatching (dph), the values are expressed as mean ± standard error. Statistical analysis was performed by one way ANOVA. Different letters indicate significant differences between light conditions at a given dph (P<0.05). LDW: light-dark conditions with white lights; LDB: light-dark conditions with blue lights; LDR: light-dark conditions with red lights; LL: constant light conditions with white lights. It should be noted that the animals under LDR showed delayed development, remaining in the metamorphic phase (S2-middle metamorphosis) at dph 21. †: Animals under LDR condition died before the completion of the experiment.

**Supplementary table 2.** Relative values of *sws1* transcript levels in larvae and juveniles of Senegalese sole during development under the different light regimes tested.

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|  |  | **LDW** | **LDB** | **LDR** | **LL** |
| **Hatching** | **dph 0** | 4.3 ± 0.1a | 12.3 ± 1.4a | 5.9 ± 0.4a | 14.2 ± 4.8a |
| **Pre-metamorphic larvae** | **dph 4** | 59.9 ± 8.5ab | 109.9 ± 6.8b | 40.5 ± 2.8a | 113.4 ± 26.8b |
| **dph 7** | 88.9 ± 9.9ab | 150.7 ± 22.4b | 18.4 ± 3.0a | 81.7 ± 14.8ab |
| **Metamorphic larvae** | **dph 9** | 36.5 ± 13.7a | 97.7 ± 7.2b | 29.3 ± 5.8a | 79.2 ± 10.2b |
| **dph 17** | 34.4 ± 4.1a | 73.4 ± 18.9ab | 63.2 ± 6.1a | 119.1 ± 15.7b |
| **Post-metamorphic juvenile** | **dph 21** | 64.21 ± 14.0a | 246.7 ± 28.9b | 212.6 ± 44.1ab | 290.1 ± 15.3b |
| **dph 32** | 318.1 ± 20.2b | 323.1 ± 13.1b | † | 197.7 ± 29.5a |

Relative expression was normalised to the dph -1 group. At each day post-hatching (dph), the values are expressed as mean ± standard error. Statistical analysis was performed by one way ANOVA. Different letters indicate significant differences between light conditions at a given dph (P<0.05). LDW: light-dark conditions with white lights; LDB: light-dark conditions with blue lights; LDR: light-dark conditions with red lights; LL: constant light conditions with white lights. It should be noted that the animals under LDR showed delayed development, remaining in the metamorphic phase (S2-middle metamorphosis) at dph 21. †: Animals under LDR condition died before the completion of the experiment.

**Supplementary table 3.** Relative values of *sws2* transcript levels in larvae and juveniles of Senegalese sole during development under the different light regimes tested.

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|  |  | **LDW** | **LDB** | **LDR** | **LL** |
| **Hatching** | **dph 0** | 0.4 ± 0.5a | 0.3 ± 0.0a | 0.6 ±0.2a | 0.8 ± 0.1a |
| **Pre-metamorphic larvae** | **dph 4** | 219.1 ± 57.9b | 121.9 ± 16.8a | 160.7 ± 22.2ab | 75.1 ± 16.1a |
| **dph 7** | 141.8 ± 20.6a | 343.1 ± 46.9ab | 513.2 ± 104.6b | 357.4 ± 48.0ab |
| **Metamorphic larvae** | **dph 9** | 35.7 ± 2.9a | 42.4 ± 5.8a | 102.3 ± 22.2a | 198.1 ± 34.5b |
| **dph 17** | 53.4 ± 1.1b | 23.8 ± 4.2a | 35.1± 4.2a | 21.52 ± 4.2a |
| **Post-metamorphic juvenile** | **dph 21** | 143.2 ± 34.6b | 21.2 ± 8.9a | 52.9 ± 2.1ab | 106.8 ± 6.0ab |
| **dph 32** | 728.1 ± 3.3c | 506.6 ± 64.2b | † | 201.6 ± 17.1a |

Relative expression was normalised to the dph -1 group. At each day post-hatching (dph), the values are expressed as mean ± standard error. Statistical analysis was performed by one way ANOVA. Different letters indicate significant differences between light conditions at a given dph (P<0.05). LDW: light-dark conditions with white lights; LDB: light-dark conditions with blue lights; LDR: light-dark conditions with red lights; LL: constant light conditions with white lights. It should be noted that the animals under LDR showed delayed development, remaining in the metamorphic phase (S2-middle metamorphosis) at dph 21. †: Animals under LDR condition died before the completion of the experiment.

**Supplementary table 4.** Relative values of *rh2.3* transcript levels in larvae and juveniles of Senegalese sole during development under the different light regimes tested.

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|  |  | **LDW** | **LDB** | **LDR** | **LL** |
| **Hatching** | **dph 0** | 3.2 ± 0.5a | 10.7 ± 1.8b | 1.4 ± 0.6a | 2.1 ± 0.5a |
| **Pre-metamorphic larvae** | **dph 4** | 365.8 ± 60.3b | 284.2 ± 27.0b | 190.9 ± 16.6ab | 107.5 ± 49.7a |
| **dph 7** | 290.3 ± 39.4a | 4722.6 ± 432.1b | 422.8 ± 26.3a | 329.8 ± 33.6a |
| **Metamorphic larvae** | **dph 9** | 72.9 ± 14.7a | 78.8 ± 2.8a | 87.3 ± 21.3ab | 179.8 ± 32.4b |
| **dph 17** | 14.0 ± 1.0a | 12.8 ± 3.1a | 13.8± 1.1a | 30.8 ± 4.3b |
| **Post-metamorphic juvenile** | **dph 21** | 13.9 ± 6.5a | 8.2 ± 1.9a | 3.1± 0.6a | 20.6 ± 9.9a |
| **dph 32** | 36.8 ± 8.5b | 18.5 ± 2.5ab | † | 4.6 ± 0.9a |

Relative expression was normalised to the dph -1 group. At each day post-hatching (dph), the values are expressed as mean ± standard error. Statistical analysis was performed by one way ANOVA. Different letters indicate significant differences between light conditions at a given dph (P<0.05). LDW: light-dark conditions with white lights; LDB: light-dark conditions with blue lights; LDR: light-dark conditions with red lights; LL: constant light conditions with white lights. It should be noted that the animals under LDR showed delayed development, remaining in the metamorphic phase (S2-middle metamorphosis) at dph 21. †: Animals under LDR condition died before the completion of the experiment.

**Supplementary table 5.** Relative values of *rh2.4* transcript levels in larvae and juveniles of Senegalese sole during development under the different light regimes tested.

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|  |  | **LDW** | **LDB** | **LDR** | **LL** |
| **Hatching** | **dph 0** | 4.3 ±0.8ab | 3.7 ± 0.7a | 3.4 ± 0.4a | 6.6 ± 0.7b |
| **Pre-metamorphic larvae** | **dph 4** | 13516.8 ± 1452.2b | 9687.8 ± 1396.0a | 4733.7 ± 432.9a | 4534.5 ± 1428.9a |
| **dph 7** | 6793.7 ± 834.7a | 9203.8 ± 601.1a | 11856.9 ± 1955.6a | 8414.0 ± 1021.8a |
| **Metamorphic larvae** | **dph 9** | 305.1 ± 40.1a | 3206.9 ± 23.1b | 5415.9 ± 326.9b | 6090.4 ± 1183.8b |
| **dph 17** | 406.1 ± 55.4a | 526.9 ± 77.9a | 1269.6 ± 101.0b | 822.6 ± 148.1a |
| **Post-metamorphic juvenile** | **dph 21** | 4038.3 ± 867.2b | 397.3 ± 77.3a | 270.2 ± 70.9a | 480.9 ± 181.9a |
| **dph 32** | 1354.3 ± 128.6c | 761.5 ± 102.9b | † | 161.8 ± 14.1a |

Relative expression was normalised to the dph -1 group. At each day post-hatching (dph), the values are expressed as mean ± standard error. Statistical analysis was performed by one way ANOVA. Different letters indicate significant differences between light conditions at a given dph (P<0.05). LDW: light-dark conditions with white lights; LDB: light-dark conditions with blue lights; LDR: light-dark conditions with red lights; LL: constant light conditions with white lights. It should be noted that the animals under LDR showed delayed development, remaining in the metamorphic phase (S2-middle metamorphosis) at dph 21. †: Animals under LDR condition died before the completion of the experiment.

**Supplementary table 6.** Relative values of *lws* transcript levels in larvae and juveniles of Senegalese sole during development under the different light regimes tested.

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|  |  | **LDW** | **LDB** | **LDR** | **LL** |
| **Hatching** | **dph 0** | 32.9 ± 5.8a | 17.5 ± 2.0a | 27.9 ± 4.5a | 64.5 ± 7.4b |
| **Pre-metamorphic larvae** | **dph 4** | 2526.8 ± 551.8b | 1264.3 ± 226.6a | 812.6 ± 82.0a | 491.6 ± 165.8a |
| **dph 7** | 1007.6 ± 156.3a | 848.9 ± 115.5a | 1011.8 ± 230.2a | 1232.7 ± 101.2a |
| **Metamorphic larvae** | **dph 9** | 305.1 ± 40.1a | 230.4 ± 19.2a | 516.0 ± 139.4a | 492.3 ± 133.6a |
| **dph 17** | 1373.6 ± 967.4a | 243.5 ± 67.3a | 279.2 ± 5.2a | 171.1 ± 40.1a |
| **Post-metamorphic juvenile** | **dph 21** | 4038.3 ± 867.2b | 215.7 ± 55.9a | 1885.5 ± 171.1ab | 2122.3 ± 339.8ab |
| **dph 32** | 6825.3 ± 150.4c | 4347.0 ± 224.8b | † | 2546.2 ± 222.8a |

Relative expression was normalised to the dph -1 group. At each day post-hatching (dph), the values are expressed as mean ± standard error. Statistical analysis was performed by one way ANOVA. Different letters indicate significant differences between light conditions at a given dph (P<0.05). LDW: light-dark conditions with white lights; LDB: light-dark conditions with blue lights; LDR: light-dark conditions with red lights; LL: constant light conditions with white lights. It should be noted that the animals under LDR showed delayed development, remaining in the metamorphic phase (S2-middle metamorphosis) at dph 21. †: Animals under LDR condition died before the completion of the experiment.