**Natal origin and age-specific egress of Pacific bluefin tuna from coastal nurseries revealed with geochemical markers**

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**Table S1**. Summary statistics of age-0 and adult Pacific bluefin tuna (PBT) analyzed from the East China Sea and Sea of Japan. Sample size (N), collection year and month(s), mean fork length (cm FL ± 1 SD) shown.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Age Class** | **Location** | **N** | **Year**  | **Month** | **Mean FL (cm)** | **1 SD** |
| Age-0 | East China Sea | 10 | 2011 | Nov | 42.5 | 6.3 |
| Age-0 | East China Sea | 10 | 2012 | Nov-Dec | 45.5 | 1.9 |
| Age-0 | Sea of Japan | 10 | 2011 | Sep-Oct | 27.8 | 1.5 |
| Age-0 | Sea of Japan | 10 | 2012 | Jun-Oct | 32.6 | 6.6 |
|   |  |  |  |  |  |  |
| Adult | East China Sea | 56 | 2017 | May-Jun | 227.9 | 21.2 |

**Table S2**. Summary statistics for the 56 adult Pacific bluefin tuna used to develop geochemical chronologies for changepoint analysis. Collection date, length (cm FL), weight (kg), latitude and longitude of capture location, and gender shown.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Otolith number** | **Date** | **Length (cm)** | **Weight (kg)** | **Lat** | **Long** | **Gender** |
| 2017-SO-008 | 5/1/17 | 244.0 | 287.0 | 25.10 | 123.29 | F |
| 2017-SO-019 | 5/5/17 | 229.0 | 224.0 | 25.12 | 123.57 | M |
| 2017-SO-027 | 5/6/17 | 202.0 | 149.0 | 24.56 | 123.27 | F |
| 2017-SO-036 | 5/8/17 | 226.0 | 246.0 | 25.18 | 124.24 | F |
| 2017-SO-078 | 5/13/17 | 273.0 | 388.0 | 25.40 | 125.39 | F |
| 2017-SO-093 | 5/15/17 | 201.0 | 157.0 | 25.42 | 125.20 | M |
| 2017-SO-103 | 5/16/17 | 244.0 | 265.0 | 25.44 | 125.28 | F |
| 2017-SO-140 | 5/17/17 | 208.0 | 168.0 | 25.40 | 125.22 | F |
| 2017-SO-182 | 5/22/17 | 179.0 | 112.0 | 23.52 | 122.48 | F |
| 2017-SO-193 | 5/24/17 | 220.0 | 182.0 | 25.70 | 123.49 | F |
| 2017-SO-196 | 5/25/17 | 197.0 | 141.0 | 25.21 | 124.70 | F |
| 2017-SO-197 | 5/25/17 | 217.0 | 190.0 | 25.50 | 125.90 | M |
| 2017-SO-199 | 5/25/17 | 203.0 | 192.0 | 25.24 | 124.33 | F |
| 2017-SO-200 | 5/25/17 | 212.0 | 172.0 | 25.30 | 123.41 | F |
| 2017-SO-205 | 5/26/17 | 230.0 | 195.0 | 25.19 | 124.10 | F |
| 2017-SO-206 | 5/26/17 | 223.0 | 175.0 | 25.37 | 124.48 | F |
| 2017-SO-209 | 5/26/17 | 243.0 | 338.0 | 25.34 | 124.53 | M |
| 2017-SO-210 | 5/26/17 | 209.0 | 194.0 | 25.35 | 124.53 | F |
| 2017-SO-211 | 5/26/17 | 202.0 | 178.0 | 25.30 | 124.56 | F |
| 2017-SO-213 | 5/27/17 | 214.0 | 181.0 | 24.59 | 123.51 | F |
| 2017-SO-214 | 5/27/17 | 241.0 | 240.0 | 24.59 | 123.51 | M |
| 2017-SO-215 | 5/27/17 | 213.0 | 166.0 | 25.40 | 123.60 | F |
| 2017-SO-216 | 5/27/17 | 233.0 | 241.0 | 23.23 | 122.13 | F |
| 2017-SO-218 | 5/29/17 | 226.0 | 185.0 | 25.30 | 124.48 | F |
| 2017-SO-220 | 5/29/17 | 254.0 | 301.0 | 25.30 | 123.44 | F |
| 2017-SO-221 | 5/29/17 | 214.0 | 182.0 | 25.29 | 125.70 | M |
| 2017-SO-226 | 5/29/17 | 221.0 | 184.0 | 25.27 | 124.36 | F |
| 2017-SO-227 | 5/29/17 | 一 | 231.0 | 25.00 | 123.40 | F |
| 2017-SO-228 | 5/29/17 | 213.0 | 206.0 | 24.57 | 123.40 | M |
| 2017-SO-229 | 5/29/17 | 213.0 | 191.0 | 25.32 | 125.80 | F |
| 2017-SO-230 | 5/29/17 | 236.0 | 268.0 | 23.00 | 122.00 | M |
| 2017-SO-233 | 6/1/17 | 205.0 | 162.0 | 25.45 | 125.47 | F |
| 2017-SO-235 | 6/1/17 | 214.0 | 200.0 | 25.13 | 123.30 | F |
| 2017-SO-241 | 6/1/17 | 210.0 | 172.0 | 24.58 | 123.40 | F |
| 2017-SO-244 | 6/1/17 | 201.0 | 149.0 | 25.80 | 123.41 | F |
| 2017-SO-245 | 6/1/17 | 215.0 | 167.0 | 24.54 | 123.15 | F |
| 2017-SO-246 | 6/1/17 | 220.0 | 170.0 | 25.50 | 123.42 | F |
| 2017-SO-248 | 6/1/17 | 216.0 | 226.0 | 25.11 | 123.50 | M |
| 2017-SO-249 | 6/1/17 | 212.0 | 172.0 | 24.58 | 123.80 | F |
| 2017-SO-264 | 6/2/17 | 263.0 | 348.0 | 25.28 | 124.43 | M |
| 2017-SO-271 | 6/2/17 | 251.0 | 325.0 | 25.27 | 124.42 | M |
| 2017-SO-304 | 6/6/17 | 222.0 | 198.0 | 25.42 | 125.41 | M |
| 2017-SO-324 | 6/7/17 | 246.0 | 306.0 | 25.42 | 125.55 | F |
| 2017-SO-326 | 6/7/17 | 210.0 | 176.0 | 25.31 | 125.70 | M |
| 2017-SO-337 | 6/8/17 | 255.0 | 370.0 | 25.46 | 125.52 | M |
| 2017-SO-350 | 6/8/17 | 247.0 | 309.0 | 25.43 | 125.49 | M |
| 2017-SO-356 | 6/10/17 | 253.0 | 323.0 | 25.14 | 124.22 | M |
| 2017-SO-357 | 6/10/17 | 266.0 | 330.0 | 25.14 | 124.22 | M |
| 2017-SO-383 | 6/13/17 | 230.0 | 238.0 | 25.29 | 125.30 | F |
| 2017-SO-386 | 6/14/17 | 256.0 | 308.0 | 25.37 | 124.20 | F |
| 2017-SO-401 | 6/15/17 | 241.0 | 256.0 | 25.40 | 125.45 | F |
| 2017-SO-405 | 6/15/17 | 252.0 | 340.0 | 25.55 | 125.46 | M |
| 2017-SO-455 | 6/20/17 | 246.0 | 264.0 | 25.45 | 125.00 | F |
| 2017-SO-463 | 6/20/17 | 247.0 | 282.0 | 25.47 | 125.41 | F |
| 2017-SO-465 | 6/22/17 | 253.0 | 296.0 | 25.48 | 125.19 | M |
| 2017-SO-470 | 6/23/17 | 264.0 | 306.0 | 25.41 | 125.45 | M |