



Supplement of

Quantifying patterns and drivers of larval dispersal in Japanese anchovy (*Engraulis japonicus*) in the China Seas

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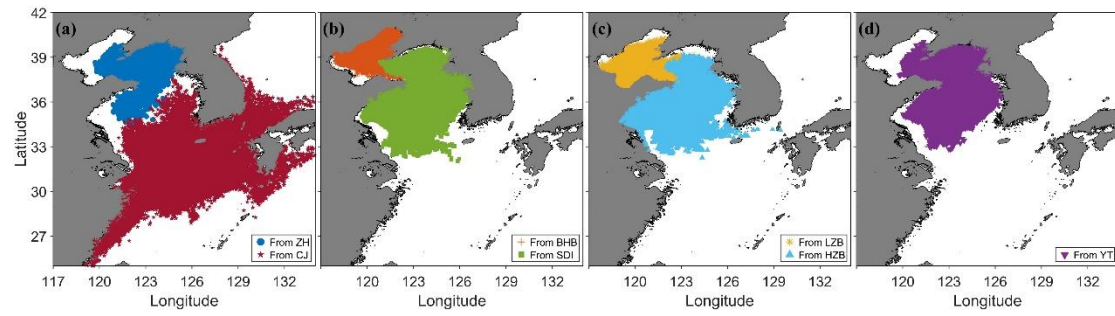


Figure S1. Larval settlement patterns of Japanese anchovy (*Engraulis japonicus*) by spawning ground. Larvae were released from (a) ZH and CJ, (b) BHB and SDI, (c) LZB and HZB, (d) from YT.

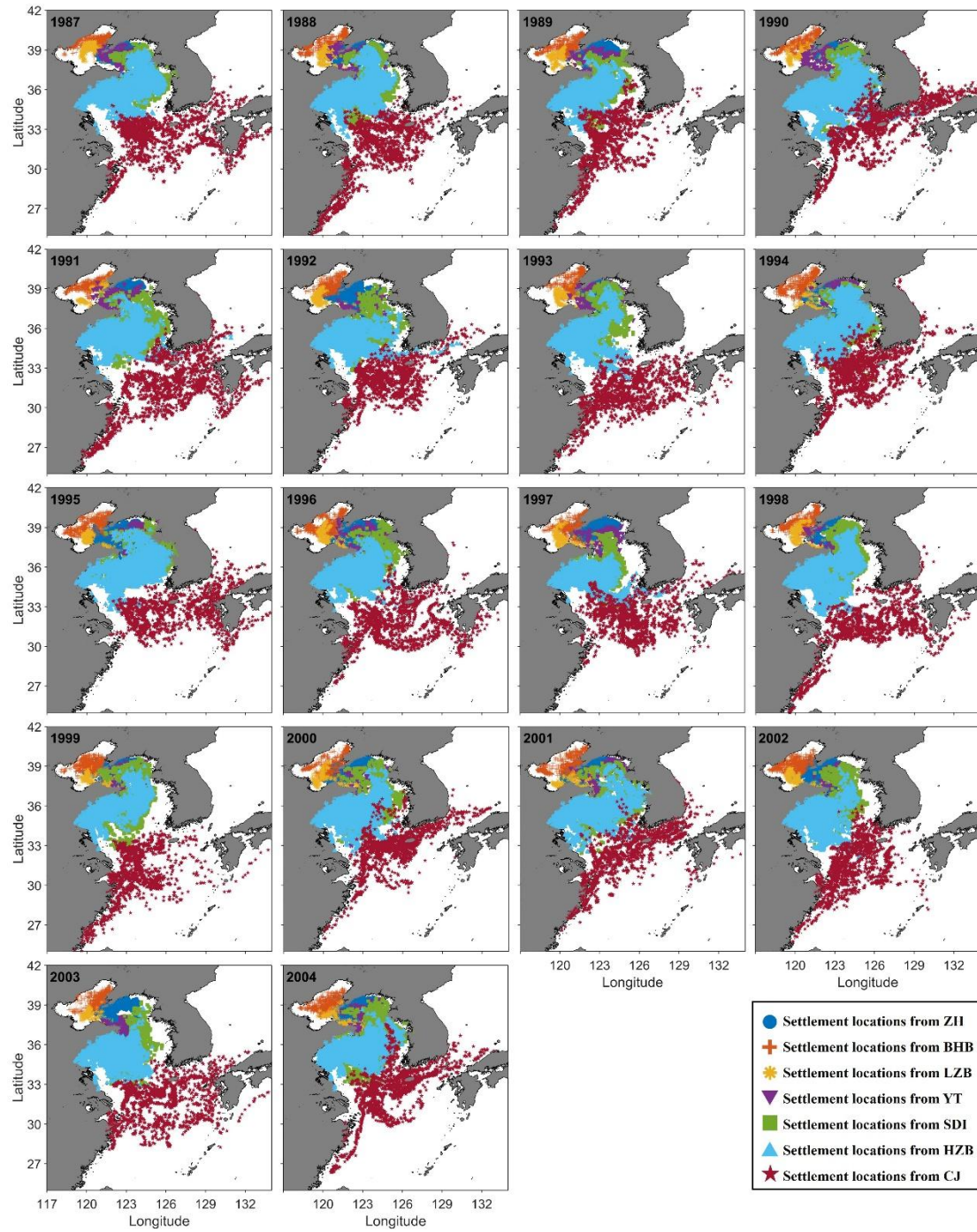


Figure S2. Interannual variability in larval dispersal pattern of Japanese anchovy (*Engraulis japonicus*).

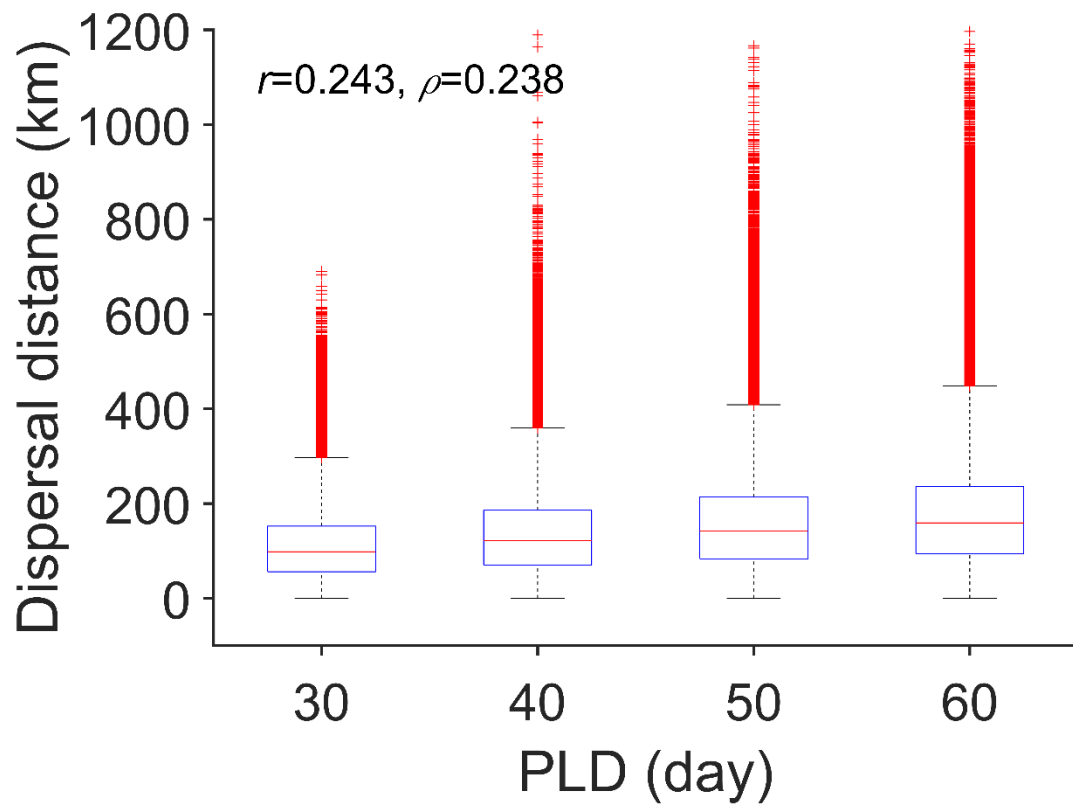


Figure S3. Box plots of dispersal linear distances showing a weak relationship between pelagic larval duration (PLD) and dispersal distance (Pearson's correlation: $r=0.243$; Spearman's correlation: $\rho=0.238$).

Table S1. Goodness of fit criteria for Japanese anchovy dispersal kernel by different spawning ground. Alternative probability density functions are considered, with AIC, and BIC criteria used. The smallest values are marked in red color.

p.d.f.	AIC							
Spawning ground	ZH	BHB	LZB	YT	SDI	HZB	CJ	All
Weibull	215952	224930	69266	38741	394410	877654	576120	2441064
Gamma	216650	226990	69154	38988	397130	878358	574756	2438144
Exponential	225218	236426	71668	41209	418842	895746	591348	2493822
Lognormal	219550	231626	69654	39564	403020	888180	577192	2458904
Normal	218290	225370	70788	38879	395622	896696	588986	2506004
Log-logistic	218906	229774	69504	39327	400702	885914	576562	2450784
Logistic	218614	226480	70559	38985	397564	896492	586624	2486584
p.d.f.	BIC							
Spawning ground	ZH	BHB	LZB	YT	SDI	HZB	CJ	All
Weibull	215988	224966	69297	38770	394448	877695	576159	2441109

Gamma	216686	227026	69185	39017	397168	878399	574795	2438189
Exponential	225236	236444	71683	41224	418861	895766	591367	2493844
Lognormal	219586	231662	69685	39593	403058	888221	577231	2458949
Normal	218326	225406	70819	38907	395660	896737	589025	2506049
Log-logistic	218942	229810	69535	39356	400740	885955	576601	2450829
Logistic	218650	226516	70590	39014	397602	896533	586663	2486629

Table S2. *Values of modal dispersal distance, median-dispersal distance, and long-distance dispersal threshold.*

	Modal dispersal distance (km)	Median-dispersal distance (km)	Long-distance dispersal (km)
From ZH	88.96	112.92	252.76
From BHB	96.37	113.1	234.27
From LZB	47.97	73.49	188.33
From YT	127.39	145.86	293.57
From SDI	153.23	179.67	371.83
From HZB	42.67	116.37	376.26
From CJ	129.11	194.93	495.19
All	77.57	128.69	344.74
April	76.46	105.28	251.56
May	92.42	128.21	307.98
June	109.72	163.90	413.67
July	88.58	146.24	390.78
August	53.74	109	319.67
30 days	63.81	99.17	256.30
40 days	79.65	122.01	312.67
50 days	92.50	142.19	365.14
60 days	101.91	159.15	412.49