

Accessory Publication S1. Summary of characteristics for CQFE Patagonian toothfish samples processed in this study.

Estimated age composition, fish length, and otolith weight information is summarized below. Sex ratio is given for this set of samples out of interest, but was not a factor in forming age groups. Age group replicates, selected randomly within the age class, are denoted with a number and lettering system.

Sample	Age group (years)	Mean length (cm TL)	Fish length range (SD, cm)	Mean otolith weight (g)	Otolith weight range (g)	Sex ratio (M/F)
CQFE 1A	3	54.7	45 – 65 (4.4)	0.068 ± 0.008	0.057 – 0.082	14/6
CQFE 1B	3	62.2	58 – 69 (3.8)	0.091 ± 0.008	0.083 – 0.104	7/7
CQFE 1C	3	75.1	70 – 85 (4.9)	0.127 ± 0.018	0.103 – 0.159	5/5
CQFE 2A	5 – 7	73.7	53 – 89 (9.5)	0.121 ± 0.027	0.052 – 0.169	13/19
CQFE 2B	5 – 7	71.8	55 – 88 (7.9)	0.121 ± 0.025	0.081 – 0.184	17/16
CQFE 2C	5 – 7	68.0	50 – 91 (9.8)	0.105 ± 0.027	0.057 – 0.170	11/22
CQFE 3A	11 – 12	81.5	64 – 105 (8.4)	0.152 ± 0.043	0.105 – 0.266	15/11
CQFE 3B	11 – 12	82.7	63 – 104 (9.7)	0.149 ± 0.037	0.074 – 0.207	12/14
CQFE 3C	11 – 12	79.3	65 – 103 (8.6)	0.134 ± 0.024	0.098 – 0.215	10/17
CQFE 4A	15 – 17	89.9	68 – 122 (10.8)	0.184 ± 0.035	0.127 – 0.268	6/19
CQFE 4B	15 – 17	88.3	72 – 107 (9.7)	0.179 ± 0.032	0.126 – 0.232	11/12
CQFE 4C	15 – 17	89.1	72 – 115 (10.8)	0.179 ± 0.048	0.117 – 0.290	10/14
CQFE 5A	20 – 24	98.1	79 – 133 (11.4)	0.235 ± 0.048	0.162 – 0.356	23/12
CQFE 5B	20 – 24	96.2	75 – 126 (11.2)	0.224 ± 0.054	0.119 – 0.348	17/18
CQFE 5C	20 – 24	97.1	57 – 125 (12.9)	0.232 ± 0.043	0.172 – 0.348	21/15
CQFE 6A	25 – 27	97.4	78 – 119 (9.3)	0.251 ± 0.047	0.154 – 0.358	23/21

CQFE 7A 28 – 34 99.7 89 – 122 (7.3) 0.251 ± 0.048 0.173 – 0.372 14/14

Accessory Publication S2. Summary of characteristics for CAF Patagonian toothfish samples processed in this study.

Estimated age composition, fish length, and otolith weight information is summarized below. Sex ratio was not available for this set of samples. Age group replicates, selected randomly within the age class, are denoted with a number and lettering system.

Sample	Age group (years)	Mean length (cm TL)	Fish length range (SD, cm)	Mean otolith weight (g)	Otolith weight range (SD, g)	Sex ratio (M/F)
CAF 2A	5 – 7	53.4	40.2 – 65.4 (6.1)	0.070 ± 0.015	0.045 – 0.093	N.A.
CAF 2B	5 – 7	57.0	41.8 – 78.2 (8.6)	0.082 ± 0.020	0.050 – 0.127	N.A.
CAF 2C	5 – 7	53.7	41.2 – 70.2 (7.0)	0.076 ± 0.023	0.029 – 0.153	N.A.
CAF 3A	11 – 12	85.0	69.3 – 103.2 (9.6)	0.147 ± 0.030	0.101 – 0.221	N.A.
CAF 3B	11 – 12	84.4	66.3 – 107.4 (9.3)	0.143 ± 0.027	0.099 – 0.214	N.A.
CAF 4A	15 – 17	103.4	78.8 – 127.1 (12.9)	0.199 ± 0.044	0.129 – 0.336	N.A.
CAF 4B	15 – 17	107.7	81.7 – 126.9 (11.5)	0.212 ± 0.044	0.129 – 0.315	N.A.
CAF 4C	15 – 17	100.9	84.2 – 125.7 (10.4)	0.200 ± 0.037	0.117 – 0.282	N.A.
CAF 5A	20 – 24	125.6	103.8 – 148.6 (14.8)	0.263 ± 0.045	0.180 – 0.365	N.A.
CAF 5B	20 – 24	124.8	88.5 – 159.0 (17.8)	0.263 ± 0.062	0.140 – 0.367	N.A.
CAF 5C	20 – 24	125.9	94.6 – 148.0 (14.1)	0.278 ± 0.058	0.174 – 0.411	N.A.

Accessory Publication S3. Summary of age and otolith coring characteristics for the CQFE Patagonian toothfish samples processed in this study.

Time since capture for each group, required for correction of radiometric age, with the number of otoliths that were pooled into each sample, sample weight, and average cored otolith weight are listed to show consistency of coring.

Sample	Age group (years)	Mean age (years)	Time since capture (years)	Number of otoliths	Sample weight (g)	Mean core weight (g)
CQFE 1A	3	3	5.2	20	1.3175	0.066 ^a
CQFE 1B	3	3	5.2	14	1.2509	0.089 ^a
CQFE 1C	3	3	5.2	10	1.2396	0.124 ^a
CQFE 2A	5 – 7	6.1	5.8	32	1.2941	0.040
CQFE 2B	5 – 7	6.2	5.8	33	1.2755	0.039
CQFE 2C	5 – 7	5.9	5.8	32	1.2847	0.040
CQFE 3A	11 – 12	11.6	5.4	26	1.2513	0.048
CQFE 3B	11 – 12	11.7	5.4	26	1.2052	0.046
CQFE 3C	11 – 12	11.4	5.4	27	1.1962	0.044
CQFE 4A	15 – 17	16.0	5.6	25	1.1685	0.047
CQFE 4B	15 – 17	15.7	5.6	24	1.1204	0.047
CQFE 4C	15 – 17	16.0	5.6	24	1.1027	0.046
CQFE 5A	20 – 24	21.9	5.6	35	1.7232	0.049
CQFE 5B	20 – 24	22.1	5.6	35	1.7831	0.051
CQFE 5C	20 – 24	22.1	5.6	36	1.9049	0.053
CQFE 6A	25 – 27	26.1	5.4	44	2.6830	0.061
CQFE 7A	28 – 34	30.4	5.4	28	1.6609	0.059

^aWhole juvenile otoliths.

Accessory Publication S4. Summary of age and otolith coring characteristics for the CAF Patagonian toothfish samples processed in this study.

Time since capture for each group, required for correction of radiometric age, with the number of otoliths that were pooled into each sample, sample weight, and average cored otolith weight are listed to show consistency of coring.

Sample	Age group (years)	Mean age (years)	Time since capture (years)	Number of otoliths	Sample weight (g)	Mean core weight (g)
CAF 2A	5 – 7	5.8	4.4	32	2.1386	0.067 ^a
CAF 2B	5 – 7	6.3	4.4	32	2.4226	0.076 ^a
CAF 2C	5 – 7	5.8	4.4	32	2.2606	0.071 ^a
CAF 3A	11 – 12	11.5	4.4	26	1.3409	0.052
CAF 3B	11 – 12	11.4	4.4	26	1.4697	0.057
CAF 4A	15 – 17	16.1	4.3	29	1.6135	0.056
CAF 4B	15 – 17	15.9	4.3	30	1.6328	0.054
CAF 4C	15 – 17	16.0	4.3	30	1.6342	0.055
CAF 5A	20 – 24	21.9	4.1	22	1.1257	0.051
CAF 5B	20 – 24	21.9	4.1	22	1.1608	0.053
CAF 5C	20 – 24	21.3	4.2	22	1.1593	0.053

^aWhole otoliths.